



Photo: Ping Employees Assemble Clubs in "Production Cells"

SWINGING INTO ACTION PING'S ENVIRONMENTAL MANAGEMENT SYSTEM

In the fall of 2000, PING, Inc. was awarded certification to ISO 9001 and 14001. Today, PING, best known for its custom fit, custom-built golf clubs, competes in a \$4 billion golf equipment industry that is highly innovative and competitive. In this atmosphere, continuous improvement is a must – especially in the realm of environmental management.

by Matt Conway, CHMM
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WHY ISO 9001 AND 14001?

PING chose ISO certification for several reasons:

- ISO 9001 and 14001 are internationally recognized standards.
- Certification adds value to PING in the way it is perceived by others in the business world.
- PING wanted the benefits of improved quality and enhanced environmental awareness that ISO certification provides.
- Customer satisfaction, continuous improvement, and environmental stewardship were emphasized by the ISO standards and this emphasis meshed well with PING's culture.
- No other competitor in the golf industry had been certified

to both the ISO 9001 and 14001 standards. PING wanted to be the first.

Immediate benefits of ISO 14001 certification recognized by PING included:

- Considerably enhanced internal communication.
- The generation of useful information to allow more effective decision making.
- Improved sharing of responsibilities for environmental compliance and stewardship.
- Companywide focus on improving the workplace environment and becoming more proactive in pollution prevention.
- Greater awareness on the part of design and production groups regarding their impact upon PING's environmental performance.
- Transforming the functions of the Environmental/Safety Department into a revenue-generating mindset to help improve the financial performance of the company.

ACHIEVEMENTS

Now, 5 years later, what long-term results is PING realizing through the implementation of its ISO 14001 EMS? PING has been accepted as a member of the Arizona Environmental Strategic Alliance and has applied for EPA Performance Track membership. Both of these organizations require superior

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environmental performance and continuous improvement. A few examples of our successful implementation of the EMS are presented below. Please note that the information presented here has been normalized to account for annual production differences.

AIR EMISSIONS

Using 1997 as a baseline level, PING has seen almost a 40 percent reduction in air emissions (Figure 1). Programs that have helped contribute to this reduction include replacing two solvents used to clean spray paint guns with a single lower-VOC cleaner, replacing and installing air pollution control devices with greater control efficiencies, discontinuing the painting of certain golf clubs, and the installation of in-line oil/water filters which eliminated the need to operate fluid reduction equipment. As seen in Figure 1, emissions have fluctuated slightly between 2001 and 2004 due to introduction of new products. However, during that same period, PING has had some of its most successful years on record.

HAZARDOUS WASTE

Since 1997, PING has reduced its generation of hazardous waste by almost 66 percent (Figure 2). Environmental management strategies included removal/conversion of a chemically intensive finishing process, implementing waste segregation activities, and expanding the laundered towel program to include non-production departments throughout the facility. In addition, reductions in overall solvent usage has decreased the amount of solvents that PING recycled on-site, further reducing the amount of hazardous waste generated from the recycling process.

WATER USAGE

PING has realized about a 23 percent reduction in water use from the 1999 baseline level (Figure 3). Elements contributing to this success include process changes (e.g. conversion of a chemically and water intensive putter finishing process), and upgrading water fixtures. As part of PING's EMS, corrective actions/suggestions play a large role in our success. Due to a simple suggestion from an employee, PING decided

to not over seed the test range during the winter months. The over seeding project alone has saved almost 8,000,000 gallons since 2001.

ELECTRICAL USAGE

Over an 8 year period, electricity use at PING has declined by approximately 50 percent (Figure 4). Renovations provided opportunities to engineer energy savings into building systems and included replacing lighting fixtures, installing new building insulating materials, and modifying air handling units. Other energy saving measures includes upgrades to energy management software, discontinuing the use of more energy-intensive equipment, and the decision to use T-8 lamps ("green lights") throughout the facility. Furthermore, during the energy crunch last summer, PING was able to reduce its electrical demand and still maintain a 100 percent production rate.

INTERNAL COMMUNICATION

A major goal of the Environmental Department at PING was moving from a "reactive" mode to a "proactive" model. One method to achieve this was the increased communication of the Environmental Department with the Design,

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Fig. 1: Total Air Emissions
Pounds/Production Units 1997 - 2004

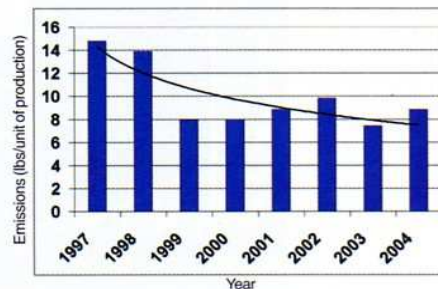


Fig. 2: Total Hazardous Waste Generation
Pounds/Production Units 1997 - 2004

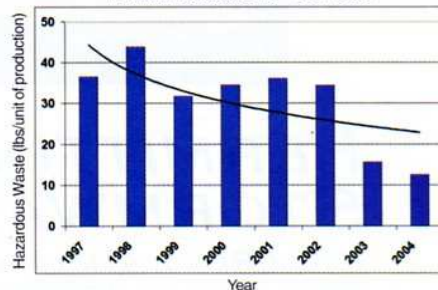


Fig. 3: Total Water Use
Gallons/Production Units 1999 - 2004

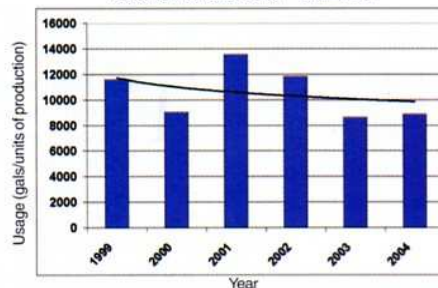
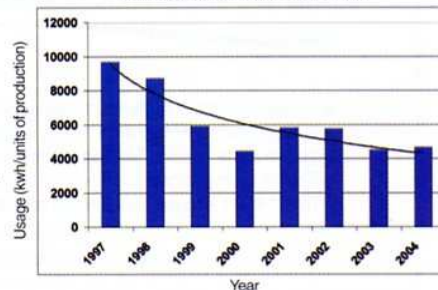


Fig. 4: Total Electrical Use
Kwh/Production Units 1997 - 2004



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CONWAY/BARNETT: PING EMS *CONTINUED FROM PG 7*

Manufacturing, and Facilities Engineering Departments. Engineering groups were trained on environmental and safety issues that affect the company as well as their associated costs (both potential and actual). In addition, the Environmental Department takes an active role in weekly Engineering meetings. New designs and processes are reviewed in their early stages of development, affording the Environmental Department the opportunity to discuss potential environmental/safety concerns as well as recommend more



Virginia Suarez, Ping Employee, inspects the polish on golf club heads.

environmentally-friendly solutions. Notifications and approvals that require environmental and safety review are completed through a web based product data management system.

In order to facilitate communication of procedures, work instructions, as well as other company information, PING established an internal web page. This internal site allows every employee quick and

direct access to all procedures, work instruction, forms, updates, goals, news as well as a direct link to a home recycling information page (earth911.org).

BOTTOM LINE

Was it worth it? With a strong commitment from management, setting up an EMS did require the help of a consultant with the resulting associated costs; however, PING has had a quick return on investment in many ways. Obviously, we have improved compliance, and saved money in waste disposal, water usage and electricity. However, the biggest reductions (up to 90%) were in the areas of reacting to change, a reduction in the use of outside consultants, and decreased legal costs. Savings in these three areas allowed PING to recover the implementation costs in the first 2 years. In conjunction with our ISO 9001 systems, PING has increased market share and currently manufactures the number one selling G2 family of irons and the number one selling G2 driver.

WHAT'S NEXT

One of the key elements of ISO 14001, and any good EMS is continual improvement. Some of the programs PING is exploring to further improve its environmental performance include chemical substitution in its club assembly area, implementation of lean manufacturing initiatives, potential water recycling, and increased use of recycled products. Additionally, PING is evaluating incorporating its safety program into the management system.

PING continuously hones its ISO systems, strengthening

its environmental objectives, and is always looking for opportunities for improvement. The participation of all employees has been instrumental in continuously adding value at all levels of the organization and in all operations. PING has always been recognized as a leader in innovation – environmental management notwithstanding.

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authorization five (5) business days after the date that a complete and accurate NOI is submitted.

4) Implement the SWPPP and periodically assess performance. The SWPPP should be modified as necessary to ensure meeting the program/plan's goals and the general permit requirements. Changes must be clearly documented in the plan.

5) Report, inspect and/or monitor as set forth in the general permit.

6) Keep records, make information available, and interact with other entities and the public as set forth in the general permit.

7) Comply with all provisions of the permit until the permit expires or upon submission of a Notice of Termination (NOT) due to the industrial facility closing, significantly altering its operations or configuration, or changing ownership/operator.

8) Renew permit coverage (steps 1 through 7 above) every five (5) years when the governing MSGP expires and the renewed MSGP is issued.

FOOTNOTES:

1 Does not include Indian country lands, where EPA-Region IX continues to be the permitting authority for all regulated stormwater discharges.

2 Each general permit has a five-year term that starts on the date of publication in the Federal Register.

3 A TMDL is the maximum daily amount (load) of a water quality parameter or "pollutant" that can be carried by a surface waterbody without exceeding surface water quality standards. TMDLs involve waters that are identified as impaired on the state's 303(d) List.

4 The suggested lists of BMPs are not intended to limit the creativity of facility operators in developing alternative BMPs or applications for BMPs that increase cost effectiveness.

5 The MSGP NOI form can be downloaded from the AZPDES page of the ADEQ web site: <http://www.azdeq.gov/envirom/water/permits/azpdes.html>.

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