



Background for Information Paper

Environmental Management System (EMS) Benefits



The following paragraphs describe the benefits identified by the Information Paper.

- Project Delay Reductions Environmental management is an important project support function. Project delays can result from unexpected or poorly managed environmental issues. Implementation of an EMS has allowed Utilities Projects and project managers to more fully understand the range of environmental consequences associated with activities and to provide processes to proactively manage environmental responsibilities.
- Change Order Reductions Systematically and fully integrating environmental considerations early in the acquisition process has reduced the number of change orders due to environmental issues. An EMS has contributed to reducing change orders by increasing environmental awareness and understanding of requirements throughout the Utilities Department and encouraging integration of environmental requirements into project and acquisition planning processes and contracting.
- Environmental Impact Reductions An EMS utilizes a cyclical management process to achieve continual improvement. Environmental impact reductions result from this process as the Utilities Department identifies its significant environmental impacts, sets objectives and targets, implements environmental management plans, trains personnel, defines responsibilities, monitors progress, and reviews performance. Organizational focus on environmental management creates a strong incentive to reduce environmental impacts: what gets measured gets managed. In addition, taking advantage of opportunities for pollution prevention and resource conservation has led to a reduction in environmental impacts.
- Reduced Liability An EMS has led to a reduction in environmental liabilities through increases in environmental awareness across the organization and improved environmental compliance. Early identification of environmental issues and potential problems, coupled with preventive and corrective procedures have enabled the Utilities Department to reduce the potential environmental liabilities associated with both new and existing projects. Emphasis on compliance, pollution prevention, and emergency response procedures also contribute to a reduction in potential liability.
- Increased Compliance Implementation of an EMS creates a documented procedure for identifying all applicable legal and other requirements including tracking of new requirements as they emerge. This process can help the Utilities Department become aware of all requirements associated with their activities, products, and services. This knowledge is vital for compliance. The documentation and records management elements of an EMS also can provide benefits in ensuring that all regulatory paperwork and permitting requirements are followed and that documentation is submitted on time.
- Reduced Number of Inspections Implementation of an enhanced EMS can increase regulatory agency confidence in the utilities' ability to manage its environmental responsibilities. This increased confidence can result in a regulatory agency electing to reduce the number of inspections that it conducts. The Utilities Department anticipates as the EMS matures and inspection results show continuous improvement that the number of regulatory inspections will be reduced.



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- Decreased Employee Time (Fewer Inspections) A reduction in the number of inspections conducted by regulatory agencies benefits the Utilities Department through the decrease in employee time taken to support such activities.
- Decreased Possibility of Fines and Notices of Violation (NOV) Improvements in environmental performance and compliance resulting from an EMS will reduce the possibility of non-compliance occurrences and the number of fines and NOVs. In addition, regulatory agencies may reduce the number of fines and NOVs issued if a strong EMS is in operation. An EMS demonstrates a high level of commitment to improving environmental performance, and it establishes written procedures to address non-compliance issues in a proactive manner. This type of commitment is likely to appear favorable to the regulatory community.
- Reduced Number of Regulations Although implementing an EMS by itself does not reduce the number of regulations that apply to the Department, the EMS can lead to changed work processes, better housekeeping, and pollution prevention projects (e.g., material substitutions) which have reduced the number of legal and other requirements triggered by the Department's activities.
- Increased Management Support and Involvement An important part of EMS implementation is the designation of roles and responsibilities throughout the management structure of the Department, not just within the environmental function. By ensuring that environmental management responsibilities are decentralized, overall environmental awareness, involvement, and motivation at the management level are raised. Another fundamental component of an EMS is senior management support, which is vital for implementation success and for achieving maximum benefits. Senior management commitment is a prerequisite for adequate funding, personnel, and authority to be applied to implementation and maintenance. An EMS also requires senior management to review performance and make adjustments to policy and the management system, as appropriate. This form of senior management involvement ensures that the Utilities Department remains focused on achieving its evolving environmental goals and objectives.
- More Proactive Management An EMS is a structured management system that enables the Utilities Department to proactively manage its environmental responsibilities, rather than simply react to daily issues. The systematic, lifecycle approach to environmental management has helped the Utilities Department to proactively manage environmental issues by identifying, preventing, and correcting problems before they result in compliance violations. Because an EMS can improve the quality of information available and provide dates for planning processes and decision-making, it has fostered the proactive management of environmental issues.
- Increased Number of Pollution Prevention Initiatives An EMS has helped the Department to identify and prioritize opportunities for environmental performance improvement. A major part of this improvement is the identification of pollution prevention opportunities. Bringing operational, maintenance, and management personnel into environmental management taps the knowledge of those closest to the Department's work, who often are best positioned to identify, evaluate, and implement successful (e.g., cost-effective) pollution prevention initiatives.



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- Cost Reductions An EMS helped improve the efficiency and effectiveness of existing environmental management processes, which can offset the additional costs of EMS components that may not have existed previously. The Utilities Department has experienced and reported cost reductions and savings regarding energy use within less than a year that offset the costs of its EMS implementation. Significant cost reductions also can come from improved compliance, reduced regulatory oversight, and fewer spills. The most significant cost reductions have come as a result of changed work practices associated with pollution prevention and conservation projects.
- Improved Safety and Health Since the Department's implementation of an EMS, it has experienced occupational safety and health benefits because environmental, safety, and occupational health issues are closely linked in terms of compliance liabilities, potential impacts, and accident and emergency situations. For example, improving procedures for spill response and emergency situations has provided safety as well as environmental benefits. In addition, reducing reliance on hazardous materials and lowering emissions has provided healthier and often safer conditions for the work force as well as for the environment.
- Reduced Number of Spills Implementation of an EMS will result in fewer accidental spills and a reduction in the environmental impacts of any spills that do occur. An EMS requires an organization to establish and maintain procedures to identify the potential for and respond to accidents and emergencies. These activities include planning to prevent spills from occurring in the first place. The establishment of a Spill Prevention, Control and Countermeasure (SPCC) Plan by the Utilities Department was a direct result of an EMS.
- Increased Affirmative Procurement Although processes were in place to encourage and track affirmative procurement of goods and services with positive environmental attributes, these programs did not necessarily receive proper emphasis. EMS objective, target, and program steps have mandated a more systematic consideration of affirmative procurement both as a matter of compliance and also in view of the environmental aspects and impacts of the Department's activities, products, and services.
- Solid Waste Reduction Attention to solid waste issues often reduces solid waste generation: what gets measured gets managed. As EMS implementation raises environmental awareness across the Department, personnel are motivated to generate less solid waste and identify recycling opportunities. An EMS has fostered more systematic consideration of solid waste reduction in light of the environmental aspects and impacts of the Department's activities, products and services. Biosolid production and handling is considered a significant environmental aspect, for example.
- Increased Recycling Revenue Implementation of an EMS will lead to an increase in the revenue generated from recycling. Identifying of recyclable waste streams and finding either an on-site reuse or off-site sales opportunity has been an objective of EMS implementation.
- Decreased Energy and Water Consumption An EMS has focused management's attention on achieving energy and water conservation goals and objectives. It also has provided personnel with the responsibility and authority to achieve performance targets.



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- Written Procedures, Consistency of Process, Repeatability An EMS is underpinned by formal written procedures that define business processes at each organizational level. An EMS documents these procedures and ensures that they are communicated to all applicable personnel. The importance of following the written procedures (and the potential consequences of failure to comply) is conveyed during training sessions. As a result, the Department can conduct its business functions in a consistent and repeatable manner.
- Increased Efficiency The implementation of an EMS has increased the efficiency of environmental management activities. An EMS provides structure and consistency and has improved the allocation of resources, the assignment of responsibilities, and the ongoing evaluation of procedures and processes. These benefits all add to improvements in efficiency. An EMS also limits the disruptions that can result when procedures and knowledge depend on the availability of individuals.
- Reduction of Single-Point Failures Development of written EMS procedures has reduced single point failures in managing environmental issues. The increase in environmental awareness, clear assignments of responsibility, and set procedures can ensure that environmental compliance, spill prevention and emergency response do not depend on a single individual, but rather result from a system. Thus, disruptions due to staff turnover are kept to a minimum.
- Continual Improvement The underlying philosophy of an EMS is continual improvement. The implementation of a systematic approach to managing environmental responsibilities and the commitment of senior management to continual improvement in environmental performance can bring great benefits. Continual improvement can be expected across all areas of the EMS. Continual performance improvement is providing significant benefits to the environment and enhancement to the quality of life for Utility Department employees and others in the community.
- Prioritization of Funding Projects Identifying significant environmental impacts through the aspects and impacts analysis of an EMS has provided decision-makers with information to aid prioritization. Their evaluations of funding priority have included considerations of both environmental and business concerns. Environmental concerns include the scale of the impact, its severity and duration, and its probability of occurrence. The evaluation process provides information which is developed in a consistent manner by the EMS for all significant environmental aspects of the Department's activities, products, and services.
- Increased Number of Green Building Designs An EMS encourages building designs' incorporating energy and water efficiency, utilizing recycled and recyclable materials, and minimizing use of hazardous materials. This depends on the goals and objectives of the Department and its interest in pursuing green building design as a method of improving environmental performance.
- Increased Trust and Satisfaction from Customers (better reputation) 3rd party certification to an EMS international standard has provided credibility and integrity in reporting and publishing environmental information. It has also demonstrated a commitment by the Utilities Department to being environmentally transparent and accountable.