

# A Competitive Framework for Environmental, Health, and Safety Management

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Business pressures are rapidly reshaping how environmental, health, and safety (EHS) managers and their organizations serve companies. For several years, EHS managers at leading companies have sought to integrate EHS issues and activities with business processes and help their organizations look beyond compliance to the broader business benefits of effective EHS management. Now, as corporations push to stay competitive by improving processes and reducing costs, many EHS managers are juggling business integration with a new and equally challenging imperative: reengineering.

The result is a totally new working climate for EHS managers. Trained in an era when regulations drove the growth and structure of EHS functions, managers are moving out of technical and watchdog roles to learn business-driven and customer-centered ways of operating. At the same time, as their organizations reach for ever-leaner configurations, these managers must prevent gaps in companies' compliance performance – and in their safeguards against liability and loss.

When Arthur D. Little invited environmental, health, and safety managers from companies experienced in the benefits and risks of reengineering to share their best practices and exchange perspectives at a Best of the Best colloquium, the participants explored how to unleash competitive dynamics within EHS functions. They examined how information technology can support more efficient, more effective EHS management. And they outlined best practices for overcoming the organizational barriers that can crop up when companies undertake major change initiatives. (Exhibit 1)

## **Shared Services: Restructuring EHS Services**

To inject a competitive business perspective into environmental, health, and safety activities, many companies are adopting a shared-services approach. By determining which services are unique to specific businesses and which can be shared by all, this approach seeks to reduce redundant and inefficient distribution of services within an organization's lines of business. As companies rethink where specific EHS services are best placed in the organization, they are also asking these services to treat the lines of business as customers and, in some instances, to compete for internal work against external service providers.

## **Centralized Efficiency, Local Responsiveness.**

Some companies see the shared-services approach as a way to combine the consistency and efficiency of a centralized staff function with the local responsiveness and customer focus of business-centered service units. Monsanto, for example, has reengineered 13 staff functions, including EHS functions, by moving many of the resources in each function to a shared-services organization, Monsanto Business Services. Monsanto differentiated the service approach from traditional centralized corporate staff functions and signaled its commitment to serving the businesses in part by assigning top management throughout the company key roles in the shared-services organization. In the new approach, a minimally staffed corporate group provides stewardship, establishes corporate policy, and ensures commitment to shareholders, the board, and the CEO. Within each business, a minimal EHS staff provides services that are strategically critical and integral to business operations.

Mobil Oil's reshaping of its corporate services, including the EHS function, includes a small corporate center that focuses on value creation, governance, and oversight; embedded services at the field operating level, where these are unique to that business; and a large shared-services organization. Moving to the new approach, Mobil Oil is taking steps to prevent the development at the business level of „shadow organizations“ that needlessly duplicate capabilities. Mobil Oil is also working to retrain EHS technical professionals as market-oriented internal consultants.

## **Internal Services vs. Outsourced Providers.**

Sometimes the best placement for a service turns out to be outside the organization. Sun Microsystems, a leader in a young industry in which almost every component of every product is made by outside suppliers, rather than through a massive physical infrastructure and proprietary processes, has taken a trailblazing approach to the outsourcing of EHS services.

## Exhibit 1

### „Top 10“ Lessons from EHS Reengineering

- The most effective EHS reengineering solutions lead to both improved performance and reduced costs.
- EHS management is still a unique corporate function; therefore, reengineering solutions found generally useful elsewhere need to be carefully tailored to its particular circumstances.
- Business process redesign should focus on strengthening and streamlining priority EHS processes, letting the process improvements drive the needed resource levels and organization structure – not vice versa.
- The more effective redesign practitioners understand both the BPR process and the specifics of the EHS function.
- EHS redesign yielding „shared services“ solutions also needs to pay close attention to fostering decentralized delivery, customer focus, and a generally competitive outlook.
- Planning for implementation is an integral part of any successful EHS redesign.
- Appropriate performance measures that have meaning for business management must be built into EHS redesign at the earliest possible stage.
- Internal business customers should play a prominent role in conducting and overseeing any EHS reengineering activity.
- EHS processes should be chosen for redesign based on potential for improvement, stakeholder interest, and prospects for gaining implementation.
- Information technology can provide some helpful EHS redesign answers, but it is not, itself, the answer.

Rethinking its entire program focus and delivery mechanism, Sun Microsystems adopted a dual vision that distinguishes strategic from operational activities.

Applied to the company's Facilities Operations and Environmental, Health, and Safety organization, this approach resulted in the outsourcing of nonstrategic EHS activities, which amounted to about 60 percent of the total. Sun Microsystems works closely with one partner for its outsourced EHS services, establishing an annual budget and goals within a framework that provides week-to-week flexibility for staffing and hours. This kind of aggressive outsourcing fits well with the company's culture. It also allows the EHS function to react to changes in the business as quickly as the rest of the company. However, as the company's EHS Director Glenn Dirks cautioned, „This approach won't work if you don't have the core competence to understand environmental, health, and safety functions.“

**Competing for Internal Business.** As companies adopt shared-services organizations, EHS managers are learning how to sharpen their internal customers' awareness of the value of their services. Some companies are encouraging greater EHS awareness of customer needs by requiring internal services to compete directly with external experts. At Rhône-Poulenc, which is implementing the shared-services concept in its North American operations, the businesses are no longer obligated to use internal services after 1996. But those who exit these services must do so in stages over three years. Mobil Oil is following a similar path, giving its shared-services organization until 1999 to become established before freeing the businesses to contract services externally.

„The big issue now is customer delivery satisfaction,“ said Rhône-Poulenc's Tim Goodson, Business Director, North American HSE Services. With the opening of the internal market for shared-services, „we will have to demonstrate our value to the businesses and help them comprehend what they want, need, desire – as well as what we're able to deliver. And I believe focusing on what you offer to deliver is very important in that regard. Otherwise, you find yourself overextended and unable to deliver any service in a high-quality manner.“

El Paso Natural Gas has launched a new corporate initiative to ensure that costs of corporate services – including EHS, legal services, and human resources – are aligned with anticipated cyclical lows in revenues. The new approach is „business-unit driven,“ said Gregory Odegard, the Director of Environmental Affairs. „The business units are going to decide which, if any, of our services they need and how much they will pay for them. This is totally different from past practice, where we had a kind of policeman role.“

**Allocating Internal EHS Resources.** One of the benefits of the shared-services concept is its flexibility. A large shared-services organization can truly operate like a broad-based professional services firm, providing both expertise and the people to carry out those services for which the businesses contract. In companies whose vision for the shared-services organization is minimal and critical, the shared-services organization will likely concentrate on providing expertise to line EHS and management staff in the businesses.

One company that links a small center of shared EHS expertise with line staff is W.R. Grace & Co. The approach makes sense for Grace because the company's businesses and products – and EHS needs – are very diverse. Grace created its EHS service center in 1993, as the company was carrying out a transition from a highly diversified group of businesses to one focused on specialty chemicals. The new service center was transplanted from the company's existing chemicals group. Its customers are the product lines.

Grace's approach to EHS management works because, in the words of the company's Alden Pierce, former Vice President, Environment, Health, and Safety, the shared-services group „doesn't try to be all things to all people.“ Instead, it provides expertise that the majority of the product lines could not afford to have and use fully at the line level. Moreover, while the shared-services center operates as an internal consultancy, ownership of and prime responsibility for EHS issues stays, to the greatest extent possible, at the line-of-business level. „If manufacturing doesn't own EHS responsibility, it fails. That's our experience,“ said Pierce.

**The Role of Communications.** Shared-services are, in one sense, consulting organizations. To succeed, they need to consistently define and communicate the services they offer and their value. When companies allow businesses to buy services internally or externally, internal services will be competing with external contractors that have already honed their ability to define and present their capabilities in their marketplace. Without close attention to the definition of products, services, and added value, shared-service groups may lose business – and, ultimately, deprive companies of the benefits of in-house expertise and familiarity with customer needs.

### **Leveraging EHS Reengineering Through Information Technology**

At many companies, EHS information systems have long been seen as a link between the old world of isolated, redundant EHS specialists in corporate and business roles to a new world of simplified, transparent organizational structures that integrate EHS and other responsibilities. Information management systems and performance metrics that can harmonize the broad diversity of current EHS data will play a critical role in companies' efforts to measure and motivate performance and make the right decisions about EHS resources.

Dow Chemical is one company that has undertaken a global initiative to manage its investment and use of EHS information technology. „Information technology is critical to us for information management,“ said Greg Dickson, Manager, Environment, Health and Safety Reengineering of Dow Chemical. „Much of what we do is the delivery of information to our clients within Dow.“ To give his fellow colloquium participants a sense of the scale of the undertaking, Dickson reported that Dow Chemical is replacing the smorgasbord of varying hardware now in place with 26,000 IBM workstations. The allocation and assignment of information systems resources will be managed across the Environment, Health, and Safety Group worldwide, not on the basis of sites or regions. Finally, the initiative will ensure that information systems align with the company's critical business issues and work processes.

At Union Carbide, reengineering has produced a flatter organization, an empowered workforce, and decision-making at lower levels, involving fewer people in each decision. This approach places a premium on information systems that support reengineering by providing accurate and timely information to the right people, at the right time – when they need to make important decisions.

Information systems can provide that support best when common work processes are used throughout the company. At Union Carbide, the drive to establish first-class information systems has led to a critical review and optimization of every work process involved. Although you can obtain „good“ information from mediocre work processes, diversity in work processes is inefficient and increases costs. For that reason, the need for good information is one among several key drivers behind the migration to common work processes at Union Carbide. „With regard to EHS work processes,“ said the company's Gilberto Rivera, Director of Audits, Safety and Risk Management, „we are convinced that the 'marriage' of reengineering and information systems will provide significant competitive advantage in both the quality of the services provided and the cost of providing those services.“

New systems can succeed only if they organize information simply and powerfully. Environmental databases already exist at many companies. In the past, they've often become data dumping grounds rather than information and knowledge resources. Sun Microsystems used to have an electronic encyclopedia that lacked a structure that could be searched effectively. The company has now moved to a home page with an efficient architecture of linked hot buttons that enables users to burrow down to the level of detail they need. Dow's system will bring together all of the company's current EHS-related applications in a relational database that accommodates any type of reporting and format.

Approached in this way, EHS information technology can contribute to improving company-wide consistency in EHS practices and activities. In the words of Glenn Dirks of Sun Microsystems, „Consistency isn't necessarily the same as centralization – or control.“ Instead, shared information can be one of the most powerful tools for bringing about the alignment of corporate interests and the needs and objectives of line staff.

Companies should bear in mind, too, that the role of information systems and automation is to help redesigned processes perform at peak levels – not simply to add automation to inefficient work processes. Redesigning the process should be the first step. In Arthur D. Little’s experience, companies have achieved big gains in efficiency – sometimes exceeding 35 percent – before automating information-intensive EHS processes.

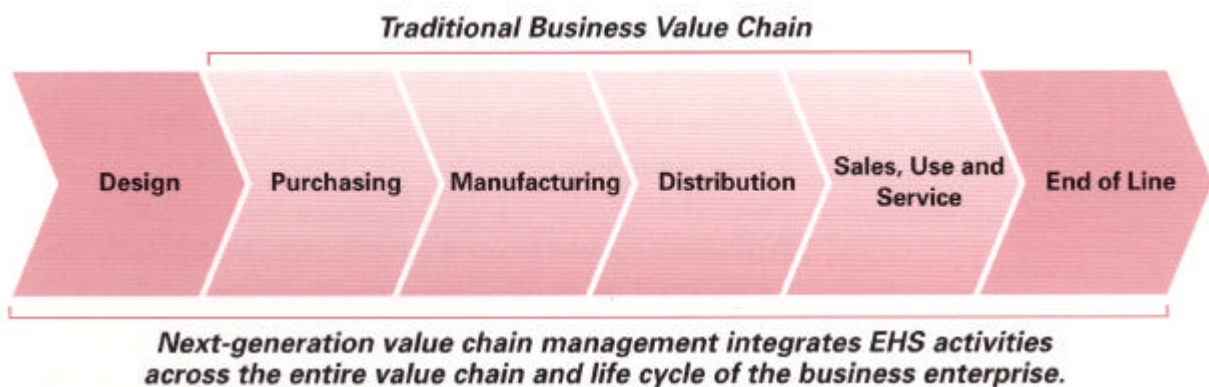
### Overcoming Barriers to Change

As companies reconfigure their EHS resources, EHS staffs are making the transition from command, control, and watchdog roles to new responsibilities as service providers and business-team colleagues. In the past, because of their isolation from business processes, EHS managers sometimes tried to make the case for their priorities by presenting issues that were not truly critical to business survival as if they were. Now they are learning to use risk-based, business-oriented tools to help demonstrate the added value of EHS services and products. They will need to become increasingly adept at defining the EHS activities that have strategic importance and should be integrated into business processes such as customer management, supply chain management, and product development. (Exhibit 2)

**Technical Tools that Lower Barriers.** At Ciba-Geigy, one tool that helps lower barriers between EHS technical experts and business managers is Limited Life-Cycle Analysis (LLCA), a quantitative technique for developing estimates of the environmental impact of any action that affects the environment. Using LLCA for site remediation decisions and in product analysis, Ciba-Geigy has found that while it „won’t necessarily lead you to different choices than your gut instinct, it helps you provide reasons to make those better decisions,“ said the company’s John Mincy, Vice President, Safety and Environmental Affairs.

### Exhibit 2

#### Value Chain Management



Moreover, technical methods such as LLCA help companies keep emotions out of decision-making and move forward on the basis of clearly defined options.

### Sustaining Change Through Measurement.

Olin Corporation’s reengineering of its remediation-management activities has been driven by a strong focus on measurement and a goal of better cost control. The company’s remediation-management approach creates communication links reaching from senior management to the plant level. A critical tool for communication is a measurement system that covers 15 areas in remediation management, including the cost of the total remediation process, direct cost versus agreed budget, unanticipated controllable events, and a list of major added-value results. The list, for example, enables Olin’s remediation-management team to report very measurable savings in remediation, such as a cost that was avoided or unexpectedly recovered. This kind of information helps reaffirm that, through reengineering, Olin’s remediation management has achieved tangible improvements.

**Building Network Teams.** Novacor Chemicals believes that strong networks based on teamwork are a critical component for achieving a flatter, more effective organization and breaking down traditional barriers. Under the umbrella of the Responsible Care® Council, Novacor’s senior-level EHS management team, the company has established EHS networks in eight areas: occupational safety, material flow safety, process safety, health, occupational hygiene, environment, risk, and product stewardship. Each contains centers of excellence that are intended to serve the entire company.

Novacor’s networks are formally structured; each has a mission statement, clear accountabilities, defined strategies, and performance metrics. Moreover, each network is led by a senior manager and has an executive-level champion who serves as mentor and breaker of barriers. Novacor sees individual staff members’

performance within each network as a key to the success of this approach, and factors that performance into staff performance appraisals and compensation. The approach provides the task-oriented flexibility of all networks but has the teeth to ensure that network responsibilities remain a priority.

### **The Path Ahead**

It is clear that companies are moving fast to give their EHS services a customer focus. But more remains to be done. The top internal marketing challenge will be to think of EHS activities not only as processes and sets of skills that can move to shared-services or the corporate level or be embedded in the businesses, but also as genuine products and services. That focus will be critical for EHS shared-services staffs as they compete against external providers with more marketing experience.

### **Exhibit 3**

#### **Next Steps for Environmental, Health, and Safety**

##### **Management**

###### **Short-term**

- Acquire and use quantifiable tools such as Limited Life Cycle Analysis
- Include EHS leadership in the company's senior management team
- Launch EHS process assessment and planning

###### **Mid-term**

- Encourage managers' short- and long-term behavior through in-process metrics that reward progress made, not current status
- Get businesses to be accountable and responsible
- Redesign EHS processes for more involvement by business staff

###### **Long-term**

- Run EHS function like a service business
- Train and educate EHS managers in business skills and the „language of business“
- Put EHS on the senior management career path
- Include EHS as MBA core competency

State-of-the-art information-management support will play an important role in helping EHS managers integrate their issues and activities with other items on the business agenda. More transparent information systems will also help EHS professionals transfer learning to the rest of the organization and provide added value from their services.

Tracking the results of EHS reengineering, companies may need to recognize that not all opportunities for adding value are strategic in nature or dramatic in scope. Much of the work will be at the level of process improvement, where the business argument will be about meeting customer expectations in smarter, more cost-effective ways, and progress may often be incremental.

The ultimate goal? The EHS function will be like any other business activity and will operate along similar lines. Companies will know they have succeeded in integrating EHS activities when business people automatically include EHS considerations in their decisions. Just as important, managers throughout companies – whether their prime responsibilities are for EHS activities or other matters – will share tools, language, and perspectives on value that enable them to work together to improve and sustain EHS performance.

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