



EP Features:

Trial, Error and Performance

The elements of a compliance-focused environmental management system

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"Form follows failure" explained Chris Bangle, chief designer of BMW, last October at the start of the European Environmental Affairs Workshop titled *Regulatory Pathways to Sustainability: An Exploration of Opportunities and Barriers.*¹

This acknowledgment provided a measure of comfort to some from industry and government in Europe and the United States, convened there to examine international developments related to environmental management systems (EMS), often considered a less exact science than designing high performance automobiles.

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The next question, of course, is why should a company's management of its compliance with environmental laws and approach to minimizing waste, preventing pollution and reusing resources be less systematic or precise than the design of its product? Why should environmental impact and compliance be less a part of a company's quality assurance and management controls than the design of the braking system of a car? What are the critical design and implementation elements of an effective environmental management system, and how do we measure their performance?

A diverse group of organizations, associations, private corporations and governments has been developing and implementing various EMS frameworks for the last 5 years, as the U.S. Environmental Protection Agency's (EPA) Position Statement on Environmental Management Systems notes. In recent years, what qualifies as an EMS, and how to measure its performance, has been the subject of increased scrutiny, as international standards have emerged and governments begin to consider policies and legislation to provide incentives for companies to go beyond compliance with legal requirements. The International Organization for Standardization (ISO) defines an EMS as "that part of the overall management system which includes organizational structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining (the organization's) environmental policy." The EMS provides the structure by which specific activities related to environmental protection and compliance can be efficiently carried out.

At the same time, the public as well as governments charged with compliance and law enforcement

require sufficient information about actual performance and compliance with environmental law before they can support any "system" based approach. Indeed, even the best system can break down and is only as good as its implementation. Over the last decade, EPA has identified elements of a compliance focused EMS (CFEMS) through observation of management system failures. More specifically, this CFEMS was developed by analyzing system failures that resulted in serious violations of environmental law. Increasingly, these elements are incorporated into the settlement agreements of major enforcement cases. They also provide a guideline for the type of system that qualifies for a reduction or elimination of penalties under EPA's audit policy.

This CFEMS is increasingly being used by agency and state regulators as a "measuring stick" when evaluating a company's EMS as part of regulatory inspections. Through this approach, system-related causes of non-compliance can be identified and later addressed in settlements.

History of EMS and enforcement consideration

EPA has long encouraged the most systematic approach to maintaining compliance with environmental law. In 1986, EPA's audit policy sought to encourage auditing and compliance management systems. In 1991, in the criminal enforcement context, the U.S. Department of Justice policy on prosecutorial discretion noted the existence of preventive measures and compliance programs as mitigating factors, as did the U.S. Sentencing Commission's draft sentencing guidelines for organizations.

EPA's 1993 comments on the draft sentencing guidelines went further. EPA states, "We would place even more weight on effective compliance programs in making adjustments to the base fine. We must encourage businesses to utilize environmental compliance and audit programs as part of their day-to-day practices."

In 1994, EPA's Office of Criminal Enforcement set forth as a matter of its investigative discretion policy that companies that discover and quickly disclose violations discovered by auditing or management systems, as well as remediate and take measures to prevent re-occurrence, would generally not be candidates for scarce criminal enforcement resources.

The 1995 audit policy provides for penalty mitigation and elimination of disclosed violations discovered by auditing or management systems. Revisions proposed in 1999 put more emphasis on EMS.

In the international context, enforcement officials have encouraged developing international standards to incorporate specific objectives for compliance with environmental law, with public reporting as part of the standard. Officials from the North American Commission on Environmental Cooperation, set up by the North American Free Trade Agreement, have adopted resolutions to this effect and are continuing a dialogue on these issues.

In 1999, the environmental ministers of the G8 nations, the world's leading industrialized democracies that include the United States, Canada, the United Kingdom, France, Italy, Japan and Russia, called for "greater attention to environmental performance, compliance and public reporting, for example, in the standardization work by the International Organization for Standardization and other organizations." The elements of an EMS that follow are designed to address these concerns. They are designed to be compatible with existing frameworks and standards for management systems.

Compliance focused EMS

Since the late 1980s, civil multimedia compliance investigations conducted by the EPA National Enforcement Investigations Center (NEIC) increasingly involved identifying causes of observed noncompliance. In a significant number of cases, the causes arose from inadequate EMS. NEIC, in response, developed key elements for a compliance-focused EMS model, which have been used as the basis for EMS requirements in several settlement agreements.

To achieve maximum benefit from the CFEMS elements, the overall EMS in which they are incorporated should embody the "plan, do, check and act" model for continuous improvement. Consequently, the CFEMS model described here is intended to supplement, not replace, EMS models developed by voluntary consensus standards bodies, such as the ISO 14001 EMS standard developed by the International Organization for Standardization.

A settlement agreement that requires an EMS should also include a requirement that the organization conduct an initial review of its current EMS, followed by development of a comprehensive CFEMS that must be documented in a manual. The EMS manual must contain policies, procedures and standards for the 12 key elements, at a minimum, and should also identify other, more detailed procedures and processes (e.g., inspections and self-monitoring) that may be located elsewhere at the facility. After the organization has had sufficient time to implement and refine the EMS (usually 2 to 3 years), the agreement should require at least one EMS audit by an independent third-party auditor, with results reported to both the organization and EPA. However, additional audits may be required, as individual circumstances dictate.

The intended result of this approach is twofold: First, to have the organization develop an EMS that will improve its compliance with applicable environmental requirements and, second, to improve its environmental performance by achieving the organization's environmental targets and objectives.

The 12 key elements of a CFEMS addressed in this guide were compiled from a number of sources, including EMS assessment protocols developed by Deloitte and Touche LLP of San Francisco for the Global Environmental Management Initiative (1992) and an industrial client (1994); ISO 14001 Environmental management systems — specification with guidance for use (1996); National Sanitation Foundation EMS standards (NSF 110-1995); a Nov.14, 1986 EPA memorandum titled *Final EPA Policy on the Inclusion of Environmental Auditing Provisions in Enforcement Settlements* and the "due diligence" provisions of the current EPA audit policy (60 *Federal Register* 66710 published Dec. 22, 1996). Additional input was obtained through NEIC participation in several EPA EMS-related work groups, including the environmental leadership program (ELP) pilot project workgroup tasked with defining the EMS requirements for the full-scale program.

The current revision involved enhancing several of the elements and more completely incorporating the due diligence provisions of the EPA audit policy. Refinement continues through settlement negotiations and discussions with EPA staff, EMS consultants and environmental personnel from several companies with medium-sized and large facilities.

General EMS provisions²

A comprehensive compliance-focused Environmental Management System (EMS) shall be developed, implemented and maintained by the organization. The EMS shall address, at a minimum, the 12 key elements listed below and shall be described in an EMS manual.

EMS manual provisions

The EMS manual shall be organized to clearly address the following key elements:

Environmental policy

- This policy, upon which the EMS is based, must clearly communicate management commitment to achieving compliance with applicable federal, state and local environmental statutes, regulations, enforceable agreements and permits (hereafter, "environmental requirements") and continuous improvement in environmental performance. The policy should also state management's intent to provide adequate personnel and other resources for the EMS.

Organization, personnel and oversight of EMS

- Describes, organizationally, how the EMS is implemented and maintained;
- Includes organization charts that identify units, line management and other individuals having environmental performance and regulatory compliance responsibilities;
- Identifies and defines duties, roles, responsibilities and authorities of key environmental program personnel in implementing and sustaining the EMS (this could include position descriptions and performance standards for all environmental department personnel, and excerpts from others having specific environmental program and regulatory compliance responsibilities); and
- Includes ongoing means of communicating environmental issues and information to all organization personnel, on-site service providers and contractors, and for receiving and addressing their concerns.

Accountability and responsibility

- Specifies accountability and responsibilities of organization's management, on-site service providers and contractors for environmental protection practices, assuring compliance, reporting to regulatory agencies and corrective actions implemented in their area(s) of responsibility;
- Describes incentive programs for managers and employees to perform in accordance with compliance policies, standards and procedures; and
- Describes potential consequences for departure from specified operating procedures, including liability for civil/administrative penalties imposed as a result of noncompliance.

Environmental requirements

- Describes process for identifying, interpreting and effectively communicating environmental requirements to affected organization personnel, on-site service providers and contractors, and ensuring that facility activities conform to those requirements.
- Specifies procedures for prospectively identifying and obtaining information about changes and proposed changes in environmental requirements, and incorporating those changes into the EMS; and
- Establishes and describes processes to ensure communication with regulatory agencies regarding environmental requirements and regulatory compliance.

Assessment, prevention and control

- Identifies an ongoing process for assessing operations, for the purposes of

preventing and controlling releases, ensuring environmental protection and maintaining compliance with statutory and regulatory requirements. This section shall describe monitoring and measurements, as appropriate, to ensure sustained compliance. It shall also include identifying operations and waste streams where equipment malfunctions and deterioration, operator errors and discharges or emissions may be causing, or may lead to releases of hazardous waste or other pollutants to the environment, a threat to human health or the environment, or violations of environmental requirements;

- Describes process for identifying operations and activities where documented standard operating practices (SOPs) are needed to prevent potential violations or pollutant releases, and defines a uniform process for developing, approving and implementing the SOPs;
- Describes a system for conducting and documenting routine, objective self-inspections by department supervisors and trained staff, especially at locations identified by the process described above; and
- Describes process for ensuring input of environmental requirements (or concerns) in planning, design and operation of ongoing, new, or changing buildings, processes, maintenance activities and products.

Environmental incident and noncompliance investigations

- Describes standard procedures and requirements for internal and external reporting of potential violations and release incidents;
- Establishes procedures for investigation, and prompt and appropriate correction of potential violations. The investigation process includes root-cause analysis of identified problems to aid in developing the corrective actions;
- Describes a system for development, tracking and effectiveness verification of corrective and preventative actions; and
- Each of these procedures shall specify self-testing of such procedures, where practicable.

Environmental training, awareness and competence

- Identifies specific education and training required for organization personnel, as well as providing the process for documenting training;
- Describes program to ensure that organization employees are aware of its environmental policies and procedures, environmental requirements and their roles and responsibilities within the environmental management system; and
- Describes program for ensuring that personnel responsible for meeting and maintaining compliance with environmental requirements are competent based on education, training and experience.

Environmental planning and organizational decision-making

- Describes how environmental planning will be integrated into organizational decision-making, including plans and decisions on capital improvements, product and process design, training programs and maintenance activities; and
- Requires establishing written targets, objectives and action plans by each operating organizational sub-unit with environmental responsibilities, as appropriate, including those for contractor operations conducted at the facility, and how specified actions will be tracked and progress reported. Targets and objectives must include achieving and maintaining compliance with all environmental requirements.

Maintenance of records and documentation

- Identifies the types of records developed in support of the EMS (including audits and reviews), who maintains them and where, and protocols for responding to inquiries and requests for release of information; and
- Specifies the data management systems for any internal waste tracking, environmental data and hazardous waste determinations.

Pollution prevention program

- Describes an internal program for preventing, reducing, recycling, reusing and minimizing waste and emissions, including procedures to encourage material substitutions. Also includes mechanisms for identifying candidate materials to be addressed by program and tracking progress.

Continuing program evaluation and improvement

- Describes program for periodic (at least annually) evaluation of the EMS, including incorporating the results of the assessment into program improvements, revisions to the manual and communicating findings and action plans to affected employees, on-site service providers and contractors; and
- Describes a program for ongoing evaluation of facility compliance with environmental requirements, and should specify periodic compliance audits by an independent auditor(s). Audit results are reported to upper management and potential violations are addressed through the process described in the above referenced element pertaining to environmental incident and noncompliance investigations.

Public involvement/community outreach

- Describes a program for ongoing community education and involvement in the environmental aspects of the organization's operations and general environmental awareness.

E-sources

EPA ESA links: www.epa.gov/ems

Multi-state working group links:
www.dep.state.pa.us/dep/deputate/pollprev/Tech_Assistance/mswg.htm

National Enforcement Investigative Center's Compliance Focus EMS Settlement Agreement Guidance: <http://es.epa.gov/oeca/oceft/neic/12elmen.pdf>

Footnotes:

¹ The European Environmental Affairs Workshop was sponsored by Pillsbury Madison and Sutro LLP, WSP Group Ltd., the Bavarian State Ministry and the BMW Group. This workshop brought together state, regional and federal environmental officials from Europe and the United States, as well as representatives from industry and environmental service providers.

² The 12 elements are closely inter-related components of an EMS for which subsystems and procedures must be developed and fully integrated if the entire program is to be effective. They are usually included in settlement agreements as a complete group; however, individual elements may need to be modified to reflect site-specific conditions and circumstances.

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