

Demonstrating the Value of Corporate Environmental, Health, and Safety Services

Businesses are constantly striving to reduce costs in all production and service areas, and an economic recession typically necessitates even more reductions. Environmental, health, and safety (EH&S) departments are not immune to these cost-cutting pressures. However, many businesses are concerned that a decrease in the EH&S budget will lead to a decrease in performance.

A review of EH&S departments in the chemical manufacturing industry reveals that some companies are reducing the amount they spend on EH&S while at the same time reducing regulatory violations, pollutant emissions, and safety incidents. These companies are successfully sustaining their business while exhibiting a high level of EH&S performance.

This article first discusses the state of the EH&S economy, and then outlines some themes common to "best in class" EH&S departments. We then offer some ideas on developing an EH&S value measurement program, including sample questions that companies may find useful in identifying opportunities for EH&S cost savings.

Quantifying the costs and results of EH&S

We also include a case study illustrating one company's approach to reducing remediation costs.

State of the EH&S Economy

With the currently struggling economy, senior management teams are looking for ways to cut costs. Managers often view the high-dollar and high-visibility expenses of EH&S departments as "profit drains" rather than investments. For this reason, EH&S managers need to demonstrate quantifiable value creation alternatives that can be used to convince executives and shareholders not only that EH&S investment is necessary, but that it can also result in a good return on investment.

The value of EH&S and remediation programs are sometimes thought to be too intangible to measure. Globally, all companies struggle with this issue, and many are searching for ways

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If we do not provide more value than the cost of our services to the company, we will be replaced or downsized.

to quantify the value of such programs. All companies find this a daunting task, whether they are using the Six Sigma approach (adopted by such notable companies as General Electric and 3M), an International Organization for Standardization certification program (such as the ISO 9000 and 14000 series), Edward Deming's total quality management systems, or another system.

The key is to take program results that are intangible and make them tangible, so that the value of each activity can be assessed. These tangible terms will provide the information necessary for EH&S managers to develop an action plan for continuously increasing and demonstrating value in the future. In some cases, if a program or activity does not demonstrate quantifiable value for the time, effort, and cost invested, the company will decide not to continue the activity.

EH&S and remediation departments need to identify various value drivers to demonstrate their value to the corporation. Such drivers may include lost revenue savings, value-added services, and business synergies. Putting EH&S issues into business and financial terms makes it much easier to demonstrate the value of corporate EH&S programs. Demonstrating value in turn results in long-term and win-win partnerships with senior management that ultimately reduce total transaction costs and increase profits.

EH&S and remediation departments also must create innovative mechanisms to quantify tangible and intangible issues and report them as financial indicators. Reporting these indica-

tors to senior management on a routine basis will help EH&S and remediation programs to obtain the resources, funding, and recognition they need.

When senior management understands the value of its EH&S and remediation programs, opportunities are created for increased profitability. This ultimately results in satisfied shareholders. One client partnership in which the authors have participated for the last ten years has quantified over 23 million dollars in savings.

"Best in Class" Chemical Manufacturer Successes

A review of publicly available annual reports from a dozen companies—including companies identified by the U.S. Environmental Protection Agency (EPA) as some of the best at managing environmental affairs—reveals two chemical manufacturers that successfully demonstrate business sustainability coupled with a high level of EH&S performance: Dow and 3M. Both of these firms show a decreasing trend in environmental expenses, along with an increasing trend in EH&S performance.

How do these companies reduce costs while improving performance? They do it by broadening the scope of their EH&S programs. Dow has developed "Waste Reduction Always Pays" (WRAP), an internal recognition program that rewards employees for environmental improvement ideas (Verrico, 1999). 3M reports that its annual air emissions have been reduced from 200 million pounds in 1990 to 24 million pounds in 2000. The majority (55 percent) of this reduction was achieved through pollution prevention, while the remaining 45 percent was achieved through pollution control (3M, 2001).

Common Themes

The EH&S programs of Dow and 3M share several common themes. Each of these companies:

What is value and how do you measure it? How do you quantify and report value and whom do you report it to? What are the future value drivers?

- has publicly announced its EH&S goals, pledge, and program, thereby demonstrating its commitment;
- participates in an external review program in which a third party evaluates the firm's program and performance compared to external and internal standards;
- has invested in training programs to ensure that every member of its organization is equipped with the tools and knowledge to participate in the program; and
- audits itself to evaluate whether actual practices are consistent with EH&S goals.

Dow and 3M are honest in their approach toward improvement. Although these companies demonstrate a high rate of success in many areas, they also publicize their continuing challenges and track their progress in addressing those challenges.

Additionally, both companies solicit input from their employees and participate in voluntary initiatives such as Responsible Care®, the U.S. Occupational Safety and Health Administration's Voluntary Protection Program (VPP), and ISO 14000.

Developing an EH&S Value Measurement Program

Overview

An EH&S value measurement program quantifies the benefits that an internal EH&S group provides to its company. In addition, such a program provides concrete insights regarding how to

position an EH&S group to concentrate on continuous and quantifiable value drivers. The rewards are almost immeasurable when it comes to making an EH&S or remediation group more valuable to the corporation.

Several industrial companies and consulting firms have jointly developed programs to quantify EH&S value. Some companies have been benchmarking EH&S costs and results for over 15 years in order to improve EH&S functional value, identify and quantify lost revenue savings, reduce violations and fines, and justify the value of the EH&S group to all necessary stakeholders. These companies understand the value drivers that affect the business and financial aspects of managing an EH&S group. They can demonstrate value that far exceeds the cost of their programs' continued existence.

Program Objectives

The objectives of an EH&S value measurement program are to determine the value of EH&S compliance and remediation activities, and to quantify and report this value to all necessary internal and external stakeholders. The process of measuring value also identifies areas where additional value can be created in an EH&S program.

How Does the Program Work?

Companies can conduct an EH&S value measurement program internally or have consultants participate on various levels, ranging from facilitating discussions at corporate retreats and division meetings to participating all the way through the reporting process. The steps in a typical program might include the following:

- The Director of EH&S generates a questionnaire to be answered by key stakeholders within the company, the EH&S department, and the project team in order to identify the baseline of activities and costs that fall with-

Whatever we measured last year needs to be re-evaluated and upgraded, and the bar needs to be raised.

in the EH&S group's responsibility. Alternatively, a qualified consultant can facilitate a roundtable discussion or benchmarking session with representatives from each stakeholder group.

- The Director of EH&S, or the EH&S group itself, quantifies the value of each activity and presents this information to internal and external stakeholders. The report may also include recommendations to increase EH&S functional value.
- The EH&S group develops an action plan to increase value, and to demonstrate value continuously going forward.

Advantages

An EH&S value measurement program offers a cost-effective and risk-free opportunity for EH&S managers to focus on the current and future direction of their programs. It specifically demonstrates and quantifies the value that EH&S groups add to the organization's bottom line. The key to achieving a successful EH&S value measurement program is to assemble a team of experts and stakeholders who can identify and quantify EH&S value, and then implement value decisions within the organization.

Cost and Savings

In most cases, the external costs of participating in and facilitating an EH&S value measurement program range from \$10,000 to \$15,000 for corporate reviews, plus \$3,000 per facility for the first five facilities and \$2,000 for each facility thereafter. For a 15-facility manufacturing com-

pany, the total external cost thus would be approximately \$45,000 to \$50,000.

Internal costs are ongoing. Companies typically begin with one full-time equivalent employee who initiates the process, usually for a period of about three months. Internal costs are then distributed among the groups involved and, over time, become a continual part of doing business. An EH&S value measurement program generally requires very little time once it becomes integrated into the company's decision-making process.

Cost savings that can be realized from an EH&S value measurement program typically range from \$150,000 to over \$1,000,000, depending on the size and structure of the company's EH&S or remediation program, the number of facilities involved, and the corporate budgetary amount allocated.

Identifying Opportunities for EH&S Cost Savings: Sample Questions

The following questions were developed to help companies identify opportunities for EH&S cost savings. Remember that every organization needs to custom design its EH&S group to fit within its overall company structure and culture. For this reason, the questions and suggestions noted below may not address the needs of all companies. The purpose of these questions is simply to help a company identify "low-hanging fruit," so that it can focus its efforts on initiatives that will result in the most "bang for the buck."

1. *What are your EH&S and remediation budgets? List the top-ten activities with the highest cost. List the top-ten areas where you allocate the majority of your time—for example, EH&S staff payroll and administrative costs, ongoing compliance at the corporate and division levels, investigation and remediation, off-site liability (e.g., Superfund sites, stranded assets), worker's com-*

pensation premiums, and merger and acquisition due diligence.

Often, the activities that require the most time and the biggest budget are those where the most cost savings can be realized. In answering this question, it is important to account for all EH&S costs. Thus, the traditional definition of EH&S may need to be broadened to include some facility operational costs, such as waste disposal.

Depending on the structure of the organization's EH&S program (centralized or decentralized), EH&S costs within other programs may also need to be identified. For example, if a company receives a notice of violation, the costs incurred by senior management and the legal department need to be considered, in addition to the costs incurred by technical staff managing the site.

This question is also important for benchmarking success in reducing budgets.

2. *How do you (EH&S Manager) quantify the value of your EH&S and remediation staff and report that value to senior management?*

In today's cost-cutting environment, every company wants to ensure that it is receiving high value for the money it spends. Thus, it is crucial for EH&S managers to formally quantify the value of their staff on a regular basis. The same budgets and EH&S performance parameters should be evaluated to identify budget reductions and improved EH&S performance.

3. *How do you communicate your commitment to EH&S, sustainability, and social responsibility to all stakeholders, including the public and shareholders?*

Best-in-class firms publish EH&S annual reports demonstrating success in each of these categories. Their reports go out to all share-

holders. Such organizations also publicize their programs through public speaking engagements, press releases, and shareholder informational updates.

4. *How are EH&S and remediation services aligned or structured to manage environmental affairs (i.e., are they centralized or decentralized; are they organized by division, or by activities such as remediation and compliance)? How are environmental decisions made in your company? Who makes the final decision? What are the most important factors in your decisions?*

There are advantages and disadvantages to every organizational structure. Over the past 20 years, most companies have ridden the pendulum from centralized to decentralized, and back again. While there is no absolute best organizational structure for all companies, all structures need to make sure they have mechanisms for communicating changes, leveraging consultant partnerships, and constantly looking for the next wave of value drivers.

Although communication is important in all circumstances, communicating changes may require extra attention. For instance, changes to a remediation system may need to be reflected in the applicable air and water permits; a permit decision may hinder remedial efforts. In addition, changes such as raw material substitutions may impact pollutant emissions and waste generation. Before changes are made, the company needs to follow a formal process that involves key stakeholders.

All companies are undergoing economic pressures these days, including waste disposal con-

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tractors, equipment vendors, and environmental consultants. By leveraging its buying power with these agents, a company can consolidate partnerships and reduce its overall transaction costs, thereby reducing overhead expenses and increasing profitability for both the company itself and the consultant, contractor, or vendor. Additionally, by partnering with suppliers, a company is more apt to receive consistent service that meets its needs at a lower price.

In a world dominated by division of labor, EH&S staff often do not completely understand facility operations, while facility personnel may not fully understand EH&S. Facility personnel need to develop a working knowledge of their

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facility's environmental permits and remediation systems, and need to understand the major costs associated with EH&S.

Familiarizing personnel with EH&S issues can offer big benefits. As documented by best-in-class companies, the most useful environmental improvement ideas often come from employees. For example, a 3M employee team developed a process that allowed polyester pellets to be reused in a film manufacturing process, resulting in disposal cost savings of \$300,000 (3M, 2001).

5. *Does your company have an EH&S policy in place? Has an EH&S manual been prepared and distributed?*

It all starts here: Putting your commitment in writing, and making it known that you are committed to EH&S performance, period.

6. *Do you have the following business processes in place: risk management, life-cycle management,*

data management, acquisition management, regulatory interface, employee training?

These processes are the keys to consistent and sustainable EH&S value identification and implementation. Integrating value awareness into each of these processes will ensure that the company is always considering value. Jack Welch and General Electric did this with Six Sigma.

A good basketball coach helps each player learn how to develop court awareness. A good officer teaches each soldier how to be aware of his or her surroundings. Similarly, you should strive to ensure that every employee in your organization develops value awareness.

7. *How many stranded assets (non-used contaminated properties) does your company own? How are these assets managed?*

This question can help you develop a formal process for managing risk and minimizing future liabilities. Most EH&S departments do not play a key role in managing their company's stranded assets. Rather, this task usually is handled by the real estate department; EH&S typically gets involved only when soil or groundwater contamination is discovered at a former property during construction activities, or when contamination is reported by a neighbor. Investing up-front in a plan for minimizing risks and liabilities associated with your stranded assets can reduce overall costs.

8. *During mergers and acquisitions, how is environmental liability assessed?*

Successful companies develop a formal process to manage risks and minimize future liabilities during mergers and acquisitions. The most successful companies involve EH&S departments, as well as all other appropriate stakeholders, from the first step in the merger or acquisition or process.

9. In what form are consulting contracts typically issued (e.g., fixed-cost or "time-and-materials not to exceed")? What process do you use for selecting consultants or contractors to perform work at your facilities?

The most successful companies have structured partner programs in place with a select few consulting firms that know the company's business and have been fully integrated into the value awareness program within the company. These organizations create executive management teams with their partner consultants' participation. The partner consultants can usually bring new ideas to the table as a result of their experience with other clients and other industries. Partnering is a key concept in value generation.

10. How many EH&S notices of violation (NOVs) did you have in the last five years? How much of the company's EH&S budget is allocated to addressing NOVs, fines, penalties, or consent orders related to EH&S compliance matters? How many person-days are spent responding to these matters? How many corporate groups are involved in the responses?

The number of NOVs an organization has received, and the fines associated with them, typically are easy to quantify, and should be considered part of the EH&S budget. EH&S investment to reduce NOVs should be benchmarked based on the number received and the costs incurred to address them.

11. What are the most important environmental challenges your company is currently facing, and will be facing in the upcoming year? What types of future regulatory/voluntary driving forces do you expect to face in the next five years?

One of the most important aspects of implementing continuous value awareness, and creat-

ing ongoing value for the company, is the ability to identify your future environmental challenges. With this knowledge, you can put processes in place to avoid or minimize the future learning curve.

Case Study: Reducing Remediation Costs

This case study describes how a company devised a program for reducing remediation costs. It offers useful insights on how to get the most value from your EH&S dollar.

Challenge

Between fiscal years 1992 and 1993, the amount the company spent to manage its remediation program doubled. Senior management wanted an explanation. This prompted a roundtable discussion among the company's EH&S group and its three partner consultants; they brainstormed and identified the challenges associated with managing remediation projects.

The challenges identified included lack of communication among project managers, inconsistent technical approaches, varying (and sometimes duplicative) regulatory drivers, varying political considerations, lack of closure strategies, and remediation dollar expenses that were not predictable or consistent from year to year. As a result of the brainstorm session, the company formed an executive committee, inviting one representative from each partner consulting firm to work with them in addressing these challenges.

Solution

The brainstorm session identified more than a dozen potential value-creation projects geared toward reducing the remediation budget and

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allowing for predictable and consistent remediation costs from year to year. From this list, the company identified three major milestones that would need to be completed before the beginning of each fiscal year in order to improve communications (knowledge sharing) among project managers, create consistent technical approaches, streamline regulatory process requirements, ensure a focus on the most important political considerations, and close projects faster and cheaper.

The first involved creating a project remediation plan for each site with predicted expenditures of more than \$100,000 each year. The company adopted a consistent report format, with specific information requirements addressing the most critical remediation project drivers.

The second element was establishment of a project budget. This budget was reported to senior management and tracked throughout the year.

The third element was peer review of all remediation projects. Peer review was divided into two programs. The first involved a week-long program in which project managers (along with partner consultants) presented the contents of every remediation plan to the entire group, and discussed relevant components of each plan, including annual budgets. Constructive feedback was abundant at these sessions. Based on this feedback, remediation plans were revised and then presented to senior management and to the company's insurance provider.

The second peer-review program was an informal process aimed at reviewing challenging projects during the year. At critical points throughout the year, the project manager would assemble remediation team members, along with the con-

sultant working on the project, and conduct a "mini" peer review. This review was intended to gather feedback based on the completion of certain milestones within the plan, and aimed to ensure that the project was proceeding in the right direction.

Results

By implementing these steps, the company has been able to cut its remediation expenditures in half. It has also provided consistent remediation cost predictions for the past eight years; this has not only created a remediation budget that senior management and shareholders can rely on each year, it has also provided the necessary backup for Securities and Exchange Commission (SEC) reporting requirements.

The program has created a quantifiable return on investment, saved the company millions of dollars, created consistent communication among all stakeholders, streamlined remediation, combined or changed regulatory approaches, addressed the company's most critical political concerns, and achieved faster and more efficient project closures. The program has also won numerous awards, both internally and externally.

Key outcomes of the program include:

- satisfied shareholders,
- higher and more consistent company profits,
- improved budget allocations,
- better regulatory relationships,
- satisfied partner consultants,
- an improved reputation for EH&S within the organization, and
- satisfied employees.

Conclusion

EH&S departments are under increasing pressure to demonstrate the value of their services to company executives and shareholders.

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Sustaining a successful business and exhibiting a high level of EH&S performance requires long-term commitment.

In order to reduce the amount spent on EH&S, while at the same time achieving decreases in regulatory violations, emissions, and safety incidents, EH&S managers must quantify the costs and results of their departments' activities. This often requires them to explain intangible activities in tangible terms.

Once these tangible terms are defined, EH&S departments can measure the value of their servic-

es, and identify which activities should be continued and which should be terminated. Additionally, these tangible terms provide the information necessary for EH&S managers to develop action plans that will help them to both increase value and demonstrate value continuously going forward.

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