

Management Practices, Self-Assessment Process, and Resource Materials

API RECOMMENDED PRACTICE 9000
SECOND EDITION, OCTOBER 1998





American Petroleum Institute Environmental, Health and Safety Mission and Guiding Principles



MISSION

*The members of the American Petroleum Institute are dedicated to continuous **efforts** to improve the compatibility of our operations with the environment while economically developing energy resources and supplying high **quality** products and services to consumers. We recognize our responsibility to work with the public, the government, and others to develop and to use natural resources in an environmentally sound manner while protecting the health and safety of our employees and the public. To meet these responsibilities, API members pledge to **manage** our businesses according to the following principles using sound science to prioritize **risks** and to implement cost-effective management practices:*

PRINCIPLES

- To recognize and to respond to community concerns about our raw materials, products and operations.
- To operate our plants and facilities, and to handle our raw materials and products in a manner that protects the environment, and the safety and health of our employees and the public.
- To make safety, health and environmental considerations a priority in our planning, and our development of new products and processes.
- To advise promptly, appropriate officials, employees, customers and the public of information on significant industry-related safety, health and environmental hazards, and to recommend protective measures.
- To counsel customers, transporters and others in the safe use, transportation and disposal of our raw materials, products and waste materials.
- To economically develop and produce natural resources and to conserve those resources by using energy efficiently.
- To extend knowledge by conducting or supporting research on the safety, health and environmental effects of our raw materials, products, processes and waste materials.
- To commit to reduce overall emission and waste generation.
- To work with others to resolve problems created by handling and disposal of hazardous substances from our operations.
- To participate with government and others in creating responsible laws, regulations and standards to safeguard the community, workplace and environment.
- To promote these principles and practices by sharing experiences and offering assistance to others who produce, handle, use, transport or dispose of similar raw materials, petroleum products and wastes.

Rev. November 1996

Management Practices, Self–Assessment Process and Resource Materials

Policy Analysis and Strategic Planning Department

API RECOMMENDED PRACTICE 9000
SECOND EDITION, OCTOBER 1998



SPECIAL NOTES

API publications necessarily address problems of a general nature. With respect to particular circumstances, local, state, and federal laws and regulations should be reviewed.

API is not undertaking to meet the duties of employers, manufacturers, or suppliers to warn and properly train and equip their employees, and others exposed, concerning health and safety risks and precautions, nor undertaking their obligations under local, state, or federal laws.

Information concerning safety and health risks and proper precautions with respect to particular materials and conditions should be obtained from the employer, the manufacturer or supplier of that material, or the material safety data sheet.

Nothing contained in any API publication is to be construed as granting any right, by implication or otherwise, for the manufacture, sale, or use of any method, apparatus, or product covered by letters patent. Neither should anything contained in the publication be construed as insuring anyone against liability for infringement of letters patent.

Generally, API standards are reviewed and revised, **reaffirmed**, or withdrawn at least every five years. Sometimes a one-time extension of up to two years will be added to this review cycle. This publication will no longer be in effect five years after its publication date as an operative API standard or, where an extension has been granted, upon republication. Status of the publication can be ascertained from the API Authoring Department, [telephone (202) 682-8000]. A catalog of API publications and materials is published annually and updated quarterly by API, 1220 L Street, N.W., Washington, D.C. 20005.

Copyright © 1998 American Petroleum Institute

CONTENTS

	Page
SECTION 1—INTRODUCTION	1
SECTION 2—MANAGEMENT PRACTICES FOR POLLUTION PREVENTION	3
2.1 Background	3
2.2 Practical Implementation	3
2.3 Pollution Prevention Management Practices	4
2.3.1 Management Commitment	4
2.3.2 Prevention of Spills and Accidental Releases	4
2.3.3 Inventory of Releases and Assessment of Impacts	4
2.3.4 Pollution Prevention Opportunities and Approaches	4
2.3.5 Pollution Prevention in Research and Design	5
2.3.6 Industry and Public Outreach	5
SECTION 3—MANAGEMENT PRACTICES FOR OPERATING AND PROCESS SAFETY	7
3.1 Background	7
3.2 Practical Implementation	8
3.3 Operating and Process Safety Management Practices	8
3.3.1 Management Commitment	8
3.3.2 Impact Assessment and Resolution	8
3.3.3 Sound Work Practices	8
3.3.4 Contractor Safety	8
3.3.5 Use of Standards	9
3.3.6 Documentation of Information	9
3.3.7 Safe Transportation Practices	9
3.3.8 Incident Investigation	9
3.3.9 Fitness for Duty	9
3.3.10 Health and Exposure Assessments	9
3.3.11 Management of Change	10
3.3.12 Management System Assessments	10
SECTION 4—MANAGEMENT PRACTICES FOR COMMUNITY AWARENESS	11
4.1 Background	11
4.2 Practical Implementation	12
4.3 Community Awareness Management Practices	12
4.3.1 Management Commitment	12
4.3.2 Assessment of Employee and Contractor Concerns	12
4.3.3 Communications Training	12
4.3.4 Education	12
4.3.5 Dialogue With Employees and Contractors	12
4.3.6 Effectiveness Evaluation	12
4.3.7 Assessment of Community Concerns	13
4.3.8 Education Program	13
4.3.9 Dialogue With Local Citizens	13
4.3.10 Openness Policy	13
4.3.11 Effectiveness Evaluation	13

SECTION 5—MANAGEMENT PRACTICES FOR CRISIS READINESS	15
5.1 Background	15
5.2 Practical Implementation	15
5.3 Crisis Readiness Management Practices	16
5.3.1 Assess and Update Hazards	16
5.3.2 Emergency Response Plans	16
5.3.3 Communication Procedure	16
5.3.4 Twenty-Four-Hour Capability	17
5.3.5 Employee Training Programs	17
5.3.6 Community Coordination and Response	17
5.3.7 Coordination for Recovery	17
SECTION 6—MANAGEMENT PRACTICES FOR PRODUCT STEWARDSHIP	19
6.1 Background	19
6.2 Practical Implementation	19
6.3 Product Stewardship Management Practices	19
6.3.1 Management Commitment	19
6.3.2 Goals and Responsibilities	20
6.3.3 Evaluation and Assessment of Product Impacts	20
6.3.4 Transport of Products	20
6.3.5 Communication of Product Information	20
6.3.6 Product Design, Manufacture, and Distribution	20
SECTION 7—MANAGEMENT PRACTICES FOR PROACTIVE GOVERNMENT INTERACTION	21
7.1 Background	21
7.2 Practical Implementation	21
7.3 Proactive Government Interaction Management Practices	21
7.3.1 Providing Information	21
7.3.2 Identifying Proactive Opportunities	22
7.3.3 Development of Positions, Policy, and Supporting Information	22
7.3.4 Conducting Ethical Advocacy Activities	22
7.3.5 Participating in Appropriate Pilot Projects	22
7.3.6 Participating in Intercompany and Industry Activities	22
SECTION 8—MANAGEMENT PRACTICES FOR RESOURCE CONSERVATION.....	23
8.1 Background.....	23
8.2 Practical Implementation	23
8.3 Resource Conservation Management Practices	23
8.3.1 Management Commitment.....	23
8.3.2 Communications	23
8.3.3 Efficient Operations	23
8.3.4 New Technology	24
8.3.5 Planning	24

APPENDIX A—SELF-ASSESSMENT FORMS A-I

Tables

1—Management Practices for Pollution Prevention and Corresponding API EHS Guiding Principles	A-3
2—Management Practices for Operating and Process Safety and Corresponding API EHS Guiding Principles	A-5
3—Management Practices for Community Awareness and Corresponding API EHS Guiding Principles	A-7
4—Management Practices for Crisis Readiness and Corresponding API EHS Guiding Principle	A-9
5—Management Practices for Product Stewardship and Corresponding API EHS Guiding Principles	A-11
6—Management Practices for Proactive Government Interaction and Corresponding API EHS Guiding Principles.....	A-13
7—Management Practices for Resource Conservation and Corresponding API EHS Guiding Principle	A-15

APPENDIX B—RESOURCE MATERIALS..... B-1

B-1	Examples of Resources for Pollution Prevention	B-3
	Industry Resources.....	B-3
	Other Private Sector Resources.....	B-4
	Federal Government.....	B-5
	International Groups.....	B-6
	State Government Agencies.....	B-6
	Sector Specific Resources	B-6
	Exploration & Production Operations.....	B-7
	Refining, Marketing and Transportation Operations.....	B-7
B-2	Examples of Resources for Operating and Process Safety	B-9
	Industry Resources.....	B-9
	Other Private Sector Resources.....	B-9
	Federal Government.....	B-11
	State Government Agencies.....	B-12
	Sector Specific Resources	B-12
	Exploration & Production Operations.....	B-13
	Transportation Operations.....	B-13
B-3	Examples of Resources for Community Awareness	B-15
	Industry Resources	B-15
	Other Private Sector Resources	B-16
	Federal Government.....	B-17
	State Agencies.....	B-18
	Potential Partnering Organizations.....	B-18
B-4	Examples of Resources for Crisis Readiness	B-19
	Industry Resources.....	B-19
	Other Private Sector Resources.....	B-20
	Federal Government.....	B-21
	State Government Agencies.....	B-22
	Sector Specific Resources	B-23
	Exploration & Production Operations.....	B-23
B-5	Examples of Resources for Product Stewardship.....	B-25
	Industry Resources	B-25
	Voluntary Standards.....	B-26
	Federal Government.....	B-26
	State Government Agencies	B-27

B-6	Examples of Industry Resources for Proactive Government	
	Interaction	B-29
	Industry Resources	B-29
	Other Petroleum Industry Trade Associations that Sponsor	
	Cooperative Projects with Government Agencies	B-29
	Federal Government Agencies	B-30
	State Government Agencies	B-31
B-7	Examples of Resources for Resource Conservation	B-33
	Industry Resources	B-33
	Federal Government	B-34
B-8	State Resources	B-35
	API State Petroleum Councils	B-35
	Allied Associations	B-39
	Selected State Government Agencies	B-41

FOREWORD

The management practices described in this **recommended** practice are intended to act as a bridge between API's Environmental, Health and Safety Mission and Guiding Principles and activities of individual companies that are aimed at improving environmental, health, and safety performance. The self-assessment process described in this recommended practice provides a mechanism for measuring progress in implementing the management practices. This recommended practice also provides a compilation of resources to assist API members with their implementation of the management practices.

API publications may be used by anyone desiring to do so. Every effort has been made by the Institute to assure the accuracy and reliability of the data contained in them; however, the Institute makes no representation, warranty, or guarantee in connection with this publication and hereby expressly disclaims any liability or responsibility for loss or damage resulting from its use or for the violation of any federal, state, or municipal regulation with which this publication may conflict.

Suggested revisions are **invited** and should be submitted to the STEP Coordinator of the Policy Analysis and Strategic Planning Department, American Petroleum Institute, 1220 L Street, N.W., Washington, D.C. 20005.

Management Practices, Self-Assessment Process, and Resource Materials

SECTION 1--INTRODUCTION

One of the most significant long-term trends affecting the future vitality of the petroleum industry is the public's concerns about the environment, health and safety. Recognizing this trend, API member companies have developed *Strategies for Today's Environmental Partnership* (STEP), an initiative to build understanding and credibility with interested parties by continually improving our industry's environmental, health and safety performance; documenting performance; and communicating with the public.

The foundation for STEP is the API Environmental, Health and Safety Mission and Guiding Principles. API programs and activities that support STEP include development of industry standards and recommended practices; research; training and certification programs; community partnership activities; documentation of industry performance; and establishing ongoing dialogue with the public and other stakeholders.

STEP also embraces the efforts of API member companies, as we work toward a common goal. The member companies recognize the importance of protecting the environment for the health and welfare of today's citizens, as well as future generations. They have expressed their commitment to protecting the environment, their employees, and the public by incorporating these concerns into their operations, and through the adoption of API's Guiding Principles.

In 1992, API adopted this recommended practice, which includes management practices and a self-assessment process, to assist the members' implementation of the API EHS Mission and Guiding Principles. The management practices provide a bridge between the API EHS Mission and Guiding Principles and individual company activities aimed at

improving environmental, health and safety performance. API encourages its members to incorporate these management practices into an environmental, health and safety management system to help achieve continual improvement in performance. The self-assessment process provides a mechanism for measuring progress in implementing the management practices.

The recommended practice is organized around the following strategic elements:

- a. Pollution prevention,
- b. Operating and process safety,
- c. Community awareness,
- d. Crisis readiness,
- e. Product stewardship,
- f. Proactive government interaction, and
- g. Resource conservation.

These management tools can be used by member companies to help achieve continual improvement in environmental, health and safety performance. While these management practices apply generally to all industry operations, not all practices may be applicable in every industry sector and organization.

API recommends that companies establish a review cycle or self-assessment process to document the extent to which these practices have been incorporated into the management of environmental, health and safety issues (see Appendix A for a suggested self-assessment process). API has also developed a compilation of resources to assist with implementation of these management practices (see Appendix B). These materials are in no way mandatory or essential elements of the management practices.

SECTION 2—MANAGEMENT PRACTICES FOR POLLUTION PREVENTION

2.1 Background

Pollution prevention is a multimedia approach that emphasizes eliminating pollution at the source. It establishes a process that may create opportunities for (a) improving the environment, (b) developing the most cost-effective solutions, (c) eliminating the need for additional command and control regulations, and (d) demonstrating positive industry support for environmental programs.

In practice, there is often disagreement over just what pollution prevention really means or includes. Some see it exclusively as toxics use reduction or industrial source reduction, whereas others include recycling. The following is the working API definition:

Pollution prevention is a multimedia concept that reduces or eliminates pollutant discharges to air, water, or land and includes the development of more environmentally acceptable products, changes in processes and practices, source reduction, beneficial use and environmentally sound recycling.

The pollution prevention management practices (see Table 1) apply generally to all operations. Substantial manned facilities, such as refineries, major gas processing plants, and major distribution terminals, should develop pollution prevention programs. However, a company is not expected to design a unique program for each small facility, such as an individual service station,

distribution plant, or production lease site. Companies can choose to organize their pollution prevention programs at an appropriate regional or central managerial level at which staff can assist in addressing the concerns of citizens, officials, employees, and customers.

2.2 Practical Implementation

Achievement of pollution prevention goals will occur over time and will require a transition from today's emissions control practices to a process that encourages businesses to voluntarily conduct a critical review of their use of materials, their processes and practices, and their products to search for ways to reduce or eliminate pollution. The evolution of technology and availability of resources are among the many factors that will affect this transition. A practical approach to implementation encourages the concepts of striving to conduct operations in an environmentally sound manner, to produce environmentally acceptable products, and to move up the environmental management hierarchy in operations (that is, from treatment to environmentally sound recycling and beneficial use, from recycling and beneficial use to source reduction).

The following management practices for pollution prevention represent the practical embodiment of the

Table 1—Management Practices for Pollution Prevention and Corresponding API EHS Guiding Principles

Strategic Element	Management Practices
Pollution Prevention—focuses on the following API EHS Guiding Principles: ● To commit to reduce overall emissions and waste generation. ● To work with others to resolve problems created by handling and disposal of hazardous substances from our operations. ● To make safety, health and environmental considerations a priority in our planning, and our development of new products and processes. ● To promote these principles and practices by sharing experiences and offering assistance to others who produce, handle, use, transport or dispose of similar raw materials, petroleum products and wastes.	1. Provide management support for ongoing pollution prevention activities through appropriate policies, actions, communications, and resource commitments. 2. Develop and implement a program to improve prevention and early detection and reduce impacts of spills of crude oil and petroleum products and other accidental releases from operations. 3. Develop an inventory of significant releases to air, water, and land; identify their sources; and evaluate their impact on human health and the environment. 4. Periodically review and identify pollution prevention options and opportunities, develop approaches for reducing releases, and set goals and timing for reducing releases considering community concerns, technology and economics, and impact on human health and the environment. In reducing releases, give preference first to source reduction; second to recycling and reuse; and third to treatment; and measure progress. 5. Include pollution prevention objectives in research efforts and in the design of new or modified operations, processes, and products. 6. Support an outreach program to promote pollution prevention opportunities within the industry, including sharing of industry experiences and accomplishments.

petroleum industry's commitment to pollution prevention and provide a more specific mechanism for implementing the following API EHS Guiding Principles:

- To commit to reduce overall emissions and waste generation.
- To work with others to resolve problems created by handling and disposal of hazardous substances from our operations.
- To make safety, health and environmental considerations a priority in our planning, and our development of new products and processes.
- To promote these principles and practices by sharing experiences and offering assistance to others who produce, handle, use, transport or dispose of similar raw materials, petroleum products and wastes.

2.3 Pollution Prevention Management Practices

2.3.1 MANAGEMENT COMMITMENT

Provide management support for ongoing pollution prevention activities through appropriate policies, actions, communications, and resource commitments.

Management support at all levels is an underlying principle in the implementation of API's STEP program and the commitment to reduce overall releases to the environment. STEP is designed for flexibility to allow each member company to tailor its own individual optimum approach to implementation of the management practices.

2.3.2 PREVENTION OF SPILLS AND ACCIDENTAL RELEASES

Develop and implement a program to improve prevention and early detection and reduce impacts of spills of crude oil and petroleum products and other accidental releases from operations.

Spill and release prevention has been a historic priority for the petroleum industry. Proven methods of preventing spills and releases, hazard assessments (for example, hazard operability studies), inspection and maintenance programs, and secondary containment should be considered in implementing this management practice. Once a spill has occurred, however, industry cooperative efforts, such as the Marine Spill Response Corporation and other spill response cooperatives, and techniques like emergency release modeling and hazardous waste operations and emergency response (HAZWOPER) training are examples of the growing list of resources available to the industry. The actual methodologies employed will depend on the nature and extent of the potential health and environmental hazard as determined by each company for its operations.

2.3.3 INVENTORY OF RELEASES AND ASSESSMENT OF IMPACTS

Develop an inventory of significant releases to air, water, and land; identify their sources; and evaluate their impact on human health and the environment.

Under this management practice, member companies develop release inventories, conduct source identifications for operations, and evaluate the impact these releases may have on human health and the environment.

2.3.3.1 Inventories

Establishing a baseline release inventory is a fundamental step in identifying and prioritizing opportunities to reduce releases. Many API company operations are currently covered by release inventory programs (for example, Title III of the Superfund Amendments and Reauthorization Act). Such inventory options may or may not meet the needs of the petroleum industry. API publishes the annual Petroleum Industry Environmental Performance Report, and is currently exploring additional methods for measuring pollution prevention progress.

API, the Chemical Manufacturers Association, the U.S. Environmental Protection Agency, and many state and local agencies offer reference materials on methods of estimating or measuring releases.

2.3.3.2 Impact Evaluations

There are several ways to evaluate health and environmental impacts, and each company should determine the methods appropriate to its operations. The concerns of the affected public will also be taken into consideration, as described in Section 4.

2.3.4 POLLUTION PREVENTION OPPORTUNITIES AND APPROACHES

Periodically review and identify pollution prevention options and opportunities, develop approaches for reducing releases, and set goals and timing for reducing releases considering community concerns, technology and economics, and impact on human health and the environment. In reducing releases, give preference first to source reduction; second to recycling and reuse; and third to treatment; and measure progress.

After completing an inventory of releases, a survey of waste generation sources, and an assessment of concerns, operating units should review current management practices and develop appropriate release reduc-

tion plans, considering community concerns and impact on human health and the environment. This is an ongoing process with the goal of continuous environmental improvement.

Each company should identify its own reduction priorities and implement a reduction plan to meet company and operating-unit goals. When developing reduction priorities, companies should consider the following operations-specific or release-specific criteria: technical feasibility, cost-benefit, community concern, type and size of the operation, conservation of resources, and any additional specific local or regional issues of concern.

Measuring progress is an important feature of pollution prevention and release reduction. Companies should develop methods to measure progress in implementing their reduction plans. These methods may be specific to the company, the operating unit, or both.

2.3.5 POLLUTION PREVENTION IN RESEARCH AND DESIGN

Include pollution prevention objectives in research efforts and in the design of new or modified operations, processes, and products.

Incorporating pollution prevention objectives into appropriate research and design situations will maximize the opportunity to create cost-effective reduction opportunities. The greatest opportunity for optimizing

pollution prevention is at project conception, during the early research and design phases of new (or modified) products, processes, or projects, rather than as an afterthought. It is important that each company analyze the waste- and release-generation potential of new or modified operations, processes, and products as part of research and design and that it apply the concepts of pollution prevention in such designs.

2.3.6 INDUSTRY AND PUBLIC OUTREACH

Support an outreach program to promote pollution prevention opportunities within the industry, including sharing of industry experiences and accomplishments.

Companies have flexibility in the types of activities in which they choose to participate. Some opportunities may include the following:

- a. Sharing technical information and experience with partners, customers, and suppliers.
- b. Supporting efforts to develop improved release reduction techniques.
- c. Participating in efforts to develop consensus approaches to evaluating the health and environmental impacts of releases.
- d. Participating in educational workshops and the development of training materials.
- e. Participating in public forums.

SECTION 3—MANAGEMENT PRACTICES FOR OPERATING AND PROCESS SAFETY

3.1 Background

The petroleum industry is dedicated to continuous improvement and safe operations. Incidents of any kind can result in injuries, illness, environmental damage, and adverse public impact and opinion.

The operating and process safety management prac-

tices (see Table 2) apply generally to all operations. Substantial ~~manncd~~ facilities, such as refineries, major gas processing plants, and major distribution terminals, should develop operating and process safety programs. However, a company is not expected to design a unique program for each small facility, such as an indi- vidual service station, distribution plant, or production

Table 2—Management Practices for Operating and Process **Safety** and Corresponding API EHS Guiding Principles

Strategic Element	Management Practices
Operating and Process ~~Safety~~ —focuses on the fol- lowing API EHS Guiding Principles: To operate our plants and facilities, and to handle our raw materials and products in a manner that protects the environment , and the safety and health of our employees and the public. ● To promote these principles and practices by sharing experiences and offering assistance to others who produce, handle, use, transport or dispose of similar raw materials, petroleum products, and wastes.	1. Demonstrate management leadership and support through appropriate policy, communication, and re- source commitment for continuous improvement of operational and process safety performance. 2. Assess, prioritize, and address the environmental, health, and safety impacts of our operations. 3. Establish programs, procedures, training, and work practices appropriate to each operation to foster safe, healthful, and environmentally sound work environ- ments. 4. Employ processes to select safe connectors, clarify responsibilities, assess performance, and exchange in- formation to promote safe work environments. 5. Use sound engineering, operating, and maintenance practices consistent with recognized codes and stan- dards in the design, construction, use, and maintenance of operations. 6. Document process design, operating parameters and procedures, and other information relating to the haz- ards of materials and process technology. 7. Employ processes to provide for safe transport of raw materials, petroleum products, wastes, and hazardous materials, including selection of reliable carriers and distributors. 8. Investigate and take appropriate action on each inci- dent that results or could have resulted in a significant injury, illness, fire, explosion, or accidental release. Where appropriate, share lessons learned from signifi- cant incidents with employees, industry, government, and the community. 9. Employ processes to assure that personnel are able to perform their jobs safely and are not compromised by external influences, such as drugs and alcohol. 10. Conduct job safety and occupational health assess- ments to evaluate risks to personnel from processes, equipment, hazardous materials, and other work-site conditions. 11. Manage changes in operations to maintain or enhance the levels of safety and environmental protection dc- signed into those operations. 12. Develop processes that assess safety and occupational health management systems. Conduct systematic as- sessments of operating and process safety management systems.

lease site. Companies can choose to organize their operating and process safety programs at an appropriate regional or central managerial level at which staff can assist in addressing the concerns of citizens, officials, employees, and customers.

3.2 Practical Implementation

The operating and process safety strategic element addresses two of the API EHS Guiding Principles:

- To operate our plants and facilities, and to handle our raw materials and products in a manner that protects the environment, and the safety and health of our employees and the public.
- To promote these principles and practices by sharing experiences and offering assistance to others who produce, handle, use, transport or dispose of similar raw materials, petroleum products, and wastes.

The operating and process safety strategic element is designed to assist the industry in preventing incidents such as fires, explosions, and accidental releases of hazardous materials and to protect and promote health and safety. This strategic element comprises a series of management practices that underscore this objective. The practices are based on the principle that operations will be safe if they are designed according to sound engineering practices; built, used, and maintained properly; and reviewed periodically for conformance. The management practices provide a multidisciplinary means of identifying and assessing hazards, preventing unsafe acts and conditions, maintaining and improving employee health, and fostering communication on safety and health issues.

A list of resources, found in Appendix B, is offered as an aid to member companies in developing plans and programs to implement operating and process safety. There is no obligation to use any of the listed resources, nor are they specifically tied to any single management practice. The list is not exhaustive, and member companies are encouraged to use additional resources as appropriate.

3.3 Operating and Process Safety Management Practices

3.3.1 MANAGEMENT COMMITMENT

Demonstrate management leadership and support through appropriate policy, communication, and resource commitment for continuous improvement of operational and process safety performance.

Management leadership and support are essential for continuous improvement of operating and process safety performance. Management at all levels can demonstrate its dedication by its actions, including

allocation of appropriate staff and financial resources. Also included are the training and empowerment of employees to address the safety and health issues they encounter on their jobs. Approaches include formal written policies communicated and implemented using quality-based management techniques.

3.3.2 IMPACT ASSESSMENT AND RESOLUTION

Assess, prioritize, and address the environmental, health, and safety impacts of our operations.

The purpose of this management practice is to minimize the likelihood of the occurrence and the consequences of an unplanned event by identifying, evaluating, and controlling the factors that could lead to the event.

3.3.3 SOUND WORK PRACTICES

Establish programs, procedures, training, and work practices appropriate to each operation to foster safe, healthful, and environmentally sound work environments.

Safe work practices should be established to ensure the safe conduct of operating, maintenance, and modification activities and the control of materials and substances that could affect the safety and health of those employed at the operation and those in the surrounding community. These work practices should be based on written procedures that offer employees critical guidance on how to protect themselves and others and on safe operations under expected operating conditions. Training programs bridge the gap between good work practices and inexperience. These training programs should use qualified instructors and appropriate training materials, provide a means of evaluating proficiency, and offer supplemental or remedial training provisions.

3.3.4 CONTRACTOR SAFETY

Employ processes to select safe contractors, clarify responsibilities, assess performance, and exchange information to promote safe work environments.

Contractors, as well as employees, can affect the overall safety of an operation. Proper evaluation, selection, and assessment of contractor performance can help the contractor and the operation ensure that this management practice is met. Communication of, expectations, sharing of information, and close cooperation are keys to a successful program.

3.3.5 USE OF STANDARDS

Use sound engineering, operating, and maintenance practices consistent with recognized codes and standards in the design, construction, use, and maintenance of operations.

A process should be in place to identify, communicate, and apply appropriate safety codes and standards applicable to engineering, design, construction, operation, and maintenance activities. Periodic equipment inspection, testing, and maintenance programs are ways to ensure adherence to applicable codes, regulatory requirements, and continued mechanical integrity.

3.3.6 DOCUMENTATION OF INFORMATION

Document process design, operating parameters and procedures, and other information relating to the hazards of materials and process technology.

Documented process safety information should be compiled and maintained to provide the foundation for identifying and understanding the hazards in an operation. Examples of pertinent information that might be included are process and mechanical design, material specifications, equipment records, safe operating ranges, and known hazards.

3.3.7 SAFE TRANSPORTATION PRACTICES

Employ processes to provide for safe transport of raw materials, products, wastes, and hazardous materials, including selection of reliable carriers and distributors.

Transportation of raw materials, products, hazardous materials, and wastes can affect the health and safety of employees and the public. Processes to consider are risk evaluation, carrier selection and qualification, emergency response plans, documentation of procedures for selection and use of containers appropriate for the materials being shipped, documentation of procedures for loading and unloading, and periodic feedback on safety performance, including suggestions for improvement to carriers, distributors, and operators. All modes of transportation should be addressed (such as highway, rail, marine, air, and pipeline).

3.3.8 INCIDENT INVESTIGATION

Investigate and take appropriate action on each incident that results or could have resulted in a significant injury, illness, fire, explosion, or accidental release. Where appropriate, share lessons learned from significant

incidents with employees, industry, government, and the community.

Incidents that result in, or could reasonably have caused, serious injury, illness, fire, explosion, or accidental release should be investigated. The purpose of these investigations is to learn from incidents, prevent their recurrence, and help prevent similar incidents. Incident investigations should be initiated as promptly as possible after taking the necessary measures to protect people and the environment, secure the incident scene, and maintain and recover important evidence and testimony. The lessons learned from an investigation should be shared, where appropriate, with the management of similar facilities within the company, employees, industry, government, and the community.

3.3.9 FITNESS FOR DUTY

Employ processes to assure that personnel are able to perform their jobs safely and are not compromised by external influences, such as drugs and alcohol.

Member companies should consider employing drug and alcohol abuse programs to assure that personnel in safety-sensitive jobs are fit for duty and not compromised by external influences. A program might include identification of safety-sensitive jobs, employment screening practices, employee training to recognize the symptoms of impairment, a process for dealing with cases of suspected incapacity, appropriate rehabilitation assistance, appropriate security measures for search and seizure of contraband, and a disciplinary process specific to substance abuse.

3.3.10 HEALTH AND EXPOSURE ASSESSMENTS

Conduct job safety and occupational health assessments to evaluate risks to personnel from processes, equipment, hazardous materials, and other work-site conditions.

This management practice addresses the need for job-safety and occupational-health risk assessments. These assessments involve the anticipation, recognition, and evaluation of hazards found in the workplace. Typical program elements to be considered are hazard communications programs, medical surveillance programs, exposure assessments (for example, noise, dust, asbestos, benzene, hydrogen sulfide), job safety analyses, ergonomic evaluations, toxicological studies, material safety data sheets (MSDSs), job and employee exposure tracking, and inventories of hazardous materials and chemicals.

3.3.11 MANAGEMENT OF CHANGE

Manage changes in operations to maintain or enhance the levels of safety and environmental protection designed into those operations.

Operations are subject to continual change to maintain and increase efficiency, improve operability and safety, accommodate technical innovations, and implement mechanical improvements. Temporary repairs, connections, bypasses, or other modifications are common and necessary occurrences. Because change can introduce new hazards or compromise safeguards incorporated in the design, appropriate care should be taken to understand the process safety and environmental implications. Written procedures should be established and implemented to manage change.

3.3.12 MANAGEMENT SYSTEM ASSESSMENTS

Develop processes that assess safety and occupational health management systems. Conduct systematic assessments of operating and process safety management systems.

The operating and process safety strategic element is quite comprehensive. Periodic assessments should be conducted to assure that there is continuous improvement and that the necessary management systems are in place and working. These assessments should address the technical elements covered in the other management practices in this section. The system should specify the assessment frequency, how the assessments can be performed and follow-up procedures.

SECTION 4—MANAGEMENT PRACTICES FOR COMMUNITY AWARENESS

4.1 Background

The goal of the community awareness management practices (see Table 3) is to be responsive to community concerns about petroleum industry operations, raw materials, and products. These management practices are also intended to address similar concerns of employees, contractors, and public officials. These practices involve a commitment to openness and community dialogue. They are intended to help member companies initiate and maintain awareness programs to openly communicate relevant, useful information that is responsive to the public's questions and concerns about safety, health, and the environment. The important principle behind these management practices is that better communications—backed up by excellent performance—help reduce fear and mistrust.

Community awareness programs can communicate activities and performance under all of the API strategic elements and can promote an open, periodic dialogue with employees, contractors, and the community. Information may be provided about activities such as waste minimization and emission reduction, about efforts to ensure the safe and environmentally sound operation of petroleum industry operations, and about subjects such as health effects of petroleum products, materials, and supplies.

These management practices apply generally to all operations. Substantial manned facilities, such as refineries, major gas processing plants, and major distribution terminals, should develop community awareness programs. However, a company is not expected to design a unique program for each small facility, such as an individual service station distribution plant, or

Table 3—Management Practices for Community Awareness and Corresponding API EHS Guiding Principles

Strategic Element	Management Practices
Community <i>Awareness</i>—focuses on the following API EHS Guiding Principles: ● To recognize and to respond to community concerns about our raw materials, products and operations. ● To advise promptly appropriate officials, employees, customers, and the public of information on significant industry-related safety, health and environmental hazards, and to recommend protective measures. ● To promote these principles and practices by sharing experiences and offering assistance to others who produce, handle, use, transport or dispose of similar raw materials, petroleum products and wastes.	1. Demonstrate management commitment and leadership aimed at achieving effective community awareness. 2. Provide an awareness program for employees and contractors that includes periodic assessments of their questions and concerns about the operation. 3. Provide communications training for key company personnel who communicate with employees, contractors, and the public concerning safety, health, and environmental issues. 4. Provide for education of employees and contractors about the operation's emergency response plan and safety, health, and environmental programs. 5. Conduct periodic dialogue with employees and contractors to respond to their questions and concerns and involve them, as appropriate, in community awareness efforts. 6. Conduct periodic evaluations of the effectiveness of employee and contractor communication efforts. 7. Provide an awareness program for the community that includes periodic assessments of community questions and concerns about the operation. 8. Maintain programs to educate the community, outside emergency responders, government officials, the media, and other businesses about the operation's emergency response program and its health, safety, and environmental protection programs. 9. Conduct periodic dialogues with appropriate local citizens to respond to questions and concerns about safety, health, and the environment. 10. Maintain a policy of openness that is responsive to persons interested in becoming familiar with the operation, its products, and its efforts to protect safety, health, and the environment. 11. Conduct periodic evaluations of the effectiveness of community communications efforts.

production lease site. Companies can choose to organize their community awareness programs at an appropriate regional or central managerial level at which staff can assist in addressing the concerns of citizens, officials, employees, and customers.

4.2 Practical Implementation

The community awareness management practices will assist companies in implementing the following API EHS Guiding Principles:

- To recognize and to respond to community concerns about our raw materials, products and operations.
- To advise promptly appropriate officials, employees, customers and the public of information on significant industry-related safety, health and environmental hazards, and to recommend protective measures.
- To promote these principles and practices by sharing experiences and offering assistance to others who produce, handle, use, transport or dispose of similar raw materials, petroleum products and wastes.

4.3 Community Awareness Management Practices

4.3.1 MANAGEMENT COMMITMENT

Demonstrate management commitment and leadership aimed at achieving effective community awareness.

API's STEP program represents a management commitment to maintaining an open dialogue with employees and communities about the safety, health, and environmental aspects of operations. This management commitment can be demonstrated through company policy, management participation and communications, allocation of resources, and other means.

4.3.2 ASSESSMENT OF EMPLOYEE AND CONTRACTOR CONCERNS

Provide an awareness program for employees and contractors that includes periodic assessments of their questions and concerns about the operation.

The STEP program represents management recognition that employees and contractors require information about the operations they work in, the processes that are used in those operations, and the substances produced, used, stored, processed, and transported. This management practice addresses the key step of understanding what the employee and contractor concerns are and how they can best be addressed.

4.3.3 COMMUNICATIONS TRAINING

Provide communications training for key company personnel who communicate with employees, contractors, and the public concerning safety, health, and environmental issues.

Employees who best know the operation may not be experts in relaying necessary information to other employees, contractors, and external audiences. A key part of the program is to provide effective training for those who will engage in the community dialogue.

4.3.4 EDUCATION

Provide for education of employees and contractors about the operation's emergency response plan and safety, health, and environmental programs.

All employees and contractors should have information about company and industry programs designed to protect their health and safety. Employees and contractors should understand the general emergency response plan for the operation, as well as the process unit in which they work. This information about plans and programs is important both for the employee's own well-being and for his or her role as a member of the community and a representative of the company.

4.3.5 DIALOGUE WITH EMPLOYEES AND CONTRACTORS

Conduct periodic dialogue with employees and contractors to respond to their questions and concerns and involve them, as appropriate, in community awareness efforts.

Employees are a key part of community awareness efforts. Grass-roots employee contacts and communication can be particularly important in effectively reaching a community. Employees who are interested in and capable of playing this role should be given the necessary training and education and, as appropriate, be provided with opportunities for direct involvement with the community.

4.3.6 EFFECTIVENESS EVALUATION

Conduct periodic evaluations of the effectiveness of employee and contractor communications efforts.

The program should include regular assessments of the effectiveness of communications with employees and contractors. The evaluation should include

feedback from employees and contractors and assessment by company management.

4.3.7 ASSESSMENT OF COMMUNITY CONCERNS

Provide an awareness program for the community that includes periodic assessments of community questions and concerns about the operation.

API's STEP program represents management recognition that citizens may have concerns about operations in their communities, the processes used in those operations, and the substances produced, used, stored, processed, and transported. A key step is to understand these concerns and determine how they can be addressed. Community concerns may be assessed through meetings, plant visits, or other means during which a company can ask questions and listen carefully to the answers and the concerns expressed.

4.3.8 EDUCATION PROGRAM

Maintain programs to educate the community, outside emergency responders, government officials, the media, and other businesses about the operation's emergency response program and its health, safety, and environmental protection programs.

The need for scientific literacy and understanding is increasing as a result of technological complexity and sophistication. Effective communications require that information be tailored to the audience. Usable information—backed up by excellent performance—helps to reduce fear and mistrust. This information can come from both company employees and third parties such as universities, scientists, and consultants. This program can include steps such as tours of operations and joint emergency response training with outside responders.

4.3.9 DIALOGUE WITH LOCAL CITIZENS

Conduct periodic dialogues with appropriate local citizens to respond to questions and concerns about safety, health, and the environment.

An element critical to the success of this program is the formation of constructive working relationships with appropriate local government officials, emergency responders, citizens, and the media. Citizens and policymakers require sound information if they are to make informed decisions on environmental and safety issues. The relationships established in this program can form a framework for communicating this information, as well as company achievements in areas such as pollution prevention and release reduction.

4.3.10 OPENNESS POLICY

Maintain a policy of openness that is responsive to persons interested in becoming familiar with the operation, its products, and its efforts to protect safety, health, and the environment.

An openness policy demonstrates that a company is proud of what it is doing, that it is helping to make the community safer, and that it is striving to go beyond regulatory reporting requirements. Through such a policy, a company can also seek to learn from the experiences of other companies in the industry.

4.3.11 EFFECTIVENESS EVALUATION

Conduct periodic evaluations of the effectiveness of community communications efforts.

The program should include regular assessments of the effectiveness of communication efforts and how community concerns may be changing. The evaluation can include feedback from the community and assessment of the program by company management.

SECTION 5—MANAGEMENT PRACTICES FOR CRISIS READINESS

5.1 Background

The goal of the crisis readiness management practices (see Table 4) is to help assure emergency preparedness and efficient, effective response in the event of an accident. Proper planning and implementation can result in fewer injuries and fatalities, reduced environmental impact, minimized product loss, and reduced cleanup and recovery costs. Although crisis readiness will not eliminate accidents or emergency situations, preparation to mitigate the effects of such incidents will lead to a greater awareness of risks in operations and prudent management of those risks.

An effective crisis readiness program results in knowledgeable employees, increased community awareness, and an informed public. The crisis readiness management practices are closely tied to the goals of the community awareness management practices for sharing of information on local operations.

These management practices apply generally to all operations. Substantial manned facilities, such as refineries, major gas processing plants, and major distribution terminals, should develop crisis readiness programs. However, a company is not expected to

design a unique program for each small facility, such as an individual service station, distribution plant, or production lease site. Companies can choose to organize their crisis readiness programs at an appropriate regional or central managerial level at which staff can assist in addressing the concerns of citizens, officials, employees, and customers.

5.2 Practical Implementation

The API crisis readiness management practices represent the petroleum industry's commitment to crisis readiness and provide more specific guidelines for implementing the following API EHS Guiding Principle:

- To advise promptly appropriate officials, employees, customers and the public of information on significant industry-related safety, health and environment hazards, and to recommend protective measures.

Commitment and leadership by management will be required through policy, participation, communication, and allocation of resources for improving readiness to respond to emergencies. Achieving crisis readiness goals will require an ongoing effort to as-

Table 4--Management Practices for Crisis Readiness and Corresponding API EHS Guiding Principle

Strategic Element	Management Practices
Crisis Readiness—focuses on the following API EHS Guiding Principle: To advise promptly appropriate officials, employees, customers and the public of information on significant industry-related safety, health and environment hazards, and to recommend protective measures.	1. Periodically update assessments of potential hazards to employees, local communities, and the environment from accidents or emergencies. 2. Based on the assessment in Management Practice 1, establish, implement, and periodically update emergency response plans and capabilities that include communication procedures, appropriately trained personnel, practice exercises, organizational structures: resource availability, and response procedures. 3. Develop and use formal procedures for handling prompt and comprehensive communication to employees, government agencies, and the public in the event of a crisis. 4. Maintain a 24-hour capability for receiving emergency or crisis information and for mobilizing response resources. 5. Conduct employee training programs on a periodic basis for those who have emergency response responsibilities. 6. Coordinate emergency response plans with community emergency response plans or investigate community interest in creating a plan if none exists. 7. Incorporate into contingency plans measures to coordinate with government agencies, nearby industry operations, and private community aid organizations for the recovery of communities adversely affected by an operational incident.

sess changing risks, accommodate new technologies, reevaluate contingency and emergency preparedness plans, and increase communication, training, and coordination with community response personnel.

Although crisis readiness applies to all sectors of the industry, the extent of contingency planning may vary depending on the specific functions and products being produced, used, refined, stored, transported, or marketed and the proximity to communities. API's STEP program provides flexibility for each member company to tailor its optimum approach to implementation of these management practices.

The resources in Appendix B are offered as an aid in developing company procedures to implement the crisis readiness strategic element. Companies are not obligated to use any of the listed resources. The list is not exhaustive, and companies are encouraged to use additional resources as appropriate.

5.3 Crisis Readiness Management Practices

5.3.1 ASSESS AND UPDATE HAZARDS

Periodically update assessments of potential hazards to employees, local communities, and the environment from accidents or emergencies.

Petroleum products have unique characteristics that affect the hazard they present (for example, toxicity; vapor propagation, particularly in the case of highly volatile liquids; flammability; and low specific gravities allowing water flotation). Many employees, local community responders, and the general public may not be familiar with hazards posed by the company's operations or appropriate emergency response practices.

For most processes and products, companies already have information on the relative hazards in relation to existing operations. Some of this information may be contained in material safety data sheets (MSDSs) or company safety material. New processes, new products, or new information obtained from experience, research, or government or industry may require a reevaluation of the hazards and the revision of emergency response plans.

5.3.2 EMERGENCY RESPONSE PLANS

Based on the assessment in Management Practice 1, establish, implement, and periodically update emergency response plans and capabilities that include communication procedures, appropriately trained personnel, practice exercises, organizational structures,

resource availability, and response procedures.

After assessing the potential risks, a logical step in crisis readiness is to establish an emergency response plan that details capabilities and resources for that operation. These capabilities may include the ability to call on assistance from other nearby operations, local emergency responders, or commercially available contractors for various incidents. The term resources is intended to be broadly defined to encompass personnel, contractors, aerial patrols, local emergency response personnel, rental agencies, emergency radio frequencies, and the like that are immediately available to the operation in the event of a crisis. As new equipment is obtained, the emergency response plan should be revised and the operating instructions should be readily available.

Reassignment of personnel may require updating the emergency plan to reflect newly assigned and trained emergency response personnel as well as updating telephone numbers and addresses of listed employees. Some companies operate under an Incident Command System that reflects the organizational structure for emergency situations; other companies may wish to list their appropriate chain of command.

Practice drills are intended to provide hands-on experience and coordination with local emergency response personnel. On-site training exercises in which community responders and government personnel participate may help to improve response in a real emergency. These drills may reveal faulty equipment or incompatibility of the equipment to be used by industry and the community. Through these exercises, participants should become familiar with the role they need to assume during an emergency.

5.3.3 COMMUNICATION PROCEDURE

Develop and use formal procedures for handling prompt and comprehensive communication to employees, government agencies, and the public in the event of a crisis.

Internal and external communications play a major role in determining the success or failure of handling an emergency situation. Formal procedures should include who should be notified in case of an emergency, whose responsibility it is to notify those people, and how they should communicate to employees, government agencies, and the public.

Internal communications should include notifying those employees who are to respond immediately to the emergency and those who should be on a standby basis, as well as informing all employees of the facts of an incident and the company's response plans.

For external communications to the public, it is important to include customers, suppliers, vendors, carriers, homeowners, government agencies, local emergency responders, and others who may be affected by potential hazards, accidents, and environmental or other emergencies.

5.3.4 TWENTY-FOUR-HOUR CAPABILITY

Maintain a 24-hour capability for receiving emergency or crisis information and for mobilizing response resources.

Each company could perform this capability through job descriptions and training of the people who would be responsible for notification and call-out or on duty 24 hours. Alternatively, companies could contract with a commercial firm to provide this service to the company. The time required to deploy emergency response resources is directly related to the successful resolution of the situation and to subsequent public relations.

5.3.5 EMPLOYEE TRAINING PROGRAMS

Conduct employee training programs on a periodic basis for those who have emergency response responsibilities.

An element of the emergency response plan is the identification of appropriately trained personnel. The appropriate level of training is related to the range of incidents and products to be encountered. Training should be kept current by requiring refresher courses for previously trained employees.

Employee training should also include on-site training practice exercises, as discussed in 5.3.2.

5.3.6 COMMUNITY COORDINATION AND RESPONSE

Coordinate emergency response plans with community emergency response plans or investigate community interest in creating a plan if none exists.

Community emergency response capability generally consists of "first responders" such as fire, police, and sheriffs departments and hazardous materials response teams. These community responders need to be familiar with the emergency response procedures.

They should be provided with the opportunity to review these procedures and to integrate them with their own response plans. Response plans should be reviewed to assure coordinated interaction with agencies and responders (for example, telephone contacts, individual and joint responsibilities). Copies of the response plans should be made available to appropriate community agencies as needed for the purpose of integrating emergency procedures with their own response plans. County emergency management offices or equivalent county agencies may provide one means of coordinating with community emergency response planning activities.

Although it is not a company's responsibility to develop local emergency response plans for a community, a company should help communities become familiar with its operations. Through these coordination and educational efforts, companies should encourage community responders to create a plan or to adapt the company plan to their needs. The community coordination and response planning should take into account potential hazards and impacts on the community.

5.3.7 COORDINATION FOR RECOVERY

Incorporate into contingency plans measures to coordinate with government agencies, nearby industry operations, and private community aid organizations for the recovery of communities adversely affected by an operational incident.

Although it may not be possible to completely estimate the full impact of an operational incident on a community, companies should include in their contingency plans measures for recovery. These could include the potential impacts, steps to be taken, government agencies and private community aid organizations involved, and contacts at nearby operations. With these contingency measures identified in advance, immediate recovery action can begin as soon as the crisis situation is under control.

It is not the intent of the management practice to call on a company to provide all of the funding or other resources for such recovery. By addressing this phase in advance, more cooperation may be achieved to jointly address the projected needs of the community.

SECTION 6—MANAGEMENT PRACTICES FOR PRODUCT STEWARDSHIP

6.1 Background

Product stewardship involves the identification, evaluation, and communication of the health, safety, and environmental hazards of all raw materials and products, from crude oil, natural gas, and natural gas liquids to intermediate streams and refined and formulated petroleum products.

A successful product stewardship program should be directed at reducing the health, safety, and environmental hazards of company products. It should consider the life cycle of a product from raw material to final disposition and promote safe use, handling, transportation, and disposal. Successful implementation is a shared responsibility. Everyone involved with the product has the responsibility to address society's interests in a healthy environment and in products that can be used safely. All employees are responsible for providing a safe workplace, and all who use and handle products should follow safe and environmentally sound practices.

The product stewardship management practices (see Table 5) apply generally to all operations. Substantial manned facilities, such as refineries, major gas processing plants, and major distribution terminals, should develop product stewardship programs. However, a company is not expected to design a unique program for each small facility, such as an individual service

station, distribution plant, or production lease site. Companies can choose to organize their product stewardship programs at an appropriate regional or central managerial level at which staff can assist in addressing the concerns of citizens, officials, employees, and customers.

6.2 Practical Implementation

The concept of product stewardship is woven through the following API EHS Guiding Principles and is a key to the industry's improved environmental, health, and safety performance:

- To make safety, health and environmental considerations a priority in our planning, and our development of new products and processes.
- To counsel customers, transporters and others in the safe use, transportation and disposal of our raw materials, products and waste materials.
- To extend knowledge by conducting or supporting research on the safety, health and environmental effects of our raw materials, products, processes and waste materials.
- To promote these principles and practices by sharing experiences and offering assistance to others who produce, handle, use, transport or dispose of similar raw materials, petroleum products and wastes.

6.3 Product Stewardship Management Practices

6.3.1 MANAGEMENT COMMITMENT

Table 5—Management Practices for Product Stewardship and Corresponding API EHS Guiding Principles

Strategic Element	Management Practices
Product Stewardship—focuses on the following API EHS Guiding Principles: ● To make safety, health and environmental considerations a priority in our planning, and our development of new products and processes. ● To counsel customers, transporters and others in the safe use, transportation and disposal of our raw materials, products and waste materials. ● To extend knowledge by conducting or supporting research on the safety, health and environmental effects of our raw materials, products, processes and waste materials. ● To promote these principles and practices by sharing experiences and offering assistance to others who produce, handle, use, transport or dispose of similar raw materials, petroleum products and wastes.	1. Provide management commitment to product stewardship through appropriate policies, communication, and allocation of resources. 2. Establish goals and responsibilities for implementing product stewardship activities throughout the organization and periodically measure performance. 3. Establish and maintain a program to identify and evaluate the health, safety, and environmental hazards and exposures related to new and existing products. Establish a process that initiates appropriate reevaluation and considers new knowledge. 4. Develop mechanisms to provide for safe transport of products and selection of reliable transporters. 5. Provide information including emergency procedures to employees, contractors, transporters, distributors, and customers on the safe use, handling, storage, recycling, and disposal of products. 6. Establish and implement procedures that consider health, safety, and environmental hazards and exposures in product design, manufacture, distribution, use, and disposal.