Right-Sizing Organizations for Quality

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OVERVIEW

Adequate staff resources are essential for achieving quality environmental, health, and safety (EHS) programs. The technical challenges, internal coordination difficulties, public relations problems, and so on are rarely insurmountable—if you have sufficient fiscal and human resources. Without a minimum critical mass of resources you can become consumed with day-to-day firefighting and never make progress. In the worst case scenario, an issue can erupt into crisis, putting the company at risk and your reputation and career on the line.

Conservative risk managers, wanting to be on the "safe side," would argue for substantial resource commitments. However, the demand for rising profits, one of the primary drivers in a competitive marketplace, argues for limiting resources to the "bare bones." How does the strategically thinking EHS manager determine the optimal EHS resource level? What is the most efficient EHS organizational structure? How can this resource level and organization be justified to senior management?

This is the second in a series of three articles. Part 1 provided guidance on how to determine the appropriate staffing and resource needs. This article, Part 2, discusses how to organize these resources for increased efficiency. Part 3 will supply suggestions on how to make a convincing business case to management to implement the proposed course of action.

The authors are senior-level EHS practitioners who have worked with executive management to successfully reorganize the EHS departments of several large multinational corporations. The methods discussed are similar to those employed by other functional disciplines to define and obtain resources. Written in the context of a corporate EHS group, these techniques can be modified and adapted to any functional level within a broad range of organizations. Whether you are an individual contributor or a manager, these articles can help define the resource issues that all organizations eventually face.

PART 2: OPTIMIZING THE ORGANIZATION'S STRUCTURE

In Part 1 of this series (see May *EM*), we discussed how to (1) synchronize the strategic direction of EHS activities with the company's business objectives; (2) evaluate current resource utilization in keeping with these objectives; (3) develop a resources map to guide future activities; and (4) begin addressing EHS staff issues. In this article, we examine how the EHS organizational structure can be optimized.

Organizational structure is almost always a reflection of a company's culture. Some companies prefer decentralized structures, others prefer centralized staffs, and so on. For the most part, an EHS organization must fit within this management philosophy, unless there is an overwhelming reason to do otherwise. While you may think you have limited degrees of freedom in selecting an organizational structure, there are a number of options that might fit within any existing structure.

Over the past decade, there has been a growing trend to reduce the cost of "commodity" or "specialized" services by consolidating these staff support functions into internal "shared service" groups or by outsourcing these activities to consultants. This movement toward consolidation and outsourcing applies to all staff support functions, not just EHS. We will examine this trend in detail.

ORGANIZATIONS IN TRANSITION

Most corporations today have recently undergone, are undergoing, or are about to undergo major transformations in their organizations, product lines, or both. The nature of corporations today is increasingly fluid, affected by a wide range of information technology, financial trends, and "mega-mergers." Taken collectively, business events suggest that the rate of change will only continue to increase in the years ahead. Internal staff organizations are being challenged to be "self-supporting," many for the first time. In a growing number of companies, support organizations such as information systems, accounts payable, and payroll are being outsourced or consolidated into "shared service" departments. Internal customers are serviced through "call centers" using the latest information systems and technologies.

During the 1980s and early 1990s, as U.S. regulatory burdens dramatically increased, EHS organizations were, for the most part, left alone or even expanded by executive management as other departments were cut back and reorganized. Not so anymore—everything is being challenged. These periods of major transformation can be either viewed with apprehension or welcomed as opportunities to rethink how EHS programs are staffed and managed. We encourage EHS managers to view this unstoppable change as opportunity, but to do so will require many managers to respond quickly to these trends.

Current EHS Organizational Trends

In a recent EHS organization survey by Competitive Environment, Inc., every company interviewed had a slightly different approach to organization and staffing.[1] Most EHS managers have benchmarked for best practices on programs such as management systems, pollution prevention, accident prevention, risk management, and so on. There are recognized standards of best practice for many programs. However, how EHS managers *organize* and *staff* to carry out these benchmarked (and, therefore, similar) programs is dependent on the company's overall philosophy for its staff functions, its history, and its management's objectives for EHS.

There are no universally recognized best practices for organizational structure.

All of the organizations surveyed use an approach tailored to meet their needs. That said, there are several *emerging trends* that appear to be currently shaping EHS organizations. The survey identified eight:

1. "Right-sizing" EHS organizations to the minimum practical size, based on company culture and management objectives.
2. Outsourcing commodity-type activities such as laboratory analysis, permit writing, regulatory tracking, compliance training, etc.
3. Outsourcing highly specialized, non-core expertise such as toxicology, dispersion analysis, etc.
4. Consolidating, to the greatest extent possible, internal resources and functions for maximum utilization, economies of scale, and productivity.
5. Integrating/delegating EHS responsibilities as far down into the line organization as practical.
6. Tracking EHS performance in a manner similar to product quality programs for continual improvement (i.e., violations, waste, and accidents are "defects" and the defect rate must decrease to meet management goals).
7. Improving efficiencies through information technologies and compatible, inter-linked databases and communication systems (e.g., intranet, e-mail).
8. Ensuring adequate professional oversight/governance at the corporate and business group levels to prevent EHS issues from becoming material (i.e., significant financially) or public image problems.

We will examine some of the specific issues that EHS managers should consider when maximizing resource efficiency. The recommended generic approach is consistent with current trends. However, it is not a process that can be followed in a cookbook manner; the final selection will be a blend of elements unique to your company's objectives and culture.

CLARIFYING ROLES AND RESPONSIBILITIES

The resource question takes more than preparing a list of people in the company who work on these issues. It is critically important to determine how the environmental resources for the entire company fit together cohesively and not just focus on your department. This broader perspective is important for three reasons:

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First, executive management considers the *entire* company's resource allocation. If there is confusion over environmental roles and responsibilities, there may be assumptions on their part as to how many resources can be brought to bear on a problem. While their attention may be on a specific issue you are presenting, these executives are keenly aware and justifiably right in feeling that there may be significant resources already available elsewhere in the company. You and your management will need to know what resources can realistically be brought to bear on *specific* problems or programs.

Second, executive management may suspect that the EHS process itself may not be as efficient or as productive as it should be. This problem could be compounded in the minds of some senior executives because they may have little understanding of the day-to-day technical requirements of EHS activities. Their frustration with their inability to judge resource requirements may express itself as rejection of your proposal followed by a request to make it more efficient. Clearly, the EHS manager must demonstrate at the onset that the organizational proposal represents an aggressively efficient approach to achieve the vision and the goals established by the business leaders. It will be important to demonstrate that existing resources are being effectively utilized through some systematic technique, such as the one presented in Part 1 of this series.

Third, if roles and responsibilities are not clearly delineated, there may be an inordinate amount of resources spent on turf issues and finger pointing rather than on productive, value-added accomplishments. Effective resource utilization is also a crucial competitive issue. Successful executive managers demand the maximum from the resources dedicated to all aspects of the company, including EHS issues.

General Philosophy

Most people agree that line management must have overall responsibility for EHS program implementation. Instead, turf arguments are usually over the dividing lines between the roles and responsibilities of facility, group, and corporate staff. People struggle over questions such as "Who selects and designs the programs and practices?" and "What metrics and reporting standards will be used?" The viewpoints and attitudes can vary from "It's our facility, we'll take care of it, go away," to "We're corporate, do exactly what we say." These discussions can take place in centralized *and* decentralized corporations.

What department is responsible for what activities? is the underlying question that will determine how resources are distributed. This is a sensitive subject and will be covered in greater detail later in this article. The issue of roles and responsibilities should be addressed before proceeding with a business case to add, reduce, or reorganize resources.

From the authors' experience inside industry, the issue may take time to completely resolve because control, resource allocation, and authority are as much company policy and culture issues as anything else. It is also potentially one of the most contentious issues that will have to be dealt with sooner or later. The approaches and options should be laid out on the table for all to see and discuss. Indeed, roles and responsibilities may be an integral part of the business case recommendation.

What may initially be viewed as a resource *level* problem is in fact more of a resource distribution problem.

Transparency in this process is recommended, since many times what may initially be viewed as a resource *level* problem is in fact more of a resource *distribution* problem. We will return to this issue later in this article when we examine resource placement.

ORGANIZATION SPECTRUM

There are four general types of structures that a company's EHS organization might consider:

1. centralized (also called "hosted service");
2. decentralized;
3. "pure" shared service (as defined in sidebar, p. 24); and
4. hybrid (including matrixed).

Each structure has its own advantages and disadvantages. The decision depends on where management wants to operate on the organizational "spectrum," as illustrated in Figure 1.

If properly staffed and managed, all of these structures are capable of delivering quality EHS services and programs. Centralized (hosted service) organizations provide the most corporate governance and uniformity. They also offer economies of scale. Decentralized organizations prove point accountability and local autonomy. A shared service organization offers the potential for economies of scale, cost reduction, and quality. Based on the results of the company survey completed by Competitive Environment, the "pure" shared service organizational structure is the most challenging to successfully establish, but, once accomplished, can yield the greatest rewards. For this reason, shared service will be covered in greater detail later in this article.

A hybrid organization (i.e., any combination of shared, hosted, and decentralized services) may offer many of the desirable characteristics of all of the structures depicted in Figure 1, depending on how it is organized. This may be why a number of companies surveyed selected this option.

A more involved but potentially highly effective hybrid organizational structure is a matrix. Matrix organizations utilize a "dual" reporting structure that can maximize resources but can also cause organizational issues if not implemented and understood properly. Employees do not like having multiple bosses and mixed signals over priorities. This confusion may lead to problems with conflicts over control and authority. Dotted lines are never as satisfactory as solid ones. *What really counts is who prepares the performance reviews and who has control over salary and advancement.* That said, service companies have been using matrix organizations for years, since staff costs usually account for 60–80% of normal operating costs and this structure minimizes staff/management needs.

For a matrix organization to function properly, each staff member must know his or her primary reporting path (i.e., solid line) and his or her secondary reporting path (i.e., dotted line). The responsibilities of the leader for each path must be spelled out so that conflicts are avoided or resolved quickly. In addition, the paths should be as dissimilar as possible to avoid overlap (e.g., many EHS organizations tend to create solid line "administrative" reporting to line managers and dotted line "technical discipline" reporting to EHS leadership).

Selecting the Best Structure

While organizational analyses can get quite complicated, the final selection may pivot around a few basic go/no-go questions. Table 1 contains a list of 10 first-tier questions for evaluating a proposed reorganization. These questions relate to (1) the organizational fit with the company culture, processes, and systems; (2) management's preferences; and (3) the likelihood of achieving specified objectives. The structure will depend, of course, on the overall vision of the organization and a host of other factors unique to every company.

Resource Choices

In addition to determining the total resources required, you need to consider the optimum characteristics of these resources. For example, the resources to get the job done may include: (1) existing staff, (2) staff additions, (3) matrixed resources, (4) shared services, (5) temporary employees, (6) part-time employees, (7) external consultants, (8) contract employees, and (9) non-EHS employees

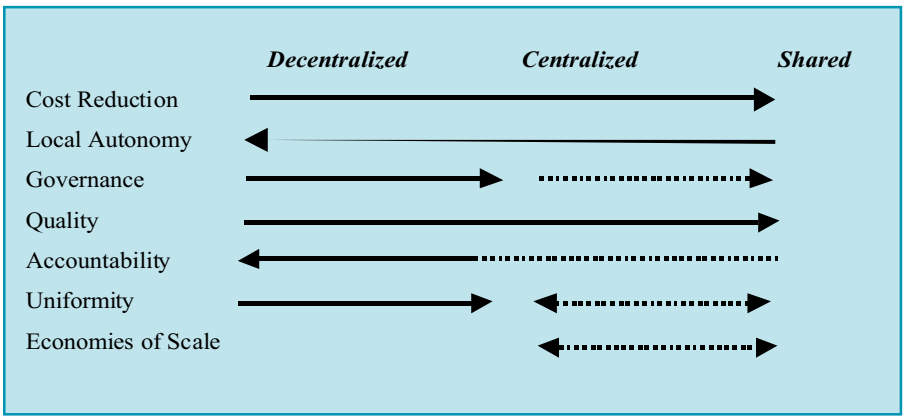

Figure 1. Organizational spectrum.

Table 1. Organizational options—10 pivotal questions on EHS reorganizations.

1.	Will the company be able to achieve *targeted* cost savings based on economies of scale or other techniques?
2.	Will the proposed organization ensure *maximum* cost savings?
3.	If staff resources are cut, can program quality still meet the required level?
4.	Will executive management accept a "status quo" option?
5.	Will the current company culture support the proposed structure?
6.	Will a strongly centralized structure provide sufficient local autonomy and accountability?
7.	Will a strongly decentralized structure provide sufficient corporate oversight and due diligence?
8.	Will the current company culture support an EHS shared services organization?
9.	Will executive management support or relentlessly drive (especially in the case of a shared service organization) the proposed changes from the top?
10.	Have the desirable elements of the several alternative structures been combined into an effective organization tailored to the company's needs?

(i.e., responsibility integrated into non-environmental functions).

These staffing options are, of course, heavily influenced by company culture. Adding full-time employees is probably the most difficult to gain management approval and is often the option of first choice by EHS managers. But it may not be the optimum choice.

Again, the underlying theme is to consider resources from the perspective of the entire company and total possible options. If your focus is too narrow, management may reject your request for additional resources as being unrealistic and ask that you consider other means to achieve the goals.

Shared Service—Current Practice

Cost and "head count" cutting (i.e., efforts to raise productivity) inspired the move toward shared service as an organizational concept. The current movement toward EHS shared service has been energized by favorable experiences with financial, information systems, and human resource organizations. Uniform and repetitive transaction/processing activities, such as accounts payable and payroll, readily lend themselves to the shared service concept. But the requirement to issue payroll checks, for example, has far different long-term implications to the company than does the requirement to maintain compliance or the company's image as a responsible corporate citizen.

EHS shared service organizations are relatively new; all of those recently surveyed were established within the past four years. Results have been mixed, and only four of the companies surveyed have gone to and stayed with shared services for most of their EHS staff activities. A more traditional EHS organizational structure is "hosted service," which is sometimes confused with shared service. A hosted service group also consolidates resources into a central structure, but with one major difference: *the costs for shared services are taken out of an overhead budget and are not directly charged back to customers* (see definition in sidebar, this page). This single factor—cost allocation—more than any other distinguishes shared services from all other organizational structures.

Nearly all of the companies surveyed employ one or more consolidated groups within the corporate organization or the business groups. Most employ a hybrid of organization elements. All, including the four companies using predominantly a shared service structure, have mechanisms built in to provide strong local direction and control over EHS program implementation.

Moving toward Shared Service—the Challenges

Why has it been so difficult to implement EHS shared service compared to other organizational structures? Why have some companies modified their approach after moving toward shared service? Two explanations dominate:

1. Unless the cost allocation methodology is viewed as fair and the quality is delivered at a competitive price, the customers of these services may resist using internal resources taken from a central group.
2. If the business groups and organizational layers retain boundaries, it is difficult for a central group to be accepted and trusted. "Who do they really work for? Them or us?" Management control and individual roles become major issues.

In some respects the two are related. A unified company approach leads to economies of scale—the main motivation for the move toward shared service in the first place. A "boundary-less" organization also serves as the basis of trust that allows all stakeholders to negotiate optimum approaches for the company, including fairness in the cost allocation systems. Internal resources that are all part of the same team command a premium: quality and long-term value, not the lowest price, dominate the selection criteria.

Cost allocation is at the heart of most of the implementation difficulties *and* the potential long-term benefits of shared service organizations.

Many of the problems encountered with the move toward EHS shared service result from these tensions between the role of providing corporate governance, quality, and EHS leadership and the corporation's need to cut costs to stay competitive. Direct cost allocation to the customers makes internal overhead costs transparent (sometimes for the first time) and creates intense pressures on the EHS staff

Shared Service Definition

There is really no single structure that characterizes an EHS shared service organization. Instead, a shared service organization generally:

1. consolidates resources among a number of production sites, regions, or business groups;
2. charges customers for services on a per unit or allocated basis;
3. resides in a stand-alone organization that hosts other shared services such as accounting or human resources;
4. includes highly specialized experts who could not be otherwise justified internally in any single business group, division, or site;
5. employs standardized methodologies or programs to exploit economies of scale; and/or
6. offers services that may also be offered for sale outside the company.

to maintain quality, customer service, and price competitiveness. EHS staffs that have never had to compete or "sell their services" worry that the business will outsource to the lowest unit price, without concern for the long-term consequences. Cost allocation is, however, the *strongest* mechanism available to management to force an internal EHS organization to be cost-effective and provide high-quality services.

Some companies have responded to these competing pressures by moving in the direction of consolidating EHS services and increasing the use of outside contractors, *while simultaneously strengthening the traditional aspects of EHS oversight and control by corporate headquarters and the business groups*. This has led to EHS organizations that have a number of mechanisms to clarify roles, meet customer expectations, and still provide independent oversight. Oversight is crucial, since EHS services generally have long-term benefits that may not be adequately considered unless the net present value of these benefits is determined.

Characteristics for Shared Service Success

The challenge to forming a successful shared service group is significant and *should not be underestimated*. It is relatively easy to reorganize, but the companies surveyed illustrate that it can be very difficult to make a new organization work successfully. Although there is no single structure that constitutes a "best practice," the following dozen characteristics are important in the development of successful EHS shared service organizations:

1. Company culture supporting a unified approach across organizational boundaries.
2. Executive backing with sufficient clout and interest to deal with individuals/organizations who do not support the organization.
3. Highly competent staff, respected among all customers.
4. Point accountability within the sites, divisions, and business groups; management knows who is responsible and accountable for performance.
5. Robust cost allocation system that is viewed as fair by both the customers and the service group.
6. Comprehensive method for monitoring and evaluating performance against pre-established goals with corrective action where needed.
7. Competitive internal costs, but without excessive focus on unit cost and external "bargain shopping."
8. Responsiveness and attention to customer needs.
9. Uniform financial accounting, information systems, and communications systems (e.g., e-mail, intranet, and data transfer systems).
10. Robust shared service agreements to budget, plan, and clarify customer requirements, performance objectives, and expectations.
11. Attention to details in structuring the organization (e.g., considering the impact of part-time, "non-EHS employees" within operations with EHS responsibilities).
12. Programs to maintain morale among shared service employees; they are not considered contract employees or "second-class citizens."

The first three characteristics—culture, management backing, and competency—will make or break a shared service organization. A company moving toward shared services should consider

1. addressing company culture concerns directly and early in the process;
2. securing broad executive support to push through the changes required; and

3. selecting staff and services that will bring credibility and value to the organization.

These three considerations are the toughest, since they involve decisions impacting people's careers. As one EHS manager stated, "The reorganization not only cut the poor performers, it eliminated some very competent people."

In- / Outsource Determination

There is a growing trend to outsource certain programs, especially environmental tasks such as permit writing and waste tracking. Some companies have gone so far as to outsource nearly all of their EHS staff services, albeit with widely mixed results. Other companies have maintained internal staffs and have outsourced entire programs, such as industrial hygiene monitoring and site remediation.

One argument for outsourcing is that the quality of some outsourced assignments may be superior to those done with internal staff. Outsourced resources are *paid* for quality, can be fired at any time, and can be less influenced by company politics. In a sense, companies place trust in consultants because the terms can be spelled out in contracts. A good contract should clearly define roles, responsibilities, requirements, etc. Risk and liability can be shared in a way that makes it advantageous for both parties to proceed. The bottom line is to not cut off options prematurely. The analysis should be objective in determining the extent to which outsourcing works for a particular function.

While the trend appears toward outsourcing of some services, a minimum critical mass should exist to control the quality and the price-to-value ratio of outsourced contractors. If taken to an extreme, the company places complete trust in the outside consultant—something companies should rarely consider if core business issues, substantial risk, or liability are involved. This point was also driven home in a recent journal article, "You Know Your Environmental Contractor Is Out of Control When…" by David Hippensteel.[2] Although the context was in reference to remediation contractors, the concepts have universal applicability.

In any event, there certainly is no movement toward outsourcing *all* EHS functions. The challenge is to find the right combination that works best in meeting the objectives of the company. As a rule, you need to have sufficient permanent internal staff to

- strategically manage environmental performance;
- provide due diligence;
- obtain maximum performance from external contract resources;
- identify and take full competitive advantage of opportunities; and
- cost-effectively support ongoing efforts.

At a minimum, a company should require a single point of contact with the consulting firm. This person should be held directly accountable for overall performance and should ensure that continuity will be maintained with the individuals assigned to the project. Remember, you may be contracting with a large "brand name" consulting firm, but ultimately, success depends on the competency of the *individuals* doing the work.

Using outside contractors to staff and run most internal programs may be a viable approach if

- the workload is very cyclical or beyond internal capacity;
- specialists are required who cannot be justified on a full-time basis or are not available in the region;
- the projects are one-time events, not expected to be ongoing programs;
- core business issues are not at stake;
- it is a highly competitive market (i.e., discount prices are available);
- there are sufficient resources within the company to ensure oversight, quality, and cost effectiveness of outside contractors;
- third-party certification/credibility is required;
- geographic constraints are significant;
- security or proprietary considerations are not an issue;
- independent analysis is required to provide an unbiased perspective;
- there are compressed, aggressive project deadlines; and
- consistency is required across several business groups, especially in database construction, management, and future analysis.

Placement of Resources

Until now we have been discussing *total* resources and overall structures. Another issue is the effective placement of the resources. Where should the work actually be done? Who should be involved? Who should control it? These questions are closely related to the previous discussion on roles and responsibilities. Not surprisingly, it may be every bit as contentious an issue.

EHS resources are typically located in (1) manufacturing sites, (2) business groups, and (3) corporate, and in service groups that are (4) corporate-based shared services, (5) business group shared services, and/or (6) outsourced service groups (i.e., consultants). Companies also frequently choose hybrid combinations (e.g., a resource physically located at a site, most of the work done at the site, paid for by the site, but acting occasionally in a shared service capacity for corporate or other organizations). Thus, resources may be physically located in one area, but have solid or dotted line relationships to other organizations.

How centralized or decentralized the company wishes to be will, of course, have a major influence on where the resources are located. Even in highly centralized organizations, there may be good reasons to disperse many of the resources. Figure 2 illustrates the

gradual spectrum that should be considered when determining where and how EHS activities might be managed.

In a perfect world, it does not matter so much where the activities are located, but how efficiently they can do their job in a way that is best for the *company*. Additionally, a staff technical person may have a "one-company attitude," but this is not sufficient; the management must also share these beliefs or the employee may get caught in the middle. Needless to say, there are few perfect worlds. As contentious as these issues may be, they must be resolved or precious resources will be spent on internal struggles over resources and their control.

How these people report up through the organization can vary significantly. EHS resources may be located in departments that report up through line management, legal, human resources, engineering, finance, and so on. A central or shared service group could similarly report up through one of these organizations or a separate overall staff service group for the company. In general, the more closely related the EHS activity is to the day-to-day operations of a manufacturing site, the more likely the resources that support this activity will be located at and report up through site line management.

A Place at "the Table"

There is no single, overriding best practice; company culture usually dictates the placement of EHS staff resources and their reporting lines. In the next section, we provide some general guidance based on the experiences of a number of companies. What is, however, absolutely critical is the *access* EHS leadership has to executive management and the decision processes that shape and control the company. By way of analogy, in a large company, hundreds of people may be involved with the various accounting functions, and they may be located in the finance department or a shared service organization, or they may be outsourced. They may be centrally located or at individual sites. What provides the finance function its influence within a company is the position held by the chief financial officer (CFO), his or her recognized strategic value to the company, and access to essential decision-making processes. They have a "place at the table" (and usually occupy the office next to the CEO!)

Probably one of the primary indicators of EHS influence within a company is the level of involvement EHS managers have in the decision-making process. Providing EHS information at critical decision points can avoid issues and strategically position the company for future competitive advantage. The authors of this series of articles have been able to accomplish more by their access to executive management and key processes than by an abundance of staff resources.

If a job mapping exercise indicates too much energy is expended correcting programs that were allowed to get out of control in the first place, the answer may not be more resources, but a few key resources better positioned within the company. Executive management may be more receptive to this approach when considering staff and organizational changes. We will return to this important subject in Part 3 of this series.

Getting Down to Specifics

Regardless of the overall organizational structure, there are some specific activities that are best controlled at a plant, group, or corporate level. Furthermore, there are some activities that outside consultants might provide input to, but should not be responsible for managing (e.g., budgeting). Table 2 (pp. 30–31) provides suggestions on where EHS activities might be effectively managed, based on the previous section's general recommendations and the authors' experience. In reality, these decisions can be quite complex. For example, this table includes only the major EHS activities

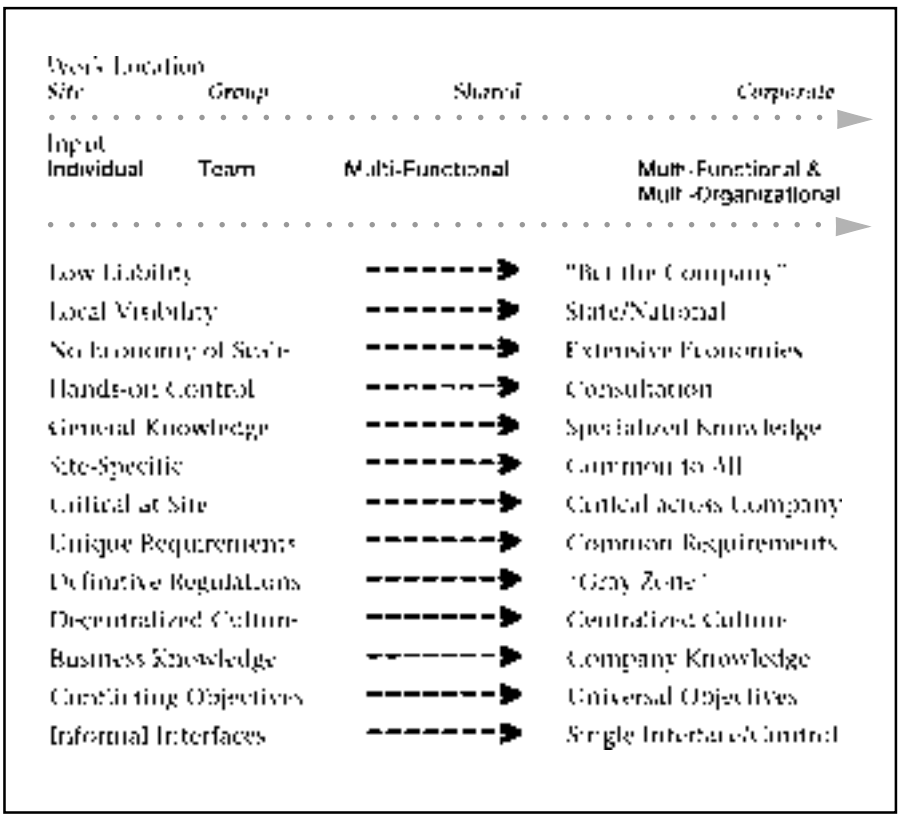

Figure 2. Resource location and decision input.

and the major organizational choices. Other organizations (e.g., legal, public relations) may not only provide input, but also lead the activities and supply most of the resources. For these reasons, Table 2 is only meant as a starting point or a tool to initiate discussion over current practice.

Large business groups or corporate organizations in decentralized companies typically have only enough resources to provide strategic resource needs. Table 3 (p. 32) contains an example of how these staff functions might be structured for a large (>$1 billion in total revenues) manufacturing organization. This table is just an illustration; there are so many variables to consider that it is not practical to cover them in this article. What can be gleaned from Table 3 is that corporate staffs do not have to be very large in decentralized corporations, *if* an adequate budget is available for contract support and *if*

- the EHS leader has access to executive management;
- technically competent and experienced individuals are identified to manage the essential functions (i.e., point accountability);
- several related functions can be managed by one individual (e.g., issue management and projects);
- peak workloads can be shared among the corporate staff; and
- resources can be shared across the entire company, at least to some minimum, agreed-upon level (e.g., corporate can draw from the businesses and vice versa).

TEAM STRATEGIES

Teams are increasingly being used to increase efficiency, regardless of the organizational structure. Teams are particularly effective in two areas: auditing and knowledge networking (sometimes called "centers of excellence"). We shall examine ways to maximize their effectiveness.

Auditing

Auditing typically consumes a significant portion of staff resources at the corporate, group, and site levels. How companies audit varies, but the general trend is to utilize

- corporate audits focusing on management systems rather than compliance;
- site-led compliance audits;
- coordinated, comprehensive audits (e.g., multimedia, multifunctional);
- audit schedules based on the risk profile of the site; and
- teams drawing resources across the company and with support from outside consultants.

Table 2. Organization matrix. **Key:** P = primary responsibilty; S = support role; y/n = yes/no, it may/may not be possible to be outsourced.

Activity	Responsibility: Site	Group	Corp	Corp Service	Group Service	Out-source	Comments
Strategic Management							
1. Direction for company			P			N	
2. Direction for the business group(s)		P				N	
3. Environmental policy			P			N	
4. EHS planning		P	P	S		N	
5. Planning cost-effective compliance	P				P		
6. Business planning support/Integration		P	P			N	
7. Benchmarking				S	S	Y	
8. Minimum performance standards		P	P			N	
9. Development of environmental goals	P	P	P			N	
10. Best management practice development				P	P	Y	
11. Negotiate and prepare contracts with vendors, consultants, etc.	P	P	P			N	
12. Management systems assessments		P	P			Y	
Risk Management							
13. Company-wide issues management (e.g., global climate change)			P	S		N	Consider using trade associations
14. Business-wide issues management		P			S	N	Consider using trade associations
15. Identification and evaluation of emerging environmental issues				P	P	Y	
16. Risk assessments - process	S			S	P	Y	
17. Risk assessments - safety	S			S	P	Y	
18. Risk assessments - product				S	P	Y	
19. Risk assessments - environmental	S			S	P	Y	
20. Product life cycle design				P	P	Y	
21. Remediation of orphan sites				P		Y	
22. Hazardous waste disposal firm selection	S			P	P	Y	Establish qualified vendor list
23. Hazardous waste disposal firm monitoring	S			P	P	Y	
Information Management							
24. Incident and near-miss tracking and analysis	S			P	P	Y	
25. Long-range budget analysis, expenditure tracking, and forecasting	S	P	P			N	
26. Forecasting	S			P	S	N	It may be possible to outsource certain types of "forecasting," such as scenario evaluation
27. Coordination of computer systems development (Information Management Systems)				P		Y	Company-wide consistency essential
28. Performance tracking	S	P	P	S	S	Y	
Image Management							
29. Internal communications	S			P	P	Y	Such "mechanics" as writing/editing can be outsourced, but not the content
30. Partnerships with agencies/organizations	S	P	P			N	Seek assistance from trade associations
31. Anticipatory Issues Management	S	P	P	S	S	Y	
32. Interface with trade associations		P	P			N	Depends on the type
33. Annual environmental report	S	S	S	P	S	Y	Also EHS liability section of financial reports. These are usually done in-house.
34. Interface with state or federal technical or regulatory committees	P	P	P			N	Depending on the circumstances, all levels could be involved
35. Interface with national or state environmental activist organizations	P	P	P			N	Depending on the circumstances, all levels could be involved
Counseling/Advocacy							
36. Provide legal advice on laws and regulations, options, case law, risks				P	S	Y	
37. Potential liability claims			P	S		N	Specialized outside counsel or EHS technical experts could be brought in, but the function should be managed internally
38. Legal investigation (under attorney-client privilege)				P		Y	
39. Represent company in legal proceedings				P		Y	
40. Contracting for outside legal services				P		N	This must be managed internally
Compliance Programs							
41. On-site running of some EHS programs such as sampling, monitoring, procedures, routine reporting, etc.	P					Y	The degree of outsourcing depends on site-specific issues
42. Organization & management of equipment and systems	P					Y	
43. Recordkeeping	P			S	S	Y	
44. Waste tracking	P					Y	
45. Management of significant compliance issues (non-routine)				P	P	N	
46. Day-to-day compliance and support for routine issues	P					Y	
47. Site-specific procedures	P					N	Some of these may be outsourced

Table 2. Continued

Activity	Responsibility: Site	Group	Corp	Corp Service	Group Service	Out-source	Comments
48. Environmental laboratory analysis for ongoing processes (e.g., waste/water analysis)	P	S				Y	Establish a list
49. Monitor and raise compliance issues with management	P	P	P			N	
50. Emergency response	P					Y	
51. Agency notification	P					N	
52. Notify law department of potential liability issues	P	P	P			N	
Legislation/Regulations							
53. Preparation of value-added regulatory guidance				P	P	Y	
54. State legislation and regulation tracking, trend analysis, and technical interpretation				P	P	Y	
55. Lobbying (legislative)		S	P	S		Y	Consider using trade associations
56. Influencing new or changing existing regulations		P	P	S	S	Y	Consider using trade associations
57. Consolidation of data to support lobbying activities				P	P	Y	
58. Technical assistance on environmental externalities				P		Y	
59. Tracking of local ordinances and regulations	P				S	Y	
Environmental Consultation							
60. Technology transfer of emerging pollution prevention and control technologies				P	P	Y	
61. Specialized expertise				P	P	Y	
62. Day-to-day regulatory and technical advice on non-routine issues					P	Y	
63. Permit applications	S				P	Y	Highly dependent on the nature of the permit and its complexity
64. Liaisons with agencies (EPA, etc.)	P			S	S	N	
65. Technical support on property transfers				P	S	Y	Do not outsource the management of this issue
66. Required reports, notification, submittal	P			P	P	Y	
67. Air emissions/wastewater/hazardous waste/solid waste calculations	P				P	Y	
Training							
68. Development of packaged training modules				P	P	Y	
69. Train the trainer programs				P		Y	
70. Specialized skill training				P		Y	
71. Management awareness	S		P		P	N	
72. Implementation of awareness and training programs for facility staff	S			P	P	Y	
73. Information library	S			P	P	Y	
Audits/Inspections							
74. Internal audits, routine, both safety and environmental	P			S	S	Y	
75. Audits, due diligence		S		P	S	Y	Outside resources may support this effort but should not *manage* it
76. Corrective action plan for audit findings	P			S	S	N	
77. Regulatory agency compliance inspections	P				S	N	
78. Independent environmental audits				P	S	Y	
79. Agency contacts	P			S	S	N	
Health Programs							
80. Industrial Hygiene program development				P	P	Y	
81. Industrial hygiene monitoring	P			S	S	Y	
82. Material Safety Data Sheet (MSDS) records	P				S	Y	
83. Ergonomics				P	P	Y	
84. IH Laboratory						Y	Most outsource
85. Personnel tracking, medical, exposure, and training records	P				S	Y	This may fall into the HR department, but it has growing significance in an aging workforce
86. Medical monitoring	P			S	S	Y	
87. Epidemiological studies				P		Y	Strong internal control should be maintained over these studies

General notes:

1. This table is useful as an initial, general list of key activities and a framework to discuss responsibilities. *There are exceptions and extenuating circumstances for each of the activities listed!*
2. More than one EHS organization may be listed as having "primary responsibility" (P) for some activities. In general, these are activities that require some degree of management and control at each organizational level (e.g., development of department goals, budgeting). The "S" refers to an organization with secondary responsibility.
3. Only the major EHS organizational levels and staff support groups are included. In actuality *all* of the groups may provide some level of support on many of the activities listed. Additionally, there may be support from a number of areas not even listed, such as legal, information systems, public relations, and human resources.
4. The "corporate service" and "group service" departments in this table could be either shared or hosted service organizations. If separate service departments do not exist at these levels, the responsibilities identified for these organizations might go with the primary EHS group at that level or the next higher level.
5. Consultants can provide some level of support to all of the 87 activities listed. The "no" designation refers to assigning primary responsibility for the activity with external consultants.

Table 3. Example corporate organization.

Staff Member Responsibility	Description	Staff	Peak Load
1. Department Manager	• Overall management of function • Strategic direction, policy, and leadership • Executive management communications • Major issue intervention, including due diligence issues	1	2,3,5,6,7,9,11
2. Acquisition and Divestiture	• Major business transaction due diligence	1	3,5
3. Audits	• Audit system development • Due diligence reviews • Major capital project due diligence	1+	2
4. Information Tracking and Analysis	• Information systems development • Voluntary and government-mandated reports • Metrics, environmental accounting	1	
5. Remediation	• Technical support • Major remediation due diligence • Orphan site management (i.e., no current business responsible)	1+	2
6. Major Issue Management	• Global warming • Land restoration	1+	7
7. Projects	• Development of common tools and guidelines for the business groups • Benchmarking and risk management • Management systems, ISO 14000	1	6
8. Legal Issues	• Legislative and regulatory interpretation • Preparation of leg/reg comments • Lawsuits, compliance orders, other legal issues	1	1,6,9
9. External Relations	• Media relations • Government relations • Annual environmental report • Preparation of leg/reg comments	1	1,6
10. Scientific/Technical Programs	• Ecological and toxicological evaluations • Defensive/proactive scientific studies • May also include highly specialized technical support to manufacturing sites	1+	6,7
11. Training	• Culture change, integration of environmental responsibilities into line organization • Training program development	1	

General notes:

1. Applicability - The table does not include Industrial Safety, Product Safety, Process Safety, Toxicology, or Industrial Hygiene. Because of their overlap into some environmental issues, they are often included in an integrated EHS department. The table also excludes clerical and administrative support. No highly specialized technical support services are specified, such as hydrogeological and air dispersion analysis. Depending on the company issues and organizational structure, they might be located in the corporate group. Sometimes these skills are obtained externally or are matrixed from within a business group with the greatest need.
2. Peak Load - What other staff responsibilities might be picked up during peak loads, issue (crisis) management, or unusual circumstances. Numbers refer to staff number at far left (1-11). This represents typical environmental organizations. In general, the fewer numbers next to the function, the more highly specialized the position.

In a perfect world, functionally integrated audit teams with resources taken from across the company at all organizational levels will produce the most cost-effective audits. However, issues of control, culture, and governance can sometimes inhibit team audit effectiveness. A level of cooperation and trust must first be established before team audits can be optimized across organization layers.

Each EHS department has, of course, the responsibility to "manage" information in a form that maximizes its usefulness to improve the compliance levels while at the same time minimizing the business's legal liabilities. Managing the flow of information is not the same as "covering up" or filtering bad news. After all, management has the responsibility to demonstrate that systems are in place to uncover problems, and that existing problems have already been identified and are in the process of being addressed.

Managing information is also a question of allowing adequate time to analyze the information, prepare alternative correction action plans, and so on. There is nothing wrong with this as long as the flow of information is not unreasonably delayed. The key to eliminating "level influences" on audit information is to try to eliminate "kill the messenger" responses. Convincing management that it has more to lose from systems that generate sugarcoated information

may be the key. The potential negative aspects of findings will need to be placed in a positive context—proactively identifying and fixing problems before they become even bigger problems for the company.

Corporate will need to consider these issues in supporting the formation of streamlined teams. Depending on specific needs, these teams might consist of business staff, external auditors, shared services staff from other groups (provide cross-training and competency development, sharing of learning, and enhanced morale), corporate staff, and one or more individuals who have been placed on a list of "qualified corporate reviewers/auditors." This is a hybrid of the shared service and outsourcing concepts.

Corporate should strive for individuals on these teams whom they know are competent and can be trusted to "tell it like it is," just like one of their own staff (if they could only get a head count). The goal is to avoid spending resources for "checkers checking the checkers." That is where the resource savings are derived. The challenge is to have people involved whom the business groups or sites can respect and want as an integral part of the process. That means that the people recommended by corporate need to be highly skilled with a reputation for integrity, holding confidences, and working within the management chain of command.

Knowledge Networks

Another trend in industry is to formalize the internal "knowledge networks" within companies. Internal EHS specialists serve as a talent pool with a proven track record, knowledge of internal procedures, and a dedication to the company. Using experts across the company improves morale and supports training.

Large corporations have set up intranets and directories of individuals to support these networks. Smaller companies may not need directories, but companies, regardless of size, need business management agreement on how these resources can be used across departments. Some companies have internal agreements to swap resources on a quid pro quo basis if the total hours are not significant. For more significant commitments, arrangements need to be set up in advance.

CONCLUSION

EHS managers may have limited degrees of freedom in selecting the overall organizational structure. Company culture and senior management philosophy sets the framework in which you operate. That said, there is a broad range of techniques you can utilize to fine-tune the efficiency of the organization. Paramount in this process—and probably more important than the structure itself—is establishing clarity in the roles and responsibilities at each organizational level and providing sufficient access to business management. This prevents duplication of effort, potential turf wars, and reactive responses to management decisions. All three issues needlessly consume limited resources.

Shared service is gaining senior management's attention as a means of consolidating staff resources. In concept, it is excellent for EHS staff support. In practice, shared service is very difficult to successfully implement. Similarly, outsourcing holds considerable promise—as long as it is prudently implemented and sufficient internal resources are maintained to monitor quality and manage the strategic direction.

Irrespective of organizational structure, team concepts are gaining popularity to extend and more fully utilize internal resources. Two effective opportunities are cross-functional/organizational audit teams and knowledge-sharing networks such as "centers of excellence."

In this and the previous article we have provided some insight into how to determine total resource needs. We have discussed how to organize these resources effectively and efficiently to the minimum needed to meet company objectives. In the next and final part of this series, we will discuss how to gain management support for proceeding with an implementation plan.

REFERENCES

1. Copies of this survey may be obtained by contacting the author, Richard MacLean.
2. Hippensteel, D.L. "You Know Your Environmental Contractor Is Out of Control When...," *Remediation* **1998**, 8, 97–112.

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