OPERATIONAL CONTROL

Background and Exhibits

To function in line with your environmental policy, objectives, and targets, the operations and activities that are associated with significant environmental aspects (SEAs) must be under control. The facility must plan these activities, including maintenance, to ensure that they are carried out under specified conditions by establishing and maintaining documented procedures to cover situations where their absence could lead to deviations from the environmental policy (including the commitments to compliance and pollution prevention) or from your objectives and targets. These operational controls usually take the form of documented procedures, work instructions, best management practices, or posted placards.

For the SEAs for which you have established objectives and targets for improvement or study, the corresponding environmental management programs (EMPs) will serve as a form of operational control. What are left are SEAs for you to maintain compliance with legal requirements (or conformance with facility policy).

Most specialty-batch chemical manufacturers already have the vast majority of the necessary compliance-related operational controls documented. Even so, the job of canvassing the entire facility and its operations to match existing procedures, work instructions, best management practices, and posted placards with the list of SEAs determined in *Module 5* is a crucial one. Likewise, there are two additional tasks associated with this module:

- Ensuring that the procedures you have are suitable and adequate; and
- Filling the gaps that you have identified where new procedures will be required.

Refer to ***Exhibit 12-1: Summary Checklist*** for a set of steps to help you begin the process of developing your facility's operational control procedures.

Exhibit 12-2: Partial List of Typical Activity Areas and Operational Controls at Specialty-batch Chemical Manufacturing Facilities is an example of what a set of operational controls might include. For those indicated by an asterisk (*), examples are provided at the end of this module.

Exhibit 12-1: Summary Checklist

OPERATIONAL CONTROL

Step 1: Operational controls are documented procedures that are associated with operations and activities that have identified SEAs. They are needed to cover situations where their absence could lead to deviations from the EMS policy, goals, and objectives. Using ***Example 12-1: Worksheet for Linking SEAs to Operational Controls, Measurement Indicators, Job Functions, Responsible Parties, and Locations of Documents***, determine which of the necessary procedures and work instructions you already have in place as well as gaps where new procedures will need to be documented.

Step 2: Document operational control procedures for identified activities where controls are absent (see ***Example 12-2: Operational Control for Container Labeling (EWI-001)***, ***Example 12-3: Operational Control for Hazardous Waste Satellite Accumulation Areas (EWI-002)***, ***Example 12-4: Operational Control for Empty Chemical Container Handling (EWI-003).***

Step 3: Capture your approach for controlling the environmental aspects of on-site contractors and their sub-contractors in a written procedure. ***Exhibit 12-3: Procedure for Contractors and Sub-contractors (EP-016)*** provides a template. Include this customized procedure in your EMS manual (see ***Exhibit 10-3: EMS Manual***).

Step 4: Training needs associated with operational controls need to be identified, planned for, and tracked. Training needs associated with operational controls is addressed in *Module 8* on Form EF-008.02, Training Needs Analysis—Procedures and Work Instructions by Area/Department.

Exhibit 12-2: Partial List of Typical Activity Areas and Operational Controls at Specialty-batch Chemical Manufacturing Facilities

Category of Activity	Operational Control
Purchase of Raw Materials	• Subcontractor Requirements • Chemical Inventory Procedure
Raw Material and Waste Storage and Handling	• Above Ground Tank Inspection • Spill Reporting and Clean-up • Secondary Containment Inspection • Hazardous Waste Area Inspection • Bulk Storage and Containment • Bulk Liquids Transfer • Containerized Material Storage • Hazardous Waste Satellite Accumulation* • Container Labeling* • Empty Container Handling* • Hazardous Waste Operations Procedure • Control of Discharge and Disposal • Waste Consolidation Guidelines • Waste Manifest/Chain of Custody • Parameter Testing Requirements for Wastes Treated Off-site • Handling Requirements for Spent Catalysts
Shops and Facility Maintenance	• Environmental Compliance Assessment Checklist • Maintenance and Machine Shop Checklist • Disposition of Fluorescent Bulbs, Batteries, and • Mercury Items
Wastewater Management	• Critical Ranges of Vital WWTP Operational Indicators • Arsenic Determination in Wastewater Using the Flame Atomic Absorption Unit at WWTP • Other Wastewater Plant SOPs
Air Quality Management	• Tracking of SOx Emissions from Internal • Combustion Engines • Centralized Air Pollution Control SOPs • Regulatory Reporting Calendar

Drafting Operational Controls

Use your answers to the following questions to begin planning documented procedures to cover operational activities and situations where their absence could lead to deviations from the environmental policy:

- Have we identified operations and activities associated with significant environmental aspects, legal requirements, and environmental objectives? If not, how will this be accomplished?
- Who should be involved?
- What operations and activities are associated with significant environmental aspects (and thereby legal requirements)?
- How are the above operations and activities controlled?
- How do we know whether these controls are adequate (i.e., to manage significant aspects, to ensure compliance, to achieve objectives)?
- How do we train employees and contractors on relevant operating controls?
- If new controls are needed (or existing ones need to be revised), what is our process for doing so? Who needs to be involved in this process?

The sample procedure provided in ***Exhibit 12-3: Procedure for Contractors and Sub-contractors (EP-016)***, along with its sample contractor environmental briefing packet, defines the process for controlling the environmental aspects of on-site contractors and their sub-contractors, and can be customized to fit the needs of your facility.

Example 12-1: Worksheet for Linking SEAs to Operational Controls, Measurement Indicators, Job Functions, Responsible Parties, and Locations of Documents illustrates the process of identifying procedures for each SEA. It is useful to involve the people who will implement the procedures in drafting these controls. You can accomplish this in several ways:

- Meet with workers and have them describe current procedures. Discuss the environmental objective desired and obtain their input on operational controls (procedures) to ensure that the objectives will be met.
- Have someone (possibly an intern) interview the workers to establish current (undocumented) procedures, then draft or revise operational controls. Have the workers and a manager review the draft and incorporate their input.

Remember to keep written operational controls simple and concise. They should include the appropriate actions, precautions, and notifications required. Focus on activities that may lead to significant impacts and avoid getting overwhelmed by trying to control every activity and process.

Designate Responsibility for Maintaining and Reviewing Operational Controls

Designate those responsible for maintaining the controls and for reviewing them to ensure that procedures are followed and deviations are corrected. Generally, the workers responsible for the SEA under consideration will be responsible for implementing the associated operational

controls. The immediate line manager would most likely be responsible for regular review of the controls. It is helpful to list those people responsible for each set of procedures. ***Example 12-1: Worksheet for Linking SEAs to Operational Controls, Measurement Indicators, Job Functions, Responsible Parties, and Locations of Documents*** might help you assign operational control responsibilities.

Develop Operational Control-related Training

Achieving success in meeting environmental objectives for each SEA depends upon making sure that each person responsible for maintaining or reviewing controls has received adequate training. After operational controls are drafted, develop a training program that ensures that everyone understands the controls and their role in ensuring that they are followed. Training can include on-the-job training. Form EF-008.02, Training Needs Analysis – Procedures and Work Instructions by Area/Department in *Module 8* is provided to help your facility to determine training needs associated with operational controls. It should help you identify, plan for, and track the training needs of your employees. This information should be combined with general environmental training when creating an integrated training needs analysis for your EMS.

Take Corrective Action When Objectives Are Not Met

Take action to correct failures in operational controls as quickly as possible to meet environmental objectives. You can record corrections made on the Corrective and Preventive Action Request (EF-015.01) included in *Module 15*.

Exhibit 12-3: Procedure for Contractors and Sub-contractors (EP-016)

1.0 Purpose/Scope

This procedure defines the process for controlling the environmental aspects of on-site contractors and their sub-contractors at the **[Facility's Name]**.

2.0 Activities Affected

All areas and departments authorizing contractors to work on-site.

3.0 Forms Used

Environmental Briefing Packet and Contractor Method Statement Template (EF-016.01)

4.0 References

ISO 14001:1996, Element 4.4.6

5.0 Definitions

Method Statement: a written statement prepared by a contractor that outlines the work to be undertaken and the method(s) for minimizing and managing environmental impacts. The method statement includes an assessment of the environmental issues associated with specified work activities and measures necessary to minimize environmental impacts.

6.0 Exclusions

6.1 Contractor activities and services that are not performed at the facility.

6.2 Contractors performing emergency services.

6.3 Contractors providing clerical, accounting, or other similar administrative services.

7.0 Procedure

7.1 A Cross Functional Team led by the Environmental Management Representative (EMR) or designee develops a process to obtain and review contractor method statements.

7.2 The need for contractor services is identified and a request for a Method Statement is prepared by the initiating activity.

7.3 Information related to contractor on-site activities shall be documented by the contractor using a Contractor Method Statement.

7.4 Completed Contractor Method Statement forms will be submitted to the initiating activity. The EMR or designee will evaluate Method Statements to identify potential environmental issues and concerns.

7.5 Prior to on-site work contractors shall:

7.5.1 Be provided with information and documents to ensure their awareness of the **[Facility's Name]** EMS and their conformance to it.

7.5.2 Submit a completed Contractor Method Statement to the initiating activity.

7.6 While on site, contractors shall conform to the **[Facility's Name]** EMS and to all applicable legal and other requirements.

Contractors shall maintain records as specified by the EMS and by contract requirements.

8.0 General Rules

Contractors shall ensure their on-site staff is aware of **[Facility's Name]** requirements.

9.0 Records

Records shall be retained consistent with the Procedure for Environmental Records (EP-005).

Record of Revisions

Revision Date	Description	Sections Affected

Environmental Briefing Packet and Contractor Method Statement Template (EF-016.01)

Introduction

The **[Facility's Name]** Environmental Management System is designed to meet the requirements of ISO 14001 Standard. The principle elements of the EMS and environmental policy are:

1. To establish and operate effective procedures aimed at controlling environmental performance to comply with all relevant environmental legislation and regulations;

2. To set objectives and targets aimed at achieving continual improvement in environmental performance; and

3. To introduce improvements that contribute to the prevention of the pollution at the source, where possible.

An important part of the EMS relates to the control of contractors and their sub-contractors, who are required to comply with **[Facility's Name]** environmental policies and procedures.

The nature of the contractor activities is such that contractor personnel have significant potential to affect the environmental performance and regulatory compliance of the facility. Contractor personnel and the facility must therefore work together to achieve the facility's environmental policy, the environmental objectives and targets, and the protection of the environment.

Contractors must be aware of the importance of compliance with relevant environmental legislation and regulations, and the consequences of non-compliance.

The contractor is responsible for developing a Contractor Method Statement and returning it to the **[Facility Name]** Environmental Management Representative or designee.

The contractor is responsible for communicating to all contractor personnel the information in their Method Statement as well as information from the Contractor Environmental Briefing Package.

Contractor Personnel Environmental Information

[Facility's Name] Environmental Management System

All contractors working at **[Facility's Name]** are required to comply with the requirements of the EMS and the environmental policy. This Environmental Guide provides general details of the Environmental Management System and Environmental Policy.

Environmental Management Basics—Contractors on-site

Contractors shall not allow discharges to drains and/or sewers without prior approval from the EMS Coordinator.

Contractors shall provide adequate spill/release prevention for all bulk materials.

Contractors shall immediately notify the **[Facility's Name]** Safety Committee Champion and the Project Manager of any spills, releases, or other environmental incidents.

Contractors shall immediately notify the EMS Coordinator and the Project Manager of any abnormal conditions found during excavation at the facility. Visibly discolored soils, soils with a discernible odor, and/or heavily stained concrete must not be removed from the site without prior approval of the EMS Coordinator.

Contractors shall properly label, store, and dispose of all waste materials generated from their activities per **[Facility's Name]** procedures or guidance.

If **[Facility's Name]** personnel are required to work with potentially hazardous materials brought on-site by a contractor, prior approval of the material by the EMS Coordinator is required.

Contractors must be sensitive to the effects of noise, odor, light, fugitive dust emissions, and traffic movement to the facility and the local community.

Contractors shall be required to prepare and maintain records pertaining to the work performed in accordance with environmental regulatory requirements, including record retention requirements.

Contractors shall ensure protection of the natural environment surrounding the work area.

Contractors shall ensure that all employees are properly trained on such things as the proper handling of material and equipment, proper response to incidents involving their material, and general information relating to the **[Facility's Name]** Environmental Management System.

Environmental Management System Documents

[Facility's Name] may wish to include or provide the following information prior to contractors/subcontractors beginning work:

- Environmental Policy;
- Index of Environmental Management System procedures; and

(Example)

Procedure Number	Title	ISO 14001 Element
EP-010	Environmental Review for New Purchases, Processes, and Products	4.4.6

- Index of local procedures and work instruction.

(Example)

System Procedure/ Work Practice Number	Title	Issue Date

Contractor Method Statement

The contractor shall prepare and maintain information, including a clear method statement, regarding contractor/sub-contractor activities, which outlines the work to be undertaken and the method(s) for minimizing environmental impacts and maintaining compliance with environmental regulations.

Note: To assist in organizing and maintaining information, background information sections have been included (sections I, II, III). Sections can be modified or deleted as required when requesting a method statement from contractors.

[Facility's Name] Personnel To Complete Sections I, II, and III

Suppliers to Complete Sections IV, V, and VI

Section I. Your Information (type or print):

Name:	
Phone Number:	
Fax Number:	
Dept Name:	
Dept Number:	

Section II. Requisition Information (type or print):

Requisition Number:	
Project Number (if applicable):	

Section III. Service or Activity to be performed (check all that apply):

Material/Chemical (Production/Non-production)	**Paint** **Solvent** **Sealer**	**Treatment Chemicals** **Lubricants, Oils, Greases** **Gasoline**	**Janitorial/Maintenance** **Other (specify)** **Other (specify)**
Facilities/Construction:	**Electrical** **Paint** **Structural**	**Roofing** **Mechanical** **HVAC**	**General Contractor** **Arch/Engin/Consulting** **Other (specify)**
Industrial Services (Includes Environmental Services)	**Asbestos** **Lead** **Maintenance** **Janitorial**	**Emergency Response** **Env. Consulting** **Paint Booth Cleaning**	**Waste Management** **Other (specify)**
Containerization:	**5 Gal. or Less** **Drums** **Totes** **Bulk Tanks**	**Type of Contract:**	**Commodity Management** **On-site Manager Provided** **Total Cost Contract**

Section IV. Supplier/Contractor Information (Circle all that apply):

Current Supplier/Contractor to this Facility

New Supplier/Contractor to this Facility

Currently Involved in Other Facility Project(s)

List Project(s): _____

Complete Information in Table Below (type or print):

Name:	
Address:	
City:	
State:	
Phone Number:	
Fax Number:	
President/General Manager:	
Facility Site Coordinator:	
Email Address:	
Phone Number:	
Mobile Number:	
Fax Number:	
Pager:	
24-Hour Emergency Number:	

Subcontractor Information (type or print):

Type	**Firm Name**
Architectural	
Mechanical	
Electrical	
HVAC	
Industrial Services	
Painting	
Roofing	
Asbestos	
Architectural/Engineering	
Consulting Firm	
Sampling/Testing	
Chemical Supplier	
Other (specify)	

Type	Firm Name
Scrap/Salvage Dealer	
Waste Disposal	
Demolition Disposal	

Note: It is strongly recommended that you have your subcontractors and suppliers involved at this facility complete a separate environmental briefing package for the facility's review.

Supplier/Contractor is financially responsible for on-site environmental remediation actions resulting from incidents involving their employees and subcontractors. To minimize the risk of environmental accidents please review and initial the items contained in the Environmental Management Basics table below:

Environmental Management Basics	Supplier/Contractor Initials
Supplier/Contractor understands the importance of compliance with relevant environmental legislation and regulations and the consequences of non-compliance.	
Suppliers/Contractors working at the facility are required to comply with and ensure that their employees and any Suppliers/Sub-Contractors or agents comply with the facility's Environmental Management System (EMS) and environmental policy.	
Suppliers/Contractors acknowledge receiving or were made aware of the facility's environmental policy as well as applicable system procedures and work practices.	
Suppliers/Contractors shall not discharge anything to drains and/or sewers without prior approval from the facility's EMS Coordinator. Spills and other releases to the environment must be immediately reported to the Safety Committee Champion.	
Suppliers/Contractors shall provide adequate spill release prevention, as approved by the facility's EMS Coordinator.	
Suppliers/Contractors shall immediately notify the facility's EMS Coordinator and the Project Manager of any abnormal conditions found during excavation activities at the facility.	
Suppliers/Contractors shall properly label, store, and dispose of all of their waste materials used on-site in accordance with facility procedures and all legal requirements.	
If facility personnel are required to work with potentially hazardous materials brought on-site by a contractor, prior approval of the material by the EMS Coordinator is required.	
Suppliers/Contractors shall minimize the effects of noise, odor, light, fugitive dust emissions, and traffic movement on and/or adjacent to facility property.	
Suppliers/Contractors shall obtain, prior to commencing work, all necessary environmental approvals or permits and present copies of such permits to the facility's EMS Coordinator.	
Suppliers/Contractors were informed of actions to be taken during an actual emergency situation.	
Suppliers/Contractors understand that the facility may interrupt Supplier/Contractor activities that violate facility policies and/or all legal requirements.	

Section V. Contractor Method Statement

Respond to the following questions (use additional space where required):

This method statement must be completed, signed, and returned to the facility's Environmental Management Representative before contracted work commences.

Work Description

Briefly describe the work to be performed while on-site, including the activities of each of the suppliers/contractors.

_____
_____
_____
_____
_____

Air Emissions

Will the work you perform produce or cause the release of any air emissions? YES NO

IF YES, list air emissions and method for preventing impact to the environment.

_____
_____
_____
_____
_____

Water Discharges

Will the work you perform produce or cause the release of any wastewater? YES NO

IF YES, how will the wastewater be handled?

_____
_____
_____
_____
_____

Materials

What materials (chemicals, oils, etc.) and/or equipment will you be handling or bringing on-site to perform the contracted work?

_____
_____
_____
_____
_____

Training

Your employees should be trained on the proper handling of materials and equipment, and the proper response to incidents involving these materials. Describe the training your employees receive.

_____
_____
_____
_____
_____

Waste Generation

Will the work you perform result in any wastes? YES NO

IF YES, list the disposal location as well as amounts and types of wastes expected and the proposed disposal method.

_____
_____
_____
_____
_____

Will any wastes generated be recyclable? YES NO

IF YES, list the recyclable and where and how they will be recycled.

_____
_____
_____
_____
_____

Energy

Will the work you perform consume energy (electricity, compressed air, natural gas, steam, etc.)? YES NO

IF YES, explain what type of energy will be consumed, and how you will minimize consumption.

Other

Are there any other ways in which your work will be affecting and/or protecting the environment? YES NO

IF YES, please describe below.

Other

Describe methods for minimizing waste, emissions, and energy usage from on-site.

Other

Describe any environmental monitoring to be performed including sampling methods, frequency, analytical requirements, and laboratory to be used.

Other

Identify environmental legal requirements applicable to the work that was not already addressed by the facility.

Section VI. Supplier/Contractor Certification (review and sign):

I have reviewed and understand the information contained in this document. I also understand that

[Facility's Name] Personnel have the right to inspect our activities and those of our Suppliers/Contractors with regards to our on-site activities. I further understand that activities pertaining to service and/or maintenance contracts may only require submission of this form on an annual basis. The facility's Environmental Management Representative should be contacted to make this determination.

Name _____

Title _____

Signature _____

Date _____

Examples

Example 12-1: Worksheet for Linking SEAs to Operational Controls, Measurement Indicators, Job Functions, Responsible Parties, and Locations of Documents might help you assign operational control responsibilities. ***Example 12-2: Operational Control for Container Labeling (EWI-001)***, ***Example 12-3: Operational Control for Hazardous Waste Satellite Accumulation Areas (EWI-002)***, ***Example 12-4: Operational Control for Empty Chemical Container Handling (EWI-003)*** and their supporting forms provide example operational control procedures. Revise these sample operational control procedures if you wish to use them. In revising them, it is crucial to review the requirements of your facility in accordance with company policies and the most recent federal, state, and local requirements.

Example 12-1: Worksheet for Linking SEAs to Operational Controls, Measurement Indicators, Job Functions, Responsible Parties, and Locations of Documents

SEA	Objective & Target C=Control I=Improve S=Study	Measurement Indicators	Associated Job Functions/ Training Needs	Existing Operational Control (Procedure, Work Instruction, BMP, Visual Aid)	New Operational Control (Procedure, Work Instruction, BMP, Visual Aid)	Person Responsible	Production Processes					Material Loading, Unloading, Handling & Storage			Facilities & Maintenance			Other Processes	
							Packaging Area	QC Laboratory	R&D Laboratory	In-Plant Material Handling (inc. bulk material & drums)	Pressurized Reactor Operation (based on a generic process)	Raw Material Handling & Storage (EO, flammables, re-actives, sulfur, other chemicals)	Waste Storage & Separation	Waste Water Treatment Plant Operations (inc. off-site transfers & emissions)	Centralized Air Pollution Control Operations (inc. incinerator or thermal oxidizer with pretreatment)	Cooling Water System	Boiler Operation	Contractor Trailer, Storage/Welding Area	Administration
Diesel usage	C	Sulfur content of fuel	Purchasing & Environmental	Purchasing Guidelines & Reg. Reporting Calendar	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Water usage	I	Gallons used per 100 man-hours	Facilities & Environmental	Water Reduction EMP															
Reagent and analytical chemical use	C	Approved List Volume used	Purchasing, Material Handling, Environmental, All	Subcontractor requirements & Chemical inventory procedure															
Cleaning solution use	C	Approved List Volume used	Purchasing, Material Handling, Environmental, All	Subcontractor requirements & Chemical inventory procedure															
Flocculent use	C	Approved List Volume used	Purchasing, Waste water treatment, Environmental	Subcontractor requirements & Chemical inventory procedure															

SEA	Objective & Target C=Control I=Improve S=Study	Measurement Indicators	Associated Job Functions/ Training Needs	Existing Operational Control (Procedure, Work Instruction, BMP, Visual Aid)	New Operational Control (Procedure, Work Instruction, BMP, Visual Aid)	Person Responsible	Production Processes					Material Loading, Unloading, Handling & Storage			Facilities & Maintenance			Other Processes	
							Packaging Area	QC Laboratory	R&D Laboratory	In-Plant Material Handling (inc. bulk material & drums)	Pressurized Reactor Operation (based on a generic process)	Raw Material Handling & Storage (EO, flammables, re-actives, sulfur, other chemicals)	Waste Storage & Separation	Waste Water Treatment Plant Operations (inc. off-site transfers & emissions)	Centralized Air Pollution Control Operations (inc. incinerator or thermal oxidizer with pretreatment)	Cooling Water System	Boiler Operation	Contractor Trailer, Storage/Welding Area	Administration
Acid Mist Point Source Emissions	**C, I**	Emission concentration and volume	Facility maintenance & Environmental	Centralized Air Pollution Control SOPs, Reg. Reporting Calendar, & Reduced Air Emission EMP															
CO Point Source Emissions	**C, I**	See previous	See previous	See previous															
H2S Point Source Emissions	**C, I**	See previous	See previous	See previous															
NH3 Point Source Emissions	**C, I**	See previous	See previous	See previous															
NOX Point Source Emissions	**C, I**	See previous	See previous	See previous															
Odiferous Compounds Point Source Emissions	**I**	Stakeholder complaint records	Facility maintenance & Environmental	Centralized Air Pollution Control SOPs & Odor Reduction and Reduced Air Emission EMPs															

SEA	Objective & Target C=Control I=Improve S=Study	Measurement Indicators	Associated Job Functions/ Training Needs	Existing Operational Control (Procedure, Work Instruction, BMP, Visual Aid)	New Operational Control (Procedure, Work Instruction, BMP, Visual Aid)	Person Responsible	Production Processes					Material Loading, Unloading, Handling & Storage			Facilities & Maintenance			Other Processes	
							Packaging Area	QC Laboratory	R&D Laboratory	In-Plant Material Handling (inc. bulk material & drums)	Pressurized Reactor Operation (based on a generic process)	Raw Material Handling & Storage (EO, flammables, re-actives, sulfur, other chemicals)	Waste Storage & Separation	Waste Water Treatment Plant Operations (inc. off-site transfers & emissions)	Centralized Air Pollution Control Operations (inc. incinerator or thermal oxidizer with pretreatment)	Cooling Water System	Boiler Operation	Contractor Trailer, Storage/Welding Area	Administration
Other Nuisance Point Source Emissions	**C, I**	Emission concentration and volume	Facility maintenance & Environmental	Centralized Air Pollution Control SOPs, Reg. Reporting Calendar, & Reduced Air Emission EMP															
Particulate Matter (PM10) Point Source Emissions	**C, I**	See previous	See previous	See previous															
PBT Chemicals Point Source Emissions	**C, I**	See previous	See previous	See previous															
SO2 Point Source Emissions	**C, I**	See previous	See previous	See previous															
SO3 Point Source Emissions	**C, I**	See previous	See previous	See previous															
VOC Point Source Emissions	**C, I**	See previous	See previous	See previous															
Acid Mist Fugitive Emissions	**C, I**	See previous	See previous	See previous															

SEA	Objective & Target C=Control I=Improve S=Study	Measurement Indicators	Associated Job Functions/ Training Needs	Existing Operational Control (Procedure, Work Instruction, BMP, Visual Aid)	New Operational Control (Procedure, Work Instruction, BMP, Visual Aid)	Person Responsible	Production Processes					Material Loading, Unloading, Handling & Storage			Facilities & Maintenance			Other Processes	
							Packaging Area	QC Laboratory	R&D Laboratory	In-Plant Material Handling (inc. bulk material & drums)	Pressurized Reactor Operation (based on a generic process)	Raw Material Handling & Storage (EO, flammables, re-actives, sulfur, other chemicals)	Waste Storage & Separation	Waste Water Treatment Plant Operations (inc. off-site transfers & emissions)	Centralized Air Pollution Control Operations (inc. incinerator or thermal oxidizer with pretreatment)	Cooling Water System	Boiler Operation	Contractor Trailer, Storage/Welding Area	Administration
CO Fugitive Emissions	**C, I**	See previous	See previous	See previous															
H2S Fugitive Emissions	**C, I**	See previous	See previous	See previous															
NH3 Fugitive Emissions	**C, I**	See previous	See previous	See previous															
NOX Fugitive Emissions	**C, I**	See previous	See previous	See previous															
Odiferous Compounds Fugitive Emissions	**I**	Stakeholder complaint records	Facility maintenance & Environmental	Centralized Air Pollution Control SOPs & Odor Reduction and Reduced Air Emission EMPs															
Particulate Matter (PM10) Fugitive Emissions	**C, I**	Emission concentration and volume	Facility maintenance & Environmental	Centralized Air Pollution Control SOPs, Reg. Reporting Calendar, & Reduced Air Emission EMP															
PBT chemicals Fugitive Emissions	**C, I**	See previous	See previous	See previous															

SEA	Objective & Target C=Control I=Improve S=Study	Measurement Indicators	Associated Job Functions/ Training Needs	Existing Operational Control (Procedure, Work Instruction, BMP, Visual Aid)	New Operational Control (Procedure, Work Instruction, BMP, Visual Aid)	Person Responsible	Production Processes					Material Loading, Unloading, Handling & Storage			Facilities & Maintenance			Other Processes	
							Packaging Area	QC Laboratory	R&D Laboratory	In-Plant Material Handling (inc. bulk material & drums)	Pressurized Reactor Operation (based on a generic process)	Raw Material Handling & Storage (EO, flammables, re-actives, sulfur, other chemicals)	Waste Storage & Separation	Waste Water Treatment Plant Operations (inc. off-site transfers & emissions)	Centralized Air Pollution Control Operations (inc. incinerator or thermal oxidizer with pretreatment)	Cooling Water System	Boiler Operation	Contractor Trailer, Storage/Welding Area	Administration
SO2 Fugitive Emissions	**C, I**	See previous	See previous	See previous															
SO3 Fugitive Emissions	**C, I**	See previous	See previous	See previous															
VOC Fugitive Emissions	**C, I**	See previous	See previous	See previous															
Bio-Toxicity in Waste Water	**C, I**	Emission concentration and volume	Waste water treatment personnel & Environmental	Critical Ranges of Vital WWTP Operational Indicators, Waste Water Treatment Plant SOPs, Reg. Reporting calendar, & Wastewater treatment optimization EMP															

SEA	Objective & Target C=Control I=Improve S=Study	Measurement Indicators	Associated Job Functions/ Training Needs	Existing Operational Control (Procedure, Work Instruction, BMP, Visual Aid)	New Operational Control (Procedure, Work Instruction, BMP, Visual Aid)	Person Responsible	Production Processes					Material Loading, Unloading, Handling & Storage			Facilities & Maintenance			Other Processes	
							Packaging Area	QC Laboratory	R&D Laboratory	In-Plant Material Handling (inc. bulk material & drums)	Pressurized Reactor Operation (based on a generic process)	Raw Material Handling & Storage (EO, flammables, re-actives, sulfur, other chemicals)	Waste Storage & Separation	Waste Water Treatment Plant Operations (inc. off-site transfers & emissions)	Centralized Air Pollution Control Operations (inc. incinerator or thermal oxidizer with pretreatment)	Cooling Water System	Boiler Operation	Contractor Trailer, Storage/Welding Area	Administration
BOD in Waste Water	**C**	Emission concentration and volume	Waste water treatment personnel & Environmental	Critical Ranges of Vital WWTP Operational Indicators, Waste Water Treatment Plant SOPs, & Reg. Reporting Calendar															
COD in Waste Water	**C**	See previous	See previous	See previous															
Waste Water Flow	**C**	See previous	See previous	See previous															
Metals in Waste Water	**C, I**	Emission concentration and volume	Waste water treatment personnel & Environmental	Critical Ranges of Vital WWTP Operational Indicators, Waste Water Treatment Plant SOPs, Reg. Reporting calendar, & Wastewater treatment optimization EMP															

SEA	Objective & Target C=Control I=Improve S=Study	Measurement Indicators	Associated Job Functions/ Training Needs	Existing Operational Control (Procedure, Work Instruction, BMP, Visual Aid)	New Operational Control (Procedure, Work Instruction, BMP, Visual Aid)	Person Responsible	Production Processes					Material Loading, Unloading, Handling & Storage			Facilities & Maintenance			Other Processes	
							Packaging Area	QC Laboratory	R&D Laboratory	In-Plant Material Handling (inc. bulk material & drums)	Pressurized Reactor Operation (based on a generic process)	Raw Material Handling & Storage (EO, flammables, re-actives, sulfur, other chemicals)	Waste Storage & Separation	Waste Water Treatment Plant Operations (inc. off-site transfers & emissions)	Centralized Air Pollution Control Operations (inc. incinerator or thermal oxidizer with pretreatment)	Cooling Water System	Boiler Operation	Contractor Trailer, Storage/Welding Area	Administration
Oil & Grease in Waste Water	**C, I**	See previous	See previous	See previous															
P & N2 in Waste Water	**C**	Emission concentration and volume	Waste water treatment personnel & Environmental	Critical Ranges of Vital WWTP Operational Indicators, Waste Water Treatment Plant SOPs, & Reg. Reporting Calendar															
PBT Chemicals in Waste Water	**C**	See previous	See previous	See previous															
pH of Waste Water	**C**	See previous	See previous	See previous															

SEA	Objective & Target C=Control I=Improve S=Study	Measurement Indicators	Associated Job Functions/ Training Needs	Existing Operational Control (Procedure, Work Instruction, BMP, Visual Aid)	New Operational Control (Procedure, Work Instruction, BMP, Visual Aid)	Person Responsible	Production Processes					Material Loading, Unloading, Handling & Storage			Facilities & Maintenance			Other Processes	
							Packaging Area	QC Laboratory	R&D Laboratory	In-Plant Material Handling (inc. bulk material & drums)	Pressurized Reactor Operation (based on a generic process)	Raw Material Handling & Storage (EO, flammables, re-actives, sulfur, other chemicals)	Waste Storage & Separation	Waste Water Treatment Plant Operations (inc. off-site transfers & emissions)	Centralized Air Pollution Control Operations (inc. incinerator or thermal oxidizer with pretreatment)	Cooling Water System	Boiler Operation	Contractor Trailer, Storage/Welding Area	Administration
Priority Pollutants in Waste Water	**C, I**	Emission concentration and volume	Waste water treatment personnel & Environmental	Critical Ranges of Vital WWTP Operational Indicators, Waste Water Treatment Plant SOPs, Reg. Reporting calendar, & Wastewater treatment optimization EMP															
TOC in Waste Water	**C**	Emission concentration and volume	Waste water treatment personnel & Environmental	Critical Ranges of Vital WWTP Operational Indicators, Waste Water Treatment Plant SOPs, & Reg. Reporting Calendar															
Total Suspended Solids in WasteWater	**C**	See previous	See previous	See previous															
NH3 in Waste Water	**C**	See previous	See previous	See previous															

SEA	Objective & Target C=Control I=Improve S=Study	Measurement Indicators	Associated Job Functions/ Training Needs	Existing Operational Control (Procedure, Work Instruction, BMP, Visual Aid)	New Operational Control (Procedure, Work Instruction, BMP, Visual Aid)	Person Responsible	Production Processes					Material Loading, Unloading, Handling & Storage			Facilities & Maintenance			Other Processes	
							Packaging Area	QC Laboratory	R&D Laboratory	In-Plant Material Handling (inc. bulk material & drums)	Pressurized Reactor Operation (based on a generic process)	Raw Material Handling & Storage (EO, flammables, re-actives, sulfur, other chemicals)	Waste Storage & Separation	Waste Water Treatment Plant Operations (inc. off-site transfers & emissions)	Centralized Air Pollution Control Operations (inc. incinerator or thermal oxidizer with pretreatment)	Cooling Water System	Boiler Operation	Contractor Trailer, Storage/Welding Area	Administration
Storm Water Flow	**C, S**	Rainfall measurements, outfall observation, acres of impervious surface	Material Handling, Facility Maintenance, Environmental	Reg. Reporting Calendar & Storm water quality improvement EMP															
Oil & Grease in Storm Water	**C, S**	Rainfall measurements, outfall observation, acres of impervious surface	Material Handling, Facility Maintenance, Environmental	Above Ground Tank Inspection Spill Reporting and Clean-up Secondary Containment Inspection Hazardous Waste Area Inspection Bulk Storage and Containment Bulk Liquids Transfer Reg. Reporting Calendar Storm water quality improvement EMP															

SEA	Objective & Target C=Control I=Improve S=Study	Measurement Indicators	Associated Job Functions/ Training Needs	Existing Operational Control (Procedure, Work Instruction, BMP, Visual Aid)	New Operational Control (Procedure, Work Instruction, BMP, Visual Aid)	Person Responsible	Production Processes					Material Loading, Unloading, Handling & Storage			Facilities & Maintenance			Other Processes	
							Packaging Area	QC Laboratory	R&D Laboratory	In-Plant Material Handling (inc. bulk material & drums)	Pressurized Reactor Operation (based on a generic process)	Raw Material Handling & Storage (EO, flammables, re-actives, sulfur, other chemicals)	Waste Storage & Separation	Waste Water Treatment Plant Operations (inc. off-site transfers & emissions)	Centralized Air Pollution Control Operations (inc. incinerator or thermal oxidizer with pretreatment)	Cooling Water System	Boiler Operation	Contractor Trailer, Storage/Welding Area	Administration
Total Suspended Solids in Storm Water	**C, S**	See previous	See previous	See previous															
Hazardous Catalyst Waste	**C, I**	Hazardous criteria, waste volume	Operations, Maintenance, Material Handling, Environmental	Hazardous Waste Area Inspection Containerized Material Storage Hazardous Waste Satellite Accumulation Container Labeling Empty Container Handling Hazardous Waste Operations Procedure Control of Discharge and Disposal Waste Consolidation Guidelines															

SEA	Objective & Target C=Control I=Improve S=Study	Measurement Indicators	Associated Job Functions/ Training Needs	Existing Operational Control (Procedure, Work Instruction, BMP, Visual Aid)	New Operational Control (Procedure, Work Instruction, BMP, Visual Aid)	Person Responsible	Production Processes					Material Loading, Unloading, Handling & Storage			Facilities & Maintenance			Other Processes	
							Packaging Area	QC Laboratory	R&D Laboratory	In-Plant Material Handling (inc. bulk material & drums)	Pressurized Reactor Operation (based on a generic process)	Raw Material Handling & Storage (EO, flammables, re-actives, sulfur, other chemicals)	Waste Storage & Separation	Waste Water Treatment Plant Operations (inc. off-site transfers & emissions)	Centralized Air Pollution Control Operations (inc. incinerator or thermal oxidizer with pretreatment)	Cooling Water System	Boiler Operation	Contractor Trailer, Storage/Welding Area	Administration
				Waste Manifest/Chain of Custody Parameter Testing Requirements for Wastes Treated Off-site Handling Requirements for Spent Catalysts Reg. Reporting Calendar Waste Reduction EMP														
Hazardous Caustic Soda Waste	**C, I**	Hazardous criteria, waste volume	Operations, Maintenance, Material Handling, Waste Handling Vendor, Environmental	Hazardous Waste Area Inspection Containerized Material Storage Hazardous Waste Satellite Accumulation Container Labeling Empty															

SEA	Objective & Target C=Control I=Improve S=Study	Measurement Indicators	Associated Job Functions/ Training Needs	Existing Operational Control (Procedure, Work Instruction, BMP, Visual Aid)	New Operational Control (Procedure, Work Instruction, BMP, Visual Aid)	Person Responsible	Production Processes					Material Loading, Unloading, Handling & Storage			Facilities & Maintenance			Other Processes	
							Packaging Area	QC Laboratory	R&D Laboratory	In-Plant Material Handling (inc. bulk material & drums)	Pressurized Reactor Operation (based on a generic process)	Raw Material Handling & Storage (EO, flammables, re-actives, sulfur, other chemicals)	Waste Storage & Separation	Waste Water Treatment Plant Operations (inc. off-site transfers & emissions)	Centralized Air Pollution Control Operations (inc. incinerator or thermal oxidizer with pretreatment)	Cooling Water System	Boiler Operation	Contractor Trailer, Storage/Welding Area	Administration
				Container Handling Hazardous Waste Operations Procedure Control of Discharge and Disposal Waste Consolidation Guidelines Waste Manifest/Chain of Custody Parameter Testing Requirements for Wastes Treated Off-site Reg. Reporting Calendar Waste Reduction EMP															
Hazardous Inorganic Compound Waste	**C, I**	See previous	See previous	See previous															

SEA	Objective & Target C=Control I=Improve S=Study	Measurement Indicators	Associated Job Functions/ Training Needs	Existing Operational Control (Procedure, Work Instruction, BMP, Visual Aid)	New Operational Control (Procedure, Work Instruction, BMP, Visual Aid)	Person Responsible	Production Processes					Material Loading, Unloading, Handling & Storage			Facilities & Maintenance			Other Processes	
							Packaging Area	QC Laboratory	R&D Laboratory	In-Plant Material Handling (inc. bulk material & drums)	Pressurized Reactor Operation (based on a generic process)	Raw Material Handling & Storage (EO, flammables, re-actives, sulfur, other chemicals)	Waste Storage & Separation	Waste Water Treatment Plant Operations (inc. off-site transfers & emissions)	Centralized Air Pollution Control Operations (inc. incinerator or thermal oxidizer with pretreatment)	Cooling Water System	Boiler Operation	Contractor Trailer, Storage/Welding Area	Administration
Hazardous Lab Waste	**C, I**	See previous	See previous	See previous															
Hazardous Metals Waste	**C, I**	See previous	See previous	See previous															
Hazardous Off-Spec product	**C, I**	See previous	See previo us	See previous															
Hazardous Organic Compound (Used Solvents) Waste	**C, I**	See previous	See previous	See previous															
Hazardous Contaminate d PPE	**C, I**	See previous	See previous	See previous															
Hazardous PBT Chemical Waste	**C, I**	See previous	See previous	See previous															
Hazardous Tank Sludge Waste	**C, I**	See previous	See previous	See previous															
Hazardous Used Tower Packing/Aci d Brick	**C, I**	See previous	See previous	See previous															

SEA	Objective & Target C=Control I=Improve S=Study	Measurement Indicators	Associated Job Functions/ Training Needs	Existing Operational Control (Procedure, Work Instruction, BMP, Visual Aid)	New Operational Control (Procedure, Work Instruction, BMP, Visual Aid)	Person Responsible	Production Processes					Material Loading, Unloading, Handling & Storage			Facilities & Maintenance			Other Processes	
							Packaging Area	QC Laboratory	R&D Laboratory	In-Plant Material Handling (inc. bulk material & drums)	Pressurized Reactor Operation (based on a generic process)	Raw Material Handling & Storage (EO, flammables, re-actives, sulfur, other chemicals)	Waste Storage & Separation	Waste Water Treatment Plant Operations (inc. off-site transfers & emissions)	Centralized Air Pollution Control Operations (inc. incinerator or thermal oxidizer with pretreatment)	Cooling Water System	Boiler Operation	Contractor Trailer, Storage/Welding Area	Administration
Hazardous Used Oil	**C, I**	See previous	See previous	See previous															
Non-hazardous High Volume Low Toxicity Waste	**C, I**	Hazardous criteria, waste volume	Operations, Maintenance, Material Handling, Waste Handling Vendor, Environmental	Containerized Material Storage Container Labeling Empty Container Handling Control of Discharge and Disposal Waste Consolidation Guidelines Parameter Testing Requirements for Wastes Treated Off-site Waste Reduction EMP															
Non-hazardous Catalyst Waste	**C, I**	Hazardous criteria, waste volume	Operations, Maintenance, Material Handling, Waste Handling	Containerized Material Storage Container Labeling															

SEA	Objective & Target C=Control I=Improve S=Study	Measurement Indicators	Associated Job Functions/ Training Needs	Existing Operational Control (Procedure, Work Instruction, BMP, Visual Aid)	New Operational Control (Procedure, Work Instruction, BMP, Visual Aid)	Person Responsible	Production Processes					Material Loading, Unloading, Handling & Storage			Facilities & Maintenance			Other Processes	
							Packaging Area	QC Laboratory	R&D Laboratory	In-Plant Material Handling (inc. bulk material & drums)	Pressurized Reactor Operation (based on a generic process)	Raw Material Handling & Storage (EO, flammables, re-actives, sulfur, other chemicals)	Waste Storage & Separation	Waste Water Treatment Plant Operations (inc. off-site transfers & emissions)	Centralized Air Pollution Control Operations (inc. incinerator or thermal oxidizer with pretreatment)	Cooling Water System	Boiler Operation	Contractor Trailer, Storage/Welding Area	Administration
			Vendor, Environmental	Empty Container Handling Control of Discharge and Disposal Waste Consolidation Guidelines Parameter Testing Requirements for Wastes Treated Off-site Handling Requirements for Spent Catalysts Waste Reduction EMP															
Non-hazardous Filter Bag Waste	**C, I**	Hazardous criteria, waste volume	Operations, Maintenance, Material Handling, Waste Handling Vendor, Environmental	Containerized Material Storage Container Labeling Empty Container Handling															

SEA	Objective & Target C=Control I=Improve S=Study	Measurement Indicators	Associated Job Functions/ Training Needs	Existing Operational Control (Procedure, Work Instruction, BMP, Visual Aid)	New Operational Control (Procedure, Work Instruction, BMP, Visual Aid)	Person Responsible	Production Processes					Material Loading, Unloading, Handling & Storage			Facilities & Maintenance			Other Processes	
							Packaging Area	QC Laboratory	R&D Laboratory	In-Plant Material Handling (inc. bulk material & drums)	Pressurized Reactor Operation (based on a generic process)	Raw Material Handling & Storage (EO, flammables, re-actives, sulfur, other chemicals)	Waste Storage & Separation	Waste Water Treatment Plant Operations (inc. off-site transfers & emissions)	Centralized Air Pollution Control Operations (inc. incinerator or thermal oxidizer with pretreatment)	Cooling Water System	Boiler Operation	Contractor Trailer, Storage/Welding Area	Administration
				Control of Discharge and Disposal Waste Consolidation Guidelines Parameter Testing Requirements for Wastes Treated Off-site Waste Reduction EMP															
Non-hazardous Plant Trash	**C, I**	See previous	See previous	See previous															
Non-hazardous Lab Waste	**C, I**	See previous	See previous	See previous															
Non-hazardous Filtrate	**C, I**	See previous	See previous	See previous															
Other Non-hazardous Waste	**C, I**	See previous	See previous	See previous															

SEA	Objective & Target C=Control I=Improve S=Study	Measurement Indicators	Associated Job Functions/ Training Needs	Existing Operational Control (Procedure, Work Instruction, BMP, Visual Aid)	New Operational Control (Procedure, Work Instruction, BMP, Visual Aid)	Person Responsible	Production Processes					Material Loading, Unloading, Handling & Storage			Facilities & Maintenance			Other Processes	
							Packaging Area	QC Laboratory	R&D Laboratory	In-Plant Material Handling (inc. bulk material & drums)	Pressurized Reactor Operation (based on a generic process)	Raw Material Handling & Storage (EO, flammables, re-actives, sulfur, other chemicals)	Waste Storage & Separation	Waste Water Treatment Plant Operations (inc. off-site transfers & emissions)	Centralized Air Pollution Control Operations (inc. incinerator or thermal oxidizer with pretreatment)	Cooling Water System	Boiler Operation	Contractor Trailer, Storage/Welding Area	Administration
Non-hazardous Characteristic Waste	**C, I**	See previous	See previous	See previous															
Odor	**I**	Stakeholder complaint records	Facility maintenance & Environmental	Centralized Air Pollution Control SOPs & Odor Reduction and Reduced Air Emission EMPs															
Noise, Machine Operations	**C, I**	Decibels at the fence-line, Stakeholder complaint records	Facility maintenance & Environmental	None	Noise Reduction BMPs														
Noise, Trucks/Railcars	**C, I**	Decibels at the fence-line, Stakeholder complaint records	Facility maintenance & Environmental	None	Noise Reduction BMPs														
Land use, Trucks/Railcar	**C**	TBD	Raw material Handling, Subcontractors	None															
Siting Restrictions, Land Development	**C**	TBD	TBD	TBD															

SEA	Objective & Target C=Control I=Improve S=Study	Measurement Indicators	Associated Job Functions/ Training Needs	Existing Operational Control (Procedure, Work Instruction, BMP, Visual Aid)	New Operational Control (Procedure, Work Instruction, BMP, Visual Aid)	Person Responsible	Production Processes					Material Loading, Unloading, Handling & Storage			Facilities & Maintenance			Other Processes	
							Packaging Area	QC Laboratory	R&D Laboratory	In-Plant Material Handling (inc. bulk material & drums)	Pressurized Reactor Operation (based on a generic process)	Raw Material Handling & Storage (EO, flammables, re-actives, sulfur, other chemicals)	Waste Storage & Separation	Waste Water Treatment Plant Operations (inc. off-site transfers & emissions)	Centralized Air Pollution Control Operations (inc. incinerator or thermal oxidizer with pretreatment)	Cooling Water System	Boiler Operation	Contractor Trailer, Storage/Welding Area	Administration
Traffic, Trucks/Railcar	**C**	TBD	TBD	TBD															
Hazardous Waste Spills	**C, I**	Spill Incident Records	Facility wide	Spill Reporting and Clean-up Bulk Liquids Transfer															

Contact Person: Date Complete:

Example 12-2: Operational Control for Container Labeling (EWI-001)

0.0 Purpose

To maintain safety on-site and ensure that, in the event of a spill of a hazardous or non-hazardous substance, the Emergency Coordinator follows the correct procedure.

1.0 References

1.1 RCRA Subtitle C (40 CFR 262)

2.0 Responsibility

2.1 The Environmental Engineer or designee shall assure that **[Facility's Name]** makes available labels for container labeling and ensures that employees who handle and dispose of hazardous and non-hazardous wastes understand the labeling procedures outlined here.

2.2 Managers of each department are responsible for providing the Environmental Engineer with a list of employees who handle or may potentially handle hazardous and nonhazardous wastes.

3.0 Procedure for Labeling Containers:

3.1 All containers of hazardous and non-hazardous substances should have a label. The label should include, at a minimum:

- 3.1.1 Chemical name
- 3.1.2 Hazard warning
- 3.1.3 Date
- 3.1.4 User department

3.2 All labels must be legible and written with a permanent marker.

3.3 Labels that have been damaged or removed must be replaced.

3.4 If a chemical is transferred to a portable or temporary container, then that container must also have a label.

3.5 If a chemical is flammable, an additional "DANGER/FLAMMABLE" label is required.

Approved by:

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Environmental Management Representative

Example 12-3: Operational Control for Hazardous Waste Satellite Accumulation Areas (EWI-002)

1.0 Purpose

Maintain compliance with federal and state regulations for accumulating hazardous waste temporarily in various work areas at **[Facility's Name]**.

2.0 References

2.1 40 Code of Federal Regulations 261
2.2 40 Code of Federal Regulations 262
2.3 State Hazardous Waste Regulations (to be completed by each facility)

3.0 Definitions

3.1 Satellite Accumulation Area (SAA): an area within the facility at the point of generation that can have a maximum of 55-gallons of each type of hazardous waste generated at that location. Only one container of each type of waste may be used for accumulation in each designated SAA.
3.2 Accumulation Start Date: the date when a container stored in a SAA becomes full. The container must be moved from that location to the waste storage area within 2 days.
3.3 Full: for the purposes of this instruction, a container shall be considered to be full when waste has reached within 4-inches from the top of the container.

4.0 Responsibility

4.1 The EMS Coordinator is responsible for overall implementation and checking for implementation of this operational control procedure. The designated Production Supervisor for each production process is responsible for implementation of this procedure in his or her work area.
4.2 The Hazardous Waste Managers are responsible for implementation of steps defined below for their respective SAAs.
4.3 Employees that add waste to SAAs are responsible for the items described below for employees.

5.0 Procedure

5.1 SAAs shall be designated and tracked by the EMS Coordinator. The EMS Coordinator will maintain a map showing each SAA. The EMS Coordinator will maintain a list of all Hazardous Waste Managers.
5.2 Supervisors of areas that generate hazardous waste on a regular basis will have a Hazardous Waste Manager in their area. The Supervisor must notify the EMS Coordinator of any changes to Hazardous Waste Managers within his or her production area. The Supervisor also must notify the EMS Coordinator of the number of waste types and containers to be used in his or her SAA and of any requests for new SAAs or requests to modify an SAA.
5.3 Supervisors for areas that may generate hazardous waste on a one-time basis will coordinate with the EMS Coordinator to have the waste picked up in a timely manner. Waste should not be accumulated in these areas on a regular basis.

5.4 Each area that is designated as an SAA must comply with the following procedure.

5.4.1 Only one container for each defined type of hazardous waste is allowed in the SAA at any given time. The containers will be obtained from the EMS Coordinator and will be compatible with the waste they are to contain.

5.4.2. The container must have labels with the words "Hazardous Waste" on it before any waste can be added to the container. Labels are available from the EMS Coordinator. As an alternate, a marker or other means should be used to put these words on the accumulation container.

5.4.3 The label also must include a description of the type of waste in the container. The Environmental Manager will conduct any waste analysis and provide waste labels or waste labeling instructions for each waste.

5.4.4 The container will not be dated until the container is full (defined as having waste to within 4-inches from the top of the container).
When the container is full it will be dated. The Supervisor for each SAA is responsible for having the container moved to the hazardous waste storage area within 48 hours of it being filled and dated.

5.4.5 If a new container is needed when the existing container is full, the full one must be moved immediately to the storage area.

5.4.6 Hazardous Waste Managers should inspect their SAA area daily. These inspection records will be maintained by the SAA area in case of an inspection or internal audit. The Supervisor is responsible for making sure the inspection records are up-to-date for his or her SAA.

5.4.7 Each employee that adds waste to a container in an SAA should read the sign above the SAA area and make sure that the instructions are followed each time the container is accessed. For example, the waste is placed in the correct container, the container is closed after the addition of waste, etc. These checks do not need to be documented. The Supervisor is responsible for making sure that each employee knows to do this check and does them.

5.4.8 The EMS Coordinator will conduct a weekly inspection of all SAAs at this facility.

6.0 Records

6.1 The Hazardous Waste Managers will use the Weekly Hazardous Waste Satellite Storage Inspection Checklist (EWI-003.01) to note that they have checked their area for the day. This form will be maintained at the SAA for which they are responsible.

6.2 The signs posted above each SAA document that employees conduct "each use" checks.

6.3 The EMS Coordinator will complete the Weekly Hazardous Waste Satellite Storage Inspection Checklist (EWI-003.01) and maintain this checklist in the Environmental Office.

6.4 Training requirements for personnel supporting hazardous waste accumulation are documented under Training Operational Controls.

7.0 Revision—Date: March 2005, EWI 003 (REV 1)

Approved by:

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Environmental Management Representative

Weekly Hazardous Waste Satellite Storage Inspection Checklist (EWI-002.01)

Date: Inspection Completed by:

Note: Inspect each of the following hazardous waste satellite storage areas on a weekly basis. Note any problem and record the corrective action taken to resolve the problem.

Inspect each area for the following:

(a) Condition of drums (leaking, bulging, rusting);
(b) Cleanliness of area;
(c) Drums or containers properly closed;
(d) Drums or containers properly labeled;
(e) Drums or containers dated when full; and
(f) Full drums or containers moved to the 90-day hazardous waste storage area within 48 hours.

Satellite Accumulation Sites: Good Needs

Condition Improvement

Satellite Accumulation Sites:	Good Condition	Needs Improvement
1.		
2.		
3.		
4.		
5.		
6.		

Example 12-4: Operational Control for Empty Chemical Container Handling (EWI-003)

1.0 Purpose

This procedure outlines the method for handling empty chemical containers.

2.0 References

2.1 Standards Applicable to Generators of Hazardous Waste (40 CFR 262)
2.2 General Information, Regulations, and Definitions (49 CFR 171)
2.3 Hazardous materials table, special provisions, hazardous materials communications, emergency response information, and training requirements (49 CFR 172)
2.4 Shippers-general requirements for shipments and packagings (49 CFR 173)
2.5 **[Insert any state agency rules that apply]**

3.0 Responsibility

3.1 The Environmental Engineer or designee will ensure that employees at **[Facility's Name]** properly handle empty chemical containers.

4.0 Procedure for Handling Empty Chemical Containers

4.1 Containers that previously held hazardous materials are exempt from further regulation after certain conditions are met. Two of the most important conditions are that the containers are "empty" and properly managed.
4.2 If the container held a material that can be easily poured, then all material left in the container must be removed by any means, such as pumping, aspirating, or draining.
4.3 If the material is non-pourable, then all material that can be feasibly removed by physical means such as scraping or chipping must be removed.
4.4 If the container held an acute or extremely hazardous material or waste, the container shall be triple-rinsed using a cleaner capable of removing the material (must be done by a licensed facility).
4.5 The following is the normal practice for empty chemical container disposal.

Container Type	General Disposal Method
250- and 500-gallon totes	Returned to the vendor
55-gallon metal drums	Shipped to an approved scrap metal recycling facility
55-gallon plastic drums	Shipped to an approved plastic recycling facility
Less than 55-gallon metal	Place on pallets for incineration
Less than 55-gallon plastic	Place in normal trash container after emptying

Approved by:

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Environmental Management Representative

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