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Integrated Environmental Management Systems

Company Manual Template for Small Business

Design for the Environment
U.S. EPA

Office of
Pollution
Prevention
and Toxics



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A Company Manual Template for Small Business

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Foreword

Why Have an IEMS Manual For Your Company?

For a small or medium-sized company developing an IEMS, the question of how to document the system itself can be challenging. Many smaller companies lack experience in developing documentation for their business processes and worry about having to develop extensive documentation for their IEMS. In the course of a pilot project sponsored by EPA's Design for the Environment (DfE) Program and a trade association, the small and medium-sized companies participating in the project requested additional guidance on how to document their IEMSs in a concise, user-friendly manual. They wanted to achieve the following benefits from effective documentation:

- Ability to maintain and improve their IEMSs as personnel and responsibilities change (i.e., the system is less dependent on a single person).

- Improved system implementation: procedures are clear and easy to follow, and employees know where to look to find the procedures and records they need.

- Quality improvement and systematization across other company management systems.

To meet this request and to help other small and mid-sized companies document their IEMSs, the DfE Program has developed the following company manual template. The company manual template contains procedures and associated formats for an IEMS that is designed according to the principles set forth in *Integrated Environmental Management Systems: Implementation Guide* (EPA 744-R-00-011). This guide is available on DfE's website at http://www.epa.gov/dfe or through EPA's Pollution Prevention Information Clearinghouse at ppic@epa.gov.

The template itself contains a cover page, table of contents, and complete documentation for the fictional Smith Corporation's IEMS. As you work through the template you will see instructions (*in italics*) on how to tailor each section to the specific requirements of your own small- to medium-sized company.

Using This Company Manual Template

Please keep the following points in mind as you make use of this company manual template:

- *Adapt this manual template to your particular company and its IEMS.* The template itself contains a cover page, table of contents, and complete documentation for the fictional Smith Corporation's IEMS. As you work through the template you will see instructions (*in italics*) on how to tailor each section to the specific requirements of your own small- to medium-sized company. Bracketed and italic text is also used to refer you to the related section in the *IEMS Implementation Guide* (see above). You will probably want to add, eliminate, and/or modify the procedures and other manual elements to fit your company's IEMS.

- *This manual template contains a good base set of procedures.* The IEMS procedures contained in this template represent the core set of procedures normally documented as part of an ISO 14001-compliant EMS. You may choose to include all of these procedures (regardless of whether you eventually will seek certification of your EMS to ISO 14001), or to add, remove, or modify procedures so that the documentation reflects your organization and your EMS.

- *If it won't be useful, it's not worth your time.* As you are adapting this company manual template, design it so that it will be used (and further adapted) over time. It is much more important to have a living manual than a perfect manual that just sits on the shelf.

- *Pick an appropriate level of detail for your company.* In general, the larger a company is, the more detailed its procedures are—but even this may vary according to your company's culture.

- *If you already have a system for documentation and document control, develop your IEMS manual to fit that system.* There are no specifications or criteria for the system used to document your IEMS. It makes sense to use whatever system you normally use for developing and maintaining similar documentation.

- *Your manual should reference worksheets, templates, or company records, where applicable.* This manual makes reference to numbered templates that directly follow the corresponding procedures, as well as to other records maintained elsewhere n the company. (To help locate these tools within the manual, see the index that follows.) If you use additional formats or worksheets (i.e., such as the supporting worksheets presented in the *IEMS Implementation Guide*), include those as well.

Integrated Environmental Management System (IEMS) Manual

Smith Corporation

January 4, 2001

Revision 1.0

Prepared by: _____
(IEMS Management Representative)

Approved and Authorized by: _____
(President)

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Purpose of This Manual

[One or more paragraphs describing the purpose of this manual within your company's IEMS.]

The purpose of this manual is to serve as a high-level "road map" to Smith Corporation's IEMS and to house the procedures which Smith Corporation follows in implementing and maintaining its IEMS.

This manual, and subsequent revisions, is distributed by the IEMS coordinator to senior plant management (including the IEMS management representative), and the IEMS committee. It will be made available to all Smith Corporation employees, especially those involved in performing work related to the IEMS.

This manual also serves as the basis for Smith Corporation's internal assessment of its IEMS.

Definitions, Abbreviations, and List of Procedures

[List of all abbreviations used in the manual and definitions of relevant terms.]

Definitions

Design for the Environment (DfE): An approach to incorporating opportunities for risk reduction and wise resource use into business decision-making, developed through partnerships between the U.S. Environmental Protection Agency and industry, academic, and other stakeholders

Environmental aspect (EA): An element of Smith Corporation's activities, products, or services that can or does interact with the environment (create an environmental impact)

Environmental impact: Any change to the environment, whether adverse or beneficial, resulting from Smith Corporation's activities, products, or services

Significant environmental aspect (SEA): An environmental aspect deemed by the Smith Corporation as having, or potentially having, a significant impact on the environment

Alternatives evaluation: Process by which alternative methods for completing a particular function are evaluated using business and environmental criteria

Non-conformity: Discrepancy between Smith Corporation's actual IEMS activities and the procedures laid out in this manual (i.e., where the actual activities do not follow the procedures)

Indicator: A measurable parameter or predictor of performance (in this case, of environmental performance)

Root cause analysis: Systematic process to uncover underlying causes of a particular issue or problem

Abbreviations

DfE	Design for the Environment
EA	Environmental Aspect
EMS	Environmental Management System
SEA	Significant Environmental Aspect

List of Procedures

(Alphabetical)

P-AE	Conducting an Alternatives Evaluation
P-CA	Conducting a Compliance Assessment
P-CS	Communication with Stakeholders

P-D	Documentation and Document Control
P-EA	Identification of Environmental Aspects
P-EP	Emergency Preparedness
P-ET	Environmental Training (Awareness and Task-Specific)
P-IA	Conducting an Internal Assessment
P-LR	Identification of Legal Requirements
P-MR	Management Review
P-NPP	Review of New Purchases, Processes, and Products
P-OC	Development of Operational Controls
P-OTP	Development of Objectives, Targets, and Action Plans
P-SEA	Identification of Significant Environmental Aspects
P-TCA	Taking Corrective Action

Company Description: Smith Corporation

[Several paragraphs describing the activities of your company, its location(s), and its mission and/or values.]

Smith Corporation is a medium-sized business dedicated to the manufacture of high quality widgets for a variety of large industrial customers. Smith Corporation owns and operates two plants, one in Jonesville, Kentucky, and one in Johnsville, Tennessee.

Smith Corporation was founded in 1956 and has since built and maintained the reputation of being a responsive supplier of high quality products, a good employer, and a good community member.

Smith Corporation's IEMS: Introduction and Scope

[Two or three paragraphs that introduce your IEMS and describe its purpose and scope.]

Smith Corporation has developed and is maintaining an IEMS in order to ensure that we continue to supply a high quality product to our customers while providing a safe, healthy workplace for our employees and acting as a responsible member of our community. The Smith Corporation's IEMS is designed to help us understand our environmental impacts and, through proactive management, reduce the risks that our productive operations pose to our employees and to the environment. The IEMS is also the means through which we follow through on the commitments expressed in our environmental policy.

Scope of Smith Corporation's IEMS

Smith Corporation's IEMS presently covers only the Jonesville, KY plant. More specifically, the IEMS covers all operations occurring on-site at the plant, from the point of entry of raw materials and energy to the point of exit of finished manufactured products. In addition to manufacturing processes and activities, all on-site ancillary operations fall within the scope of the IEMS, including maintenance, groundskeeping, offices, and the activities of on-site contractors. The IEMS excludes the environmental aspects of products to the extent that Smith Corporation does not have influence over their design or disposition. The IEMS does take waste disposal into account in evaluating the environmental impacts of on-site activities, even though Smith Corporation may not ultimately be the final disposer of its waste.

Smith Corporation plans to extend the IEMS to the Johnsville, TN plant after it has been in place for several years at the Jonesville plant.

Environmental Policy

[One or two paragraphs about the importance of the environmental policy in your company's IEMS. See Module 2 in the IEMS Implementation Guide.]

The core of Smith Corporation's IEMS is our environmental policy. The environmental policy states in broad terms the principal environmental commitments of Smith Corporation. It is signed by our President and has been communicated to all employees. The environmental policy is posted on bulletin boards throughout the plant and is available on request to the public, customers, and authorities. The IEMS coordinator is responsible for ensuring that only the most recent version of the environmental policy is posted and available.

The environmental policy of Smith Corporation is reproduced below.

[Insert environmental policy]

IEMS Responsibilities

[Several paragraphs describing how the overall responsibility for maintaining the IEMS is distributed within your company. See Module 1 in the IEMS Implementation Guide.]

Smith Corporation has established an IEMS management representative, coordinator, and committee with the following responsibilities:

- *Management representative.* The IEMS management representative is the member of Smith Corporation's top plant management group responsible for the functioning of the IEMS. It is his or her job to ensure that all tasks relating to the IEMS are identified and completed in a timely manner. He or she is also responsible for reporting periodically to the top plant management group on the progress and results of the IEMS.

- *Coordinator.* The IEMS coordinator's responsibility is to identify, assign, schedule, provide the necessary support for, and ensure completion of all tasks relating to the IEMS. The coordinator works closely with the management representative and with the committee. The IEMS coordinator is also responsible for maintaining this manual, under the leadership of the management representative. *The functions of coordinator and management representative may be filled by the same person.*

- *Committee.* The IEMS committee (which also serves as the plant's safety committee) is comprised of 6-8 supervisors and employees from major groups or areas within the plant. The committee is responsible for ensuring that IEMS activities in their areas are carried out and for reporting the results of these activities to the committee as a whole. In addition, the committee itself undertakes certain IEMS activities such as the selection of significant environmental aspects. The committee meets to discuss the IEMS on at least a monthly basis.

Records

The IEMS coordinator maintains an updated list of management representative, coordinator, and committee members using format RESP-01 (IEMS Responsibilities).

RESP-01: IEMS Responsibilities

The following table lists the Smith Corporation's IEMS management representative, coordinator, and committee:

IEMS Function	Name	Regular Position
Management Representative		
IEMS Coordinator		
IEMS Committee		

Contact Person: Date Completed:

IEMS Components, Procedures, and Documentation

The following pages of this manual present the components of Smith Corporation's IEMS and procedures by which these components are carried out. The following elements are included for each component:

- A statement of the purpose of the component—in other words, how the activity fits into the IEMS.

- Chronologically ordered and numbered steps that make up the procedure for carrying out the component. These steps describe what actions are taken and who is responsible and make reference to records or documentation (e.g., formats) where appropriate.

- Mention of the frequency with which the procedure is carried out.

- Summary list of records referenced in the procedure and person(s) responsible for maintaining them.

Identification of Environmental Aspects (P-EA)

[See Modules 1 and 3 in the IEMS Implementation Guide.]

Purpose

In order to understand and manage its actual and potential environmental impacts, Smith Corporation identifies the environmental aspects of its activities, products, and services as they fall within the scope of the IEMS. As a subset of this activity, Smith Corporation identifies the health and environmental concerns related to particular chemicals used in the plant.

Procedure

1. Using processing mapping (or input/ouput flow charts), the IEMS committee identifies the basic manufacturing and supporting operations that fall within the scope of the IEMS. These are recorded using format EA-01, with supporting material flow diagrams and table using format EA-01b.

2. The IEMS coordinator arranges for the environmental aspects of these operations to be identified by a team of several employees from the operation in question, using the process mapping approach where feasible and under the oversight of the IEMS coordinator or a committee member where appropriate.

3. Environmental aspects, and their actual or potential impacts (quantified to the extent possible), are listed by operation using format EA-02 (similar to Worksheet 1-5 in the *IEMS Implementation Guide*).

4. If the environmental aspect involves use of a potentially harmful chemical, the IEMS committee is responsible for researching the known health and environmental concerns and listing these using format EA-03 (similar to Worksheet 3-1 in the *IEMS Implementation Guide*).

Frequency

This procedure is repeated annually to ensure that any new environmental aspects are identified.

Records

Formats EA-01a and EA-01b (Basic and Supporting Operations, Flow Diagrams), EA-02 (Environmental Aspects), and EA-03 (Health and Environmental Concerns) are maintained by the IEMS coordinator.

EA-01a: Basic and Supporting Operations

The following are the basic (manufacturing) and supporting operations that fall within the scope of Smith Corporation's IEMS:

1.

2.

3.

4.

5.

6.

7.

8.

9.

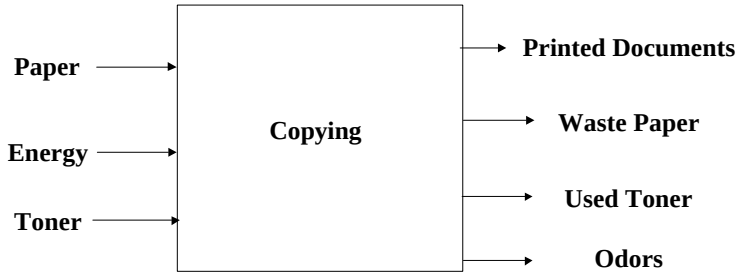
10.

Contact Person: Date Completed:

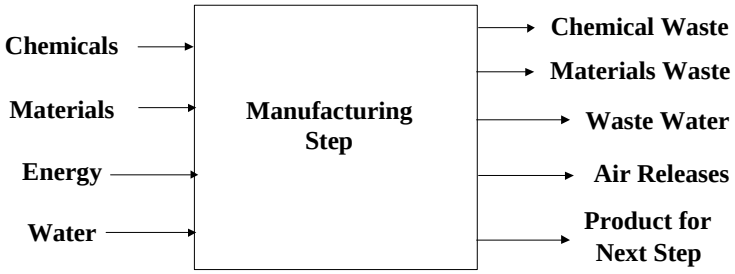
EA-01b: Basic and Supporting Operations – Material Flow Diagrams

[Sample diagrams]

Generic Input-Output Diagram for Office Operations



Generic Input/Output Diagram for a Manufacturing Operation



Product or Service	Component Parts

EA-02: Environmental Aspects

The environmental aspects of the basic and supporting operations identified in format EA-01 are listed in the following table.

Operation	Input/Output	Environmental Aspect (quantify if readily possible)	Environmental Impact

Contact Person: Date Completed:

EA-03: Health, Safety, and Potential Environmental Concerns

Work Activity/ Chemical	Environmental Aspect	Information Source	Regulatory Data				Human Health Effects by Pathways Acute and Chronic			Effects on Wildlife or Other Environmental Effects			Safety Concerns	Rank	
			Carcinogen?	OSHA Permissible Exposure Limit (PEL)?	Volatile Organic Compound (VOC)?	Toxic Release Inventory (TRI)?	Inhalation	Dermal	Ingestion	Air	Water	Land		Human	Environment

Contact Person: Date Completed:

EA-04: Exposure to Chemicals and Materials

			Exposure Time			Pathway		Rank Exposed Groups		
Operation	**Aspect**	**Quantity Used per Time Period**	**Duration**	**Frequency**	**Personal Protective Equipment (PPE)**	**Human (inhalation, dermal, oral)**	**Environ-mental (air, water, land)**	**Workers**	**Community**	**Environ-ment**

Contact Person: Date Completed:

Identification of Legal Requirements (P-LR)

[See Module 1 in the IEMS Implementation Guide.]

Purpose

Smith Corporation is committed to complying with all applicable environmental regulations. This procedure describes how Smith Corporation identifies applicable regulations.

Procedure

1. The IEMS management representative is responsible for tracking applicable environmental laws and regulations and evaluating their potential impact on the company's operations. He or she employs several techniques to track, identify, and evaluate applicable laws and regulations. These techniques include commercial databases, information from the trade association, direct communication with national and state regulatory agencies, and periodic refresher training on environmental laws.

2. As necessary, the management representative may call upon off-site resources such as consultants or attorneys.

3. The management representative compiles and maintains updated copies of applicable environmental laws and regulations.

4. The management representative, working with the IEMS coordinator and committee, correlate these regulations to the business activities and environmental aspects associated with them using format LR-01 (similar to Worksheet 1-6 in the *IEMS Implementation Guide*).

Frequency

Periodic: depends on information source.

Records

Format LR-01 (Applicable Legal Requirements) is maintained by the IEMS coordinator. The IEMS management representative maintains copies of the applicable regulations.

LR-01: Applicable Legal Requirements

The following table provides a list of environmental regulations that apply to Smith Corporation's activities. The specific operation(s) to which each regulation applies are also shown. The operations are a subset of those listed on format EA-02.

Regulatory Agency	Regulation and Specific Provision	Operation(s) to which Provision Applies

Contact Person: Date Completed:

Identification of Significant Environmental Aspects (P-SEA)

[See Module 3 in the IEMS Implementation Guide.]

Purpose

Smith Corporation focuses its management efforts on the most significant of its environmental aspects. To determine its SEAs, Smith Corporation systematically evaluates its environmental aspects using environmental and business criteria.

Procedure

1. The IEMS coordinator compiles a master list of environmental aspects onto format SEA-01 based on the lists submitted from each area (which are compiled on format EA-02). Where appropriate, individual aspects are grouped. (For example, if consumption of energy is listed as an environmental aspect in several areas, the coordinator could choose to group these listings such that consumption of energy appears just once on the master list.)

2. The IEMS committee then rates each aspect according to the following criteria:

   - Regulatory concerns
   - Pollution
   - Risk, including effects of chemicals and materials, impact on workers, impact on the surrounding community, impact on the environment, safety, and noise
   - Natural resource use

3. Using format SEA-01 (similar to Worksheets 3-5a and 3-5b in the *IEMS Implementation Guide*), aspects are assigned a relative value of L, M-L, M, M-H, or H in each category, where **L** stands for low impact (or risk, or potential for regulatory issues), **M** for medium, and **H** for high. Information recorded on formats EA-03 and LR-01 are used to assist the committee in rating each aspect in the categories of risk and regulatory concerns, respectively.

4. A "Total Ranking" is developed for each aspect by adding the scores for each category using the following values: L = 1; M-L = 2; M = 3; M-H = 4; H = 5.

5. With all but the last column of format SEA-01 complete, the committee makes a final determination as to which aspects are significant. As a general guide, the aspects that score the highest number of points are considered significant. The committee, however, should use its best judgement in determining significance.

6. Aspects identified as significant are indicated on format SEA-01.
7. At this point, the IEMS committee may take an initial cut at developing indicators for the SEAs (at least one indicator per SEA). These preliminary indicators, which will be reviewed later (see the procedure on operational controls, P-OC), can be noted using format OC-01.

Frequency

This procedure is repeated on an annual basis.

Records

Format SEA-01 (Determining Significant Environmental Aspects) is maintained by the IEMS coordinator.

SEA-01: Determining Significant Environmental Aspects

The following table shows the IEMS committee's evaluation of the Smith Corporation's environmental aspects based on selected criteria. Those aspects chosen as significant are indicated in the final column.

Operation	Aspect	Regulatory Concern	Chemical and Material Risk—Effects and Exposure			Worker Safety	Other Community Issues	Natural Resources	Overall Ranking	Significant?
			Worker	Community	Environmental					

Contact Person: Date Completed:

Development of Objectives, Targets, and Action Plans (P-OTP)

[See Modules 3 and 5 in the IEMS Implementation Guide.]

Purpose

The Smith Corporation sets objectives for environmental improvement and develops targets and action plans to meet those objectives. These objectives are generally directly related to the company's significant environmental aspects and follow from its environmental policy commitments.

Procedure

1. Top plant management sets environmental objectives for the Smith Corporation such that the plant has one or more environmental objectives at any one time. The current environmental objectives are recorded using format OTP-01. Where possible, environmental objectives are quantified and at least one indicator developed.

2. The IEMS committee is responsible for developing and recommending potential new environmental objectives to top plant management. In identifying potential new objectives, the committee considers the following:
   - Environmental policy
   - The SEAs of the company, considering especially those SEAs that pose chemical risk
   - Applicable laws and regulations and potential future laws and regulations
   - Practical business criteria, such as the potential costs and benefits of pursuing a particular environmental objective
   - The views of employees and other interested parties

3. Once environmental objectives are established by top plant management, the IEMS coordinator assigns responsibility (to the manager of the operations in question, where appropriate) for developing targets and action plans to realize the objectives. The targets and action plan that correspond to each objective are recorded by the responsible person using format OTP-02 (similar to Figures 7-a and 7-b of the *IEMS Implementation Guide*). Sometimes, this may require an alternatives evaluation as the first target (or action item). See P-AE, "Conducting an Alternatives Evaluation," for more detail.

Frequency

Environmental objectives are reviewed on a yearly basis. The targets and action plans are developed and revised as needed by the committee.

Records

Environmental objectives are recorded using format OTP-01 (Environmental Objectives), and the targets and action plans that correspond to each objective are recorded using format OTP-02 (Action Plan). The IEMS coordinator is responsible for maintaining these records.

OTP-01: Environmental Objectives

The following is a list of Smith Corporation's current environmental objectives.

Objective	Related SEA	Related Environmental Policy Provision	Performance Measurement Indicator(s)

Contact Person: Date Completed:

OTP-02: Environmental Management Plan

Objective	
Indicator(s)	
Target # 1	
Action Plan	
Person(s) responsible:	
Budget	
Schedule	
Review cycle	
Target # 2	
Action Plan	
Person(s) responsible	
Budget	
Schedule	
Review cycle	
Target # 3	
Action Plan	
Person(s) responsible	
Budget	
Schedule	
Review cycle	

Contact Person: Date Completed:

Conducting an Alternatives Evaluation (P-AE)

[See Module 4 in the IEMS Implementation Guide.]

Purpose

Smith Corporation periodically conducts an alternatives evaluation to identify viable approaches to reaching an environmental objective. An alternatives evaluation is a tool for identifying alternative products and/or processes and evaluating them compared to the baseline based on business and environmental criteria.

Procedure

1. The IEMS coordinator appoints a small group, overseen by a committee member or by the relevant operations manager, to identify and evaluate alternatives to a particular activity or process where an alternatives evaluation is required for meeting an environmental objective.

2. The group first identifies the function that this activity or process performs in Smith Corporation's operations. The group also characterizes the baseline, or the current manner in which the function is being carried out.

3. The group then brainstorms alternative ways of accomplishing this function. Potential alternatives include using a different material or chemical, changing work practices, and/or changing process technologies. Alternatives are recorded using format AE-01 (similar to Worksheet 4-1 of the *IEMS Implementation Guide*), and the most promising alternatives are assigned to individual members of the group for further research.

4. The group then evaluates the baseline and alternatives based on the following considerations: operational performance, cost, regulatory implications, and environmental impact. The group uses formats AE-02 (similar to Worksheet 4-10 of the *IEMS Implementation Guide*) to record its findings (and formats AE-03 to AE-06, as needed).

5. The group makes a recommendation and presents its recommendation to the IEMS committee and appropriate operations managers.

Frequency

As often as necessary in the context of developing targets and action plans to meet environmental objectives.

Records

Formats AE-01 (Alternatives Identification) and AE-02 (Evaluation of Alternatives) are maintained by the IEMS coordinator, as well as AE-03 to AE-06 to provide, as necessary, supporting documentation.

AE-01: Alternatives Identification

Significant Environmental Aspect(s):

Function:

	Baseline	Potential Alternatives
Products		
Technologies		
Work Practices		
Recycling/Reuse		
Treatment		
Disposal		

Contact Person: Date Completed:

AE-02: Evaluation of Alternatives

Significant Environmental Aspect(s):

Function:

Alternative	Performance	Regulatory Considerations	Cost	Environmental Effects	Overall Evaluation
Baseline					

Contact Person: Date Completed:

AE-03: Evaluation of Environmental Effects

Significant Environmental Aspect(s):

Function:

Alternative	Regulatory Concern	**Chemical and Material Risk—Effects and Exposure**			Worker Safety	Other Community Issues	Natural Resources	**Overall Ranking**	**Preferred Alternative? (Y/N)**
		Workers	Community	Environment					
Baseline									

Contact Person: Date Completed:

AE-04: Evaluation of Performance

Significant Environmental Aspect(s):

Function:

Alternative	How Well it Works	Time	Ease of Use	Overall Performance Evaluation
Baseline				

Contact Person: Date Completed:

AE-05: Evaluation of Regulatory Concerns

Significant Environmental Aspect(s):

Function:

Alternative	Applicable Regulations	Required Controls	Cost of Compliance	Overall Regulatory Concerns Evaluation
Baseline				

Contact Person: Date Completed:

AE-06: Evaluation of Costs

Significant Environmental Aspect(s):

Function:

Alternative	Raw Material	Labor	Disposal	Total Cost	Savings	Net Cost
Baseline						

Contact Person: Date Completed:

Development of Operational Controls (P-OC)

[See Module 6 in IEMS Implementation Guide. Make sure to integrate your process for developing and documenting operational controls for SEAs into whatever process your company already has in place for operational controls.]

Purpose

By developing operational control procedures for critical activities (i.e., those activities associated with SEAs), Smith Corporation intends to mitigate and control, to the extent possible, the environmental impacts associated with its SEAs.

Procedure

1. The IEMS committee, with additional input from other employees as needed, carries out a root cause analysis of each SEA to determine the underlying cause(s) of the environmental impact. As part of the root cause analysis, the committee will determine the need for (and adequacy of, if already existing) operational control procedures to control the critical activities related to the SEA in question and record its findings on format OC-01 (similar to Worksheet 6-1 in the *IEMS Implementation Guide*). The committee, with input from operations managers as needed, will also select one or more indicators per SEA for purposes of monitoring Smith Corporation's environmental performance as related to the SEAs.

2. Where there is a need to create or modify an operational control procedure, the IEMS committee assigns a member of the committee to draft an operational control procedure, based on consultation with the employees who undertake that procedure. In many cases, a separate operational control procedure may not be required, rather the integration of environmental control procedures into an existing procedure. The operational control procedure should take the form of a "Work Instruction," namely a summary list of required steps or measures. In addition to describing the steps necessary to carry out the particular activity in an environmentally sound manner, the work instruction should also include steps to conduct monitoring, where applicable.

3. After the operational control procedure has been developed and implemented, its status is recorded as such on format OC-01. The procedure itself enters into the relevant Smith Corporation operator's handbook and/or is posted at the site of the activity in question.

Frequency

As new SEAs are identified. For existing SEAs, a review of the associated root cause analysis and operational control procedures is conducted yearly.

Records

Format OC-01 (IEMS Operational Control Procedures) is maintained by the IEMS coordinator. The procedures themselves are maintained in the relevant Smith Corporation operator's handbook and/or posted at the site of the activity in question.

OC-01: IEMS Operational Control Procedures

SEA	Indicator(s)	Associated Job Functions	Existing Operational Control Procedures	Operational Control Procedures Development/ Modification Needed	Responsible/ Status	Location Posted

Contact Person: Date Completed

Environmental Training (Awareness and Task-Specific) (P-ET)

[See Modules 6 and 8 in the IEMS Implementation Guide; Module 8 offers a sample format for tracking training in case your HR staff does not do this already.]

Purpose

To ensure that its employees carry out their duties in as environmentally responsible a manner as possible, Smith Corporation provides all employees with environmental awareness training on environmental issues and provides task-specific training to those employees whose jobs are associated with significant environmental aspects.

Procedure

Awareness Training

1. All new employees receive a 15-minute introduction to the Smith Corporation's IEMS, specifically its environmental policy, significant environmental aspects, and environmental objectives. This introduction, which includes an opportunity for the new employees to ask questions about the IEMS, is given by the human resources (HR) manager as part of his general orientation for new employees. Records of employees who have received this introduction are maintained by the HR department.

2. Each year employees are invited to a company picnic. One of the scheduled events for this picnic is a 15 minute talk by a member of Smith Corporation's IEMS implementation committee. This person speaks about the environmental accomplishments of the Smith Corporation, the state of its IEMS, and the goals for the coming year. These remarks provide an update to the initial IEMS awareness training received by employees.

Task-Specific Training

3. Using the root cause analysis as a tool (see P-OC and format OC-01), the IEMS committee, working in coordination with the appropriate operations managers, identifies the job functions that are associated significantly with each SEA.

4. The IEMS committee, in conjunction with the relevant operations manager, then determines what training employees performing each of these job functions should receive in order to control actual environmental impacts to the greatest possible extent.

5. Operations managers are responsible for ensuring that their employees receive the appropriate task-specific environmental training. Where possible, environmental training is integrated with other types of training (e.g., operational) that employees are receiving. The HR manager keeps records of the training received by each employee.

Frequency

Awareness training is given to new employees during their first week at Smith Corporation. Task-specific training is given to relevant employees as they take on a new function that is associated with a SEA. Task-specific training is updated, as necessary.

Records

Records of the awareness and task-specific training received by each employee are kept by the HR manager. The job functions associated with environmentally critical activities (i.e., those functions that should receive task-specific training) are listed on format OC-01.

Emergency Preparedness (P-EP)

[Note: this procedure assumes that your company has a general emergency response plan in place, into which environmental considerations can be integrated.]

Purpose

As part of its IEMS, Smith Corporation strives to ensure that the environmental impacts associated with any emergency situations are minimized to the greatest extent possible.

Procedure

1. Smith Corporation has an Emergency Response Committee charged with identifying potential emergency scenarios and developing and ensuring the implementation of appropriate procedures, should an emergency situation develop.

2. With the assistance of the IEMS coordinator, the Emergency Response Committee a) identifies the potential negative significant environmental impacts associated with potential emergency scenarios, b) incorporates measures to minimize these impacts into emergency response procedures, and c) ensures that adequate training (including simulations) is provided to appropriate Smith Corporation staff to implement these procedures.

3. The Emergency Response Committee maintains records of the potential emergency scenarios it is prepared for, the potential environmental impacts associated with each scenario, and the procedures established to minimize these impacts. The HR manager keeps records of training received by staff on implementation of emergency response procedures.

Frequency

The Emergency Response Committee meets quarterly to review the status of its work.

Records

Records of emergency scenarios, associated potential environmental impacts, and procedures to mitigate these impacts are kept by the Emergency Response Committee. Training records are kept by the HR manager.

Review of New Purchases, Processes, and Products (P-NPPP)

[Note: This procedure will almost certainly need to be substantially modified in order to fit the situation of your company. Smaller companies may not have a formal new product design or facilities engineering group, for example. The key is to find a way (that can be documented and verified, if possible) of ensuring that when new chemicals are being purchased, when new products are being developed, or when a facility is being substantially modified, environmental considerations are taken into account. See Module 7, Worksheet 7-1 in the IEMS Implementation Guide.]

Purpose

When purchasing new chemical supplies, modifying its processes, and making new products, Smith Corporation strives to ensure that environmental considerations, particularly those related to SEAs, are taken into account.

Procedure

1. When processing an order for a new chemical or other potentially harmful input, the purchasing manager clears the purchase with a member of the IEMS committee. The IEMS committee member initials the box marked "environmental approval" in the New Purchase Approval Form to signify his or her approval of the purchase.

2. Smith Corporation has a product development group and facilities engineering group. The product development group develops potential new products that Smith Corporation could offer (sometimes these are identified by the sales and marketing group, sometimes they are identified internally). The facilities engineering group is responsible for reconfiguring (or, in some cases, expanding) the facility's production lines to produce new products.

3. The product development group notifies a member of the IEMS committee before final approval of a new product design. The IEMS committee member reviews the design in light of the facility's SEAs and environmental objectives and targets. When the committee member is satisfied that the new design is in accordance with the plant's environmental goals, he initials the appropriate box in the Design Approval Form that is sent to the president for approval.

4. The facilities engineering group is responsible for notifying a member of the IEMS committee before final approval of any Facility Modification or Expansion Plan. (The Facility Modification or Expansion Plan is required for any facilities engineering job that costs more than $20,000.) The IEMS committee member reviews the plan in light of the facility's SEAs and environmental objectives and targets. When the committee member is satisfied that the new design is in accordance with the plant's environmental management goals, he initials the appropriate box in the Facility Modification or Expansion Plan form that is sent to the operations manager for ultimate approval.

Frequency

As new chemicals are purchased, new products are developed, and/or production lines are modified.

Records

The New Purchase Approval Forms are maintained by the purchasing manager. The Design Approval Forms are maintained by the product development group. The Facility Modification or Expansion Plans are maintained by the facilities engineering group.

Documentation and Document Control (P-D)

[See Module 8 in the IEMS Implementation Guide.]

Purpose

To ensure effective operation of the IEMS, Smith Corporation documents the procedures of its IEMS and keeps records of the outcomes of IEMS processes, and of the important environmental issues facing the plant. This IEMS manual comprises this documentation. Documentation is kept up-to-date.

Procedure

1. The IEMS coordinator documents the procedures that define Smith Corporation's IEMS in this manual. The IEMS committee formally reviews and, if necessary, revises this manual on an annual basis. Revised manuals are assigned a new revision number (a minor set of revisions would change the number from, say, 1.1 to 1.2; a major revision would change the number from, say, 1.1 to 2.0). Finally, the IEMS coordinator ensures that no employees or managers use outdated revisions of this manual.

2. The IEMS coordinator maintains updated records of the following outcomes, or results, of the functioning of the IEMS:

   - Environmental policy
   - Environmental aspects (EA-01, EA-02, EA-03)
   - Applicability of legal requirements to EAs (LR-01); note that copies of the regulations themselves are maintained by the IEMS management representative
   - Significant environmental aspects (SEA-01)
   - Objectives, targets, and action plans for environmental management programs (OTP-01, OTP-02)
   - Results of alternatives evaluations (AE-01, AE-02, AE-03 - AE-06)
   - List of operational control procedures related to SEAs (OC-01)
   - Results of internal assessments (IA-01 and IA-02)
   - Corrective actions taken (TCA-01)
   - Management reviews (MR-01)

   These items are described in more detail in the relevant procedures in this manual.

3. The IEMS coordinator is not responsible for maintaining records of environmental training and emergency response preparations; the operational control procedures themselves; or the New Purchase Approval Forms, the Design Approval Forms, or the

4. Facility Expansion or Modification Plans. These records are maintained by the appropriate person or group, as specified in the relevant procedures of this manual.

Frequency

Manual review and revision on an annual basis.

Records

Maintained as outlined in the procedure.

Conducting a Compliance Assessment (P-CA)

[See Module 7 in the IEMS Implementation Guide.]

Purpose

Smith Corporation conducts a periodic compliance assessment to ensure that it complies with all applicable local, state, and federal environmental regulations.

Procedure

1. The IEMS management representative maintains copies of applicable legal regulations, which are summarized on format LR-01. Based on these regulations, the IEMS management representative and coordinator compile a list of questions as an compliance assessment protocol. These questions are intended to be sufficient to the compliance status of Smith Corporation with respect to applicable environmental regulations (both the paperwork and the performance-related components).

2. The IEMS coordinator and another operations manager carry out the assessment by determining and recording the answers to the compliance assessment protocol. When they are done with the compliance assessment, they note any actual or potential compliance issues on format CA-01 (Compliance Tracking Log). Each actual and potential compliance issue is immediately referred to corrective action (see the Taking Corrective Action procedure, P-TCA).

Frequency

Monthly.

Records

Compliance assessment results are recorded by the internal assessment team using the compliance assessment protocol and using format CA-01. Records are maintained by the IEMS coordinator.

CA-01: Compliance Tracking Log

Person Responsible	Regulation	Root Cause	Compliance Check Date	Results	Corrective Action/Date (see: TCA-01)	Compliance Verified/Date

Conducting an Internal Assessment (P-IA)

[See Module 9 in the IEMS Implementation Guide.]

Purpose

Smith Corporation conducts periodic internal assessments of its IEMS to ensure that it is being implemented and operated according to the procedures laid out in this manual.

Procedure

1. At intervals, a team of two or three operations managers or employees, who are not on the IEMS committee, conducts an internal assessment of Smith Corporation's IEMS. The assessment team uses this manual as the basis for its assessment. In particular, the assessment team checks to make sure that:

   - Each procedure is being carried out as stated in this manual
   - Smith Corporation's environmental policy is being upheld
   - Progress is being made in meeting the environmental objectives

   The assessment team bases its evaluation on objective evidence, including documentation and records (e.g., those cited in this manual), interviews with key employees, and observations. Note that this is *not* a compliance audited

2. The assessment team completes the checklist on format IA-01 and writes up its findings using format IA-02. A "major non-conformity" occurs when an IEMS procedure is clearly not being implemented, when one of the commitments in the policy is not being upheld, or when no progress is being made in achieving an environmental objective; a "minor nonconformity" occurs when a procedure is being implemented inconsistently, yet without causing major failings in the IEMS as a whole.

3. Each non-conformity is immediately referred to corrective action (see the Taking Corrective Action procedure, P-TCA).

4. Records of each assessment (i.e., formats IA-01 and IA-02) are maintained by the IEMS coordinator.

Frequency

At least two times per year.

Records

Assessment results are recorded by the internal assessment team using formats IA-01 and IA-02 (Internal Assessment Checklist and Internal Assessment Record). Records are maintained by the IEMS coordinator.

IA-01: Internal Assessment Checklist

Internal Assessment Team:

Date of Internal Assessment:

Signed: _____

IEMS Procedures:
Check each item assessed (includes auditing of records, where applicable):

__ Environmental policy (adherence to policy commitments)
__ Environmental objectives (progress; implementation of action plans)
__ IEMS responsibilities (RESP-01)
__ Identification of Environmental Aspects (P-EA)
__ Identification of Legal Requirements (P-LR)
__ Identification of Significant Environmental Aspects (P-SEA)
__ Development of Objectives, Targets, and Action Plans (P-OTP)
__ Conducting an Alternatives Evaluation (P-AE)
__ Development of Operational Controls (P-OC)
__ Environmental Training (Awareness and Task-Specific) (P-ET)
__ Emergency Preparedness (P-EP)
__ Review of New Products and Processes (P-NPP)
__ Documentation (P-D)
__ Conducting a Compliance Assessment (P-CA)
__ Conducting an Internal Assessment (P-IA)
__ Taking Corrective Action (P-TCA)
__ Management Review (P-MR)

IEMS Performance

__ Achieved objective #1
__ Achieved objective #2
__ Achieved objective #3

Contact Person: Date Completed

IA-02: Internal Assessment Record

Internal Assessment Team	
Date of Internal Assessment	
Signed	
Major Non-Conformities Observed	
1.	
2.	
3.	
Minor Non-Conformities Observed	
1.	
2.	
3.	
Is Smith Corporation making progress in meeting its IEMS objectives?	
Is Smith Corporation adhering to the commitments in its environmental policy?	
Suggestions for Improving the IEMS	

Contact Person: Date Completed:

Taking Corrective Action (P-TCA)

[See Module 9 in the IEMS Implementation Guide.]

Purpose

Smith Corporation uses a formal corrective action process to ensure that actual or potential compliance issues and IEMS non-conformities are addressed quickly and effectively.

Procedure

1. The management representative assigns responsibility for taking action to correct each actual or potential compliance issue or non-conformity identified in a *compliance assessment* or an *internal assessment* (see P-CA and P-IA, respectively) to an appropriate manager or employee. Together they fill out the "Statement of the Problem" part of the Corrective Action Notice (format TCA-01; similar to Worksheet 7-7 in the *IEMS Implementation Guide*).

2. The person responsible then undertakes the corrective action required, calling upon the management representative, the IEMS committee, and others for assistance as necessary.

3. The responsible person and the management representative fill out the "Completion of Corrective Action" part of the Corrective Action Notice when corrective action is complete.

Frequency

Whenever significant problems in the functioning of the IEMS are identified, primarily through the internal assessment process.

Records

Corrective action is recorded using format TCA-01; records are maintained by the IEMS coordinator.

TCA-01: Corrective Action Form

Statement of the Problem
Date
Description of non-conformity or actual or potential compliance issue
Description of potential solution
Person responsible for corrective action
Deadline for completion of corrective action
Completion of Corrective Action
Actions taken
Results
Date

Signed: _____ _____

Management Representative Person Responsible

Communication with Stakeholders (P-CS)

[See Module 8 in IEMS Implementation Guide.]

Purpose

To ensure that interested external stakeholders receive appropriate information about the company's environmental activities, Smith Corporation has developed a company policy for considering and, where appropriate, responding to queries, comments, or complaints from stakeholders.

Procedure

1. The IEMS committee identifies stakeholders and their potential interests in the environmental performance of Smith Corporation using format CS-01, Stakeholders and Environmental Issues. If the committee decides that *proactive* communication on environmental issues is necessary with any group, that decision is recorded on CS-01 and responsibility is designated.

2. When any form of communication is received regarding Smith Corporation's environmental performance or management from a stakeholder, that communication is immediately forwarded to the IEMS management representative.

3. The IEMS management representative considers the nature of the communication and makes a decision on whether and how to respond to it based on the guidance below and on the more specific guidance in CS-01. The IEMS management representative is responsible for maintaining records of each such communication and response using format CS-02, Stakeholder Communication Record. Where internal actions are necessary to address the communication, this is noted on CS-02 and a Corrective Action Form (TCA-01) is initiated.

   Guidance for Communicating with Stakeholders on Environmental Issues: Smith Corporation's environmental policy is available to all stakeholders upon request. Smith Corporation will do its best, however, to respond in kind to all good-faith communications from stakeholders about environmental issues, including complaints, comments, and information requests. However, Smith Corporation may not choose to respond in all cases, particularly if the request is made in bad faith or if sensitive information is requested.

Frequency

As per environmental communication.

Records

Records of environmental communications from stakeholders and Smith Corporation's responses are kept by the IEMS management representative and are tracked using format CS-02. An updated version of CS-01, Stakeholders and Environmental Issues, is kept in this manual.

CS-01: Stakeholders and Environmental Issues

Stakeholder	Potential Environmental Interest	Proactive Communication Plan (if desired)	Person Responsible

Contact Person: Date Completed:

CS-02: Stakeholder Communication Record

Date Communication Received	
Type of Communication	
Received From	
Address/Telephone Number/ E-Mail	
Content of Communication (attach copy if possible)	
Will Smith Corporation Respond?	YES NO
Date of Response	
Person Responding	
Position	
Nature of Response (attach copy if possible)	
Are Internal Actions Necessary?(If Yes, fill out a Corrective Action Form.)	

Contact Person: Date Completed:

Management Review (P-MR)

[See Module 9 in the IEMS Implementation Guide.]

Purpose

To ensure the effectiveness of the IEMS and its continual improvement, Smith Corporation top management periodically reviews the important elements and outcomes of the IEMS.

Procedure

1. In preparation for the management review, the IEMS management representative gathers the following information and makes it available to top plant management, including the owner and President of Smith Corporation and the plant manager:

    - Environmental policy
    - List of IEMS committee and others responsible for major parts of the IEMS (RESP-01)
    - List of significant environmental aspects and criteria of significance (SEA-01)
    - Update on compliance status of the plant and on any potential upcoming regulations that might require an advance strategy
    - List of environmental objectives and targets (OTP-01 and OTP-02)
    - Environmental performance results (from monitoring and measuring SEA indicators and indicators of progress toward environmental objectives and targets)
    - Bullet-point description of other accomplishments of the IEMS (e.g., number of people trained, etc.)
    - Results of most recent IEMS internal assessment (IA-02), compliance assessment (CA-01), and corrective actions taken
    - Description and documentation of feedback from stakeholders (if received)
    - Analysis of the costs and benefits of the IEMS (as quantitative as possible)

2. Top plant management meets to review and discuss the information presented. The IEMS management representative and coordinator will also be present. Depending on its review, top management may direct specific and/or significant changes in the scale and direction of the IEMS in order to improve its effectiveness and business value. The conclusions and directives that result from the management review are recorded using format MR-01 and kept by the IEMS coordinator.

Frequency

Quarterly.

Records

Results of management reviews are recorded using format MR-01. Records are kept by the IEMS coordinator.

MR-01: Management Review Record

Date of review meeting	
Persons present at meeting	
Name	Position
Conclusions	
Actions to be taken	Person(s) responsible

Signed: _____ _____

Management Representative Plant Manager