

# Doing More With Less: Improving Environmental Management Productivity

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In recent years many companies have made impressive gains in strengthening their environmental, health, and safety (EHS) management. But they have also seen their EHS costs increase dramatically – to as much as 4 percent of sales and even more. As a result, EHS budgets have joined other once-sacred functions – such as finance, legal, and information systems – as candidates for rigorous cost-cutting. Today, companies are actively seeking ways to improve the productivity of the resources they devote to managing their EHS activities.

Their motivation is not entirely financial. Even in those industries not focused on downsizing, the best companies recognize that there is a great deal of „upside potential“ to be gained by managing EHS issues effectively and efficiently. Reengineering, done right, will help keep the sharp edge on performance, protect the company against compliance gaps, and ensure long-term improvement.

As the desire for companies to improve profits intensifies – coupled with greater demands for improved environmental, health, and safety performance – EHS-related costs and processes will increasingly come under the microscope. Are they meeting expectations for performance, measuring up in terms of business productivity, and satisfying key stakeholder needs? We have found through our work that a number of specific problems serve as telltale signs that EHS processes within a company may not be as effective or efficient as they should be (Exhibit 1). By identifying the causes of these problems within your organization and directing attention to correcting them, you can improve both overall EHS productivity and your organization’s EHS performance.

## **Exhibit 1**

### **Ten Telltale Signs of EHS Productivity Problems**

#### **Process Myopia**

Links between EHS and business processes are poorly understood (e.g., across functions and product life cycles)

#### **Goal Gap**

No articulation of long-term EHS goals, targets

#### **Role Confusion**

No clear distinctions among corporate, division, and facility EHS roles (e.g., too many people reviewing the Federal Register)

#### **Line Dance**

No sense of EHS ownership by line managers

#### **Leverage Losses**

No pushing down of EHS responsibilities to other functional specialists (e.g., chemicals management, waste vendor audits, acquisition reviews)

#### **Paper Mountains**

Strong focus on documentation, managing paperwork – with little understanding of why

#### **Missing Measurements**

No ability to quantify EHS results, program accomplishments

#### **Departmentalized Costs**

EHS costs accounted for by department, not process, unrelated to results measures

#### **Blame Game**

Difficult to hold line managers and EHS staff accountable for less-than-stellar performance

#### **Quality Shuffle**

Little ability to demonstrate incremental improvement in EHS performance over time

*Source: Arthur D. Little, Inc.*

Much good work has already been done in enhancing EHS productivity. In Arthur D. Little's „Best of the Best“ Colloquium on Environmental, Health, and Safety Management Productivity, leading-edge companies shared information about common problems and best practices. Their successful approaches to managing for higher productivity draw on three basic strategies:

- Redesigning EHS management processes to streamline work activities and eliminate low-value-added steps
- Pushing down responsibility and accountability for some EHS work into the line organization
- Leveraging the effectiveness of remaining EHS staff by extending their reach and improving their use of technology

### **Redesigning EHS Processes**

Redesign or „reengineering,“ when applied to the environmental function, is often confused with conventional cost reduction. But the two are really very different. In the cost reduction approach, management begins by specifying the magnitude of overall cost reduction needed and then simply allocates the cuts to the various functional budgets. Because fewer staff members remain to do the same work, a common consequence of cost reduction is poorer performance. Over time, as the company seeks to restore performance levels, costs tend to creep back in.

The redesign approach asks a different question. Instead of focusing on „How can we save money?“ it asks „What are we trying to achieve, and what's the best way to do it?“ Management first defines what outputs and performance levels are needed and then devises an improved process to accomplish these goals by doing the work more effectively. While the redesigned process may indeed require fewer staff members, its first objective is better performance, only secondarily accompanied by lasting cost reduction.

Companies undertaking EHS redesign projects are keeping this important distinction in mind. A 1994 Arthur D. Little survey of 33 U.S. and Canadian manufacturing companies found that more than half had recently applied reengineering approaches to all or part of their corporate EHS activities. When queried as to the primary driver for EHS redesign, only five of these companies cited reducing headcount or cost. Fully half mentioned one or more aspect of doing the EHS job better – improving compliance, reducing risk, or achieving competitive advantage.

Among our „Best of the Best“ colloquium participants, a roughly similar picture emerged. While acknowledging cost-cutting realities within their individual companies, they also stressed the importance of improving the efficiency of EHS work processes.

Procter & Gamble, for example, has downsized its headquarters EHS group as part of a larger shift of corporate activities toward regions and business sectors. According to George Carpenter, Director of Health, Safety, and Environment-North America at Procter & Gamble, the company has taken a number of innovative steps to help ensure that this transition yields better, more cost-effective EHS management. P&G has paid special attention to developing clearly defined EHS roles and responsibilities and shared accountabilities among corporate management, business sectors, global regions, and individual plants. They have aligned EHS goals and objectives so that all their businesses are pulling in the same direction. They have also simplified and globalized their internal EHS standards, focusing on „what you want to have happen, not how you get there.“ And they have streamlined specific EHS processes, for example, consolidating historically separate training delivery systems for environment, process safety, and occupational health and safety. Such EHS redesign strategies, properly applied, can deliver significant productivity enhancements. Westinghouse Electric, as part of a recent downsizing, also reengineered its corporate environmental affairs work processes and realigned its smaller central staff to better serve business unit customers. A new corporate management directive firmly established that the primary responsibility for EHS compliance rests with business unit line management, not with central staff specialists. Many formerly separate EHS compliance and regulatory activities are now combined in one group; similarly, all EHS engineering and remediation activities reside in a second, parallel group. When business units need specific assistance, teams are formed that include members of all these groups as well as departmental attorneys. Samuel Pitts, Vice President for Law, Environmental Affairs, and Insurance at Westinghouse Electric, has found that, despite a 32 percent reduction in EHS headcount at the corporate level, the redesigned approach has worked beautifully, and they've been able to maintain all the programs they had in the past.

To achieve productivity improvements of this magnitude, it is critical to undertake downsizing and process reengineering simultaneously. A company that cuts staff first and only then begins to look for process improvements runs a significant risk of failure. As George Carpenter of P&G commented to colloquium participants, cuts in key technical staff headcount can often be accompanied by a „loss of mastery“ far out of proportion to the reductions themselves. A central engineering group, for example, may provide mastery-level support for key technologies used by a company's manufacturing facilities around the world. Such a well-

established core group likely has key staff who have been part of the company for a long time and may very well take advantage of early-retirement packages should they be offered. You don't want to lose wholesale the mastery represented by such a group before having the opportunity to transfer or institutionalize this knowledge across the organization. It's nearly impossible to shape a better process when the knowledge base is no longer there.

### **Doing More in the Line Organization**

To get greater productivity out of a smaller EHS staff, the company must ask line management to assume more EHS responsibility. In fact, this shift in responsibility can directly trigger EHS improvement even when overhead resources are not under cost pressure. Successful line managers tend to focus on whatever is important for their businesses. When environmental concerns become a sufficiently important business driver, managers will address them with the same degree of attention they typically pay to quality, cost, and service.

Companies represented in our colloquium take a wide range of approaches to pushing greater EHS responsibility into the line organization. For example, Northern Telecom, like Westinghouse, has given its worldwide business units basic ownership („primeship“) of EHS management functions. The businesses establish their own EHS plans and are now responsible for „due diligence“ monitoring of their EHS performance and for reporting results to corporate management semiannually. Core and regional EHS staffs reporting to corporate headquarters provide technical guidance and implementation support, respectively, but the businesses are ultimately accountable for meeting their EHS obligations. „The next stage is to work more on clearly defining specific roles and responsibilities, to make the model increasingly effective and cost-efficient,“ says Margaret Kerr, Northern Telecom's Senior Vice President for Environment and Ethics (and a member of Arthur D. Little's board of directors).

At Compaq Computer, divisional management has had ownership of the EHS function virtually from the beginning. The corporate EHS staff numbers fewer than 10 people. Most of the company's EHS resources reside in the worldwide manufacturing organization and at individual operating locations. „At our CEO's weekly staff meeting, the senior VP for manufacturing routinely brings in a one-page update on environment, health, safety, and security matters,“ according to Doug Young, Corporate EHS Director at Compaq. Young himself meets at least annually with each division's management to work out what is essentially a „contract“ specifying what the division expects to accomplish in the EHS area and how the corporate resource will support them.

Still another leading company with an established culture of division and facility-level ownership of EHS responsibility is Rohm and Haas. „Our senior management doesn't want big corporate staffs. It wants everything possible to go down into the line organization,“ says Lynn Johnson, Rohm and Haas's Corporate Environmental Director. This commitment, strongly shared by highly independent operating facilities, is directly reflected in the distribution of EHS staff resources within the organization. The company's chemical manufacturing facilities account for fully 85 percent of the company's total EHS staff professionals, with the remainder split among corporate and regional staffs. Over time the corporate EHS staff itself has been aggressive in spinning off certain formerly centralized services, such as waste minimization (to the businesses), review of waste disposal contractors (to Purchasing), and emergency response (to Transportation).

As a strategy for improving EHS productivity, pushing responsibility into the line necessarily also involves a commitment to excellent performance of certain related management tasks, such as setting clear operating standards, empowering line personnel, measuring unit performance, and holding line managers accountable for that performance. The companies that participated in our „Best of the Best“ Colloquium provide numerous examples of how to deal successfully with these related requirements.

In the area of standards, a number of companies, like Procter & Gamble, have found it important to establish one set of EHS performance expectations worldwide. These standards are designed to set a high minimum threshold yet allow reasonable variability and flexibility in their local application. Working within the framework of the International Chamber of Commerce's 16 Principles, Anheuser-Busch has recently developed a set of 23 corporate EHS „requirements“ that are performance-based, i.e., that identify the „what“ without specifying the „how.“ Explains William Sugar, Senior Director, Environmental Affairs, at Anheuser-Busch, „We've been growing worldwide, what with expansion the past year in Mexico and China, and so these will be worldwide requirements.“

Baxter Healthcare has developed its own state-of-the-art EHS standards that not only guide facility behavior but also provide the basis for annual assessment of the quality of local management performance. Similarly, Compaq Computer audits both its domestic and its international operating locations against a common set of corporate „minimum standards“ for EHS programs and management systems.

EHS leaders recognize that if line personnel are to play a larger role in managing the function day-to-day, they need to be empowered through effective EHS skills and awareness training. Baxter Healthcare, for example, requires that the environmental managers at its manufacturing facilities receive 60-80 hours of EHS training

annually, depending on the size and relative complexity of their particular locations. The training, largely done internally at regional and division conferences, is tracked against formal training plans tailored for each individual manager. According to Baxter's Vice President of Corporate Environmental Affairs, William Blackburn, support for this relatively heavy commitment to EHS training among the facility environmental managers themselves reflects a certain degree of „peer pressure“ resulting from frequent comparison of EHS performance across facilities. Blackburn suggested, „Start measuring, saying this person is doing a good job and here is the training he is receiving. Soon what you have is a kind of one-upmanship.“

Other companies investing heavily in EHS training, especially for business and facility operating management, are Westinghouse and WMX Technologies, Inc. Westinghouse offers both regularly scheduled courses and customized training to meet specific business unit needs. WMX also offers an extensive menu of EHS training to its landfill and treatment facility personnel, consistent with its „Prevent-Act-Correct-Train“ (PACT) approach to managing total environmental quality. A key part of this approach is the Compliance Management System, which identifies all of the tasks necessary for compliance and who is responsible for them.

Measuring line managers' EHS performance is essential if the company is to hold them ultimately accountable. Baxter measures each of its facilities' performance annually against its state-of-the-art environmental standards and reports the results to corporate and division senior management as well as the public. WMX Technologies uses its Compliance Action Reporting System (CARS) to track resolution of compliance-related issues identified at its major operating facilities. Results are reviewed quarterly by corporate and operating company management teams. Somewhat similar to CARS is Anheuser-Busch's Environmental Issue Status Report, or EISR. It captures all outstanding facility self-inspection and EHS audit items, measuring closeout results against internal due dates.

Virtually all the companies attending our EHS productivity colloquium have some kind of management system in place to tie measured EHS performance to line managers' annual reviews. Perhaps the most formal accountability mechanism is that at WMX Technologies. Managers at WMX, up to and including operating company presidents and senior corporate executives, are measured against goals for each of the four „pillars“ of the company's Expanded Management System – shareholders, customers, employees, and the environment. If the CARS and other related measures of environmental performance show poor results, a manager can potentially lose his or her entire annual bonus, even if performance in the other three areas is outstanding. Says Don Wallgren, Vice President and Chief Environmental Officer at WMX, „they could lose their entire bonus if they've failed on the environmental side. However, there's a good chance that, if they did that poorly on environment, they will show similar poor performance in other dimensions as well.“

### **Leveraging People and Technology**

At some point, when you have redesigned out the inefficiencies and pushed down what you can to line personnel, improving EHS productivity comes down to finding creative ways to extend the „reach“ of your limited staff and technical resources. How? Share staff, set up charge-back systems for allocating scarce staff specialists, develop relations with universities and other research organizations, establish interactive information technology and artificial intelligence programs, and generally look for ways to leverage your people by making right connections within the organization and outside.

In the midst of its current restructuring and downsizing, Digital Equipment Corporation found that it did not have its EHS staff resources in the „right“ places, given the company's businesses, its particular operating risks, and its geographic spread. Some businesses had few if any EHS staff specialists, while others were relatively overserved. The company was spending a disproportionate share of its EHS staff dollars on hazardous chemicals management at a time when manufacturing cutbacks and outsourcing were reducing this risk. *Yet* it was devoting relatively few resources to ergonomic issues, for which both incidence and costs were on the rise.

Headquarters staff were trying to meet the EHS needs of Digital's widely dispersed offices and engineering labs in many parts of the world outside North America and Europe. „We needed to do a lot of changing... and making sure that our resources were allocated properly“ remarked Digital's new Corporate Environmental, Health, and Safety Director, Kay Breeden. Digital is now tackling these problems with a new model for EHS service delivery featuring a smaller headquarters staff organized along functional lines, supplemented by dedicated staff resources owned by and serving the manufacturing operations and a network of 12 regional technical centers servicing the office complexes world wide on a shared basis.

Other colloquium participants identified several additional strategies for further leveraging of EHS staff resources. Rohm and Haas frequently makes use of temporary assistance of staff personnel across locations – from corporate headquarters to regional sites, regional sites to corporate headquarters, and among regional sites themselves. For regulatory tracking and communications purposes, Baxter Healthcare has developed internal Regional Working Teams and Inter-Facility Environmental Teams. Northern Telecom links its location EHS employees into its corporate network through its regional „specialists“ and extends its environmental research

capabilities outside the organization by funding projects through its University Interaction Program.

Successful companies also find ways to leverage technology to increase the effectiveness of their EHS programs. Anheuser-Busch's EHS and technical staff have recently identified potential cost savings of more than \$90 million available in its brewery operations through a range of technology initiatives that are environmentally-friendly, including water and energy conservation, anaerobic wastewater treatment systems, recapture of methane gas for in-facility energy use, computerized in-line tank cleaning, and redesign of basic unit operations such as lauter tubs and fermenters. Westinghouse has a corporate-level Achievement in Clean Technology (ACT) Program that works with and for the business units to help identify cost-effective waste minimization opportunities that will boost the bottom line.

Finally, technology leveraging is not just limited to environmental control concerns. Smart companies are also using information technology to extend the value of their EHS staff resource. Procter & Gamble's European EHS managers are developing artificial intelligence approaches applied to technical process safety, thereby increasing the scope of possible activity of its worldwide risk-management specialists. Similarly, Anheuser-Busch supplements the capabilities of its facility-level EHS staff by constantly updating facilities' Environmental Quality Manuals through use of on-line group software.

Honing a sharper edge on EHS productivity – streamlining your EHS work activities, pushing down responsibility into the line organization, and extending the reach of your people and technology – will contribute not only to improved EHS performance, but also to improved business processes overall.

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