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# **Achieving Continuous Improvement Through Implementing ISO 14001**

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for  
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## **What is ISO 14000?**

ISO 14000 is a set of International Standards that deal with the impact that an organization has on the environment. ISO 14000 standards provide guidelines for establishing an Environmental Management System (or EMS) to outline the actions an organization will take to deal with known and potential impacts that its products or services might have on the environment.

ISO 14001 is the standard, which defines those elements that must be met for an organization to establish and maintain an EMS. Other standards in the 14000 series deal with audit guidelines, requirements for auditors and other support information required to prepare an organization for ISO 14001 certification.

When an organization is audited for ISO 14000 series compliance it is measured against the ISO 14001 standard and its required elements. ISO 14010 and 140011 standards provide guidelines for auditing the ISO 14001 standard.

The ISO 14001 standard requires that an organization define and disseminate to the public (and its employees) an EMS Policy that states its commitment to the prevention of pollution and continual environmental improvement. The policy must also identify its commitment to compliance with all relevant environmental legislation and regulations. Additionally the EMS policy must include language requiring the organization to both define and meet the commitments of its Environmental Program.

In addition to the EMS Policy the ISO 14001 standard requires that organizational procedures be in place which describe how the organization will structure, implement, control, measure, document, audit, communicate and review its EMS.

Under the EMS Policy and Procedures the organization will establish and maintain an Environmental Management System (EMS), which complies, will all of the elements of the ISO 14001 standard. It is this EMS implementation and the corresponding documentation, which is audited for certification. The organization is measured (or audited) for its conformance or non- conformance to its own EMS. The ISO 14001 standard does not define how the EMS will function in your organization. You define your own EMS. The ISO 14001 standard defines the elements that must be present to be considered an Environmental Management System suitable for certification. The EMS auditing and certification process review how well you are managing your self-defined system.

When in your opinion your EMS has been established, is operational and is suitable for certification, probably six months to a year, you would schedule a registration audit with an independent auditor (or Registrar) who is certified to audit an ISO 14001 EMS for conformance with the standard. If your EMS is found to be in conformance then you will be registered as an ISO 14001 organization.

Once you are registered you must continue to conform to the ISO 14001 standard. You must demonstrate this conformance on a regular basis both through internal audits of your EMS and through periodic external surveillance audits by your Registrar. If you wish to remain as an ISO 14001 registered organization this review process is an ongoing.

The process of establishing an Environmental Management System by compiling with ISO 14001 standards has value in the water and wastewater industry.

### **Why should the water and wastewater industry invest in ISO14001?**

In the water and wastewater industry almost everything we do has a direct impact on the environment and on our business. These impacts can be both positive and negative.

Proper operation of our facilities can and should cause a positive impact on the environment. The education that we provide about water conservation and pollution prevention, to the community we serve, is also considered as a positive impact. Our compliance with water and wastewater industry regulatory requirements is not only a positive impact on the environment it is a business necessity.

Negative impacts on the environment are more easily defined. A main break, a sewer back up, a chemical spill, and all of the other potential hazards that coincide with our operations can have a negative impact on both the environment and on our reputation within the community we serve.

As an industry almost every thing that we do is highly regulated by either a state organization or a federal organization. We may not even operate without permits from these regulatory agencies.

Another area that impacts the daily operation our business is public opinion. Almost everything that we do is subject to scrutiny by one or more of our stakeholders. Environmental groups, politicians, regulators, developers, ratepayers and the public in general have a stake in the operation of our business. Maintaining a positive image in our community is essential to balance the requirements imposed upon us by all of these interested parties.

Additionally we all know that the cost of goods and services is steadily increasing the cost of our operations. Gaining better control over the day-to-day cost of operations is critical to maintaining reasonable rates for our customers.

Other areas of daily concern in our industry are the knowledge and skill of our workforce to perform their jobs in conformance with regulatory requirements, the documentation of work processes, the standardization of processes, and the accountability of staff to perform required services in a timely manner.

So how does all of this apply to the ISO 14001 standard? All of the above concerns about our daily business practices are also required elements of the ISO 14001 standard. By implementing an EMS we put in place management tools that allow us to better define and better manage our organization.

### **How do we achieve continuous improvement through implementing the ISO 14001 Standard in the Water and Wastewater Industry?**

To become ISO 14001 certified an organization must define itself with relation to the environment that it impacts. Each element of the standard requires the organization to define, implement, measure and document its performance against an international standard. This process of self-analysis creates a Management System that defines how an organization will operate to control its impact on the environment. The key idea is that the organization must create a clearly defined management system that can stand up to the scrutiny of a validated outside agency or registrar.

The process of defining how the organization will meet the requirement of each of the ISO 14001 elements enables it to define a clear management system that includes all of the stakeholders that it impacts.

The standard requires that an organizational structure be defined so that each stakeholder will understand exactly who is responsible and accountable for each part of the operation. It requires that each of those persons, from top management down the organization to the persons operating and maintaining the facilities can demonstrate knowledge of how to perform their jobs. Additionally the standard requires that processes and tasks be clearly defined by standard operating procedures (SOP) at each level where the environment may be impacted.

The standard requires that the organization conform to all currently applicable regulatory requirements. It requires that all regulatory reporting is performed on time and that any nonconformances with regulations are corrected in a timely manner. It requires that persons covered by regulatory requirements are knowledgeable of the provisions of the regulation and the impacts of nonconformance with both regulations and required operational SOPs.

The standard requires that the organization must review the impacts that it has on the environment (both positive and negative impacts) and how it will deal with those impacts. This information must be shared with all of those stakeholders who have a need to know about the environmental impacts and organizations objectives to deal with those environmental impacts.

The standard requires that a documentation trail be in place that demonstrates the organizations commitment to implement its environmental policy and elemental procedures. This documentation demonstrates that environmental requirements and objectives are being met. In addition if there are any problems involved in meeting requirements, the solutions or corrective actions to those problems are clearly documented.

The standard requires clear operational control over all processes that may impact the environment and that any devices used to monitor or measure process performance be regularly calibrated. All staff must be trained and competent to perform their jobs. Everyone must know the value of properly implementing SOPs and the impact on the environment of not following stated procedures. In addition each person is required to identify any potential nonconformance with a process or procedure that may have an adverse impact on the environment and are also required to identify areas where improvements may be made.

ISO 14001 requires that measures to deal with emergencies are in place, that staff is knowable of their role in emergencies and that where practical drills on those procedures are held.

The standard requires that the organization communicate its EMS with all interested parties. This includes employees, customers, regulatory agencies and all of its many stakeholders. This level of communication of the organizations efforts to control its environmental impacts is one of the most positive impacts it can make.

Finally the ISO 14001 standard requires that top management perform a periodic review of the organizations EMS. This review focuses on the organizations continuing capabilities to meet the requirements of the standard. The organizations objectives are reviewed and if necessary revised to meet changing operational requirements. Any nonconformance of the organizations EMS is reviewed and corrective action is assured.

## **Conclusion**

Implementing an ISO 14001 Environmental Management System within a water or wastewater utility will provide an avenue for continuous improvement. Some of the many benefits of an EMS are improved environmental compliance; a reduction in potential liabilities; a positive corporate image; identified opportunities for waste reduction and elimination; a heightened environmental awareness among employees; a better-trained staff; clearly documented processes; defined objectives; documentation of activities; and involvement of all stakeholders.

If we combine all of the above items with a desire to reduce the cost of operations, which a clearly defined management system should do, then the benefit to the organization and its shareholders is enhanced. ISO 14001 is an effective management tool for continually improving your organization by building stability, accountability, and reliability.