

SH&E

Management Systems & Business Integration

The Malcolm Baldrige performance excellence framework

By Thomas P. Rancour

TODAY'S SH&E PROFESSIONALS are no longer confined to regulatory compliance and cost-control activities. Many are actively integrating with the supply chain to drive business excellence and enhance shareholder value. However, SH&E professionals are still maturing in this new role and need to continually assess the quality of SH&E processes as well as the depth of business integration. Gaps need to be quickly identified and bridged to ensure success.

Management systems reviews, such as OSHA's Voluntary Protection Programs (VPP), OHSAS 18001, ISO/RC 14001 and the emerging ANSI Z10 standard, are all valuable for assessing SH&E processes and business integration. However, it is suggested that an additional assessment based on the Malcolm Baldrige performance excellence framework helps focus on those SH&E processes most critical to overall business excellence—and it is an approach that will resonate with business leaders.

SH&E Management Systems & Business Integration

The importance of SH&E management systems was noted as early as 1965 by W.C. Pope and Thomas J. Crosswell in their article, "Safety Programs Management" (Pope and Crosswell). These authors suggested that SH&E professionals would do well to search out not what is wrong with people, but what is wrong with the management system that allows incidents to occur. Dan Petersen pointed out the importance of SH&E management system business integration in Principle 3 of his 10 Basic Principles of Safety: "Principle 3: Safety should be managed like any other company function. Management should direct the safety effort by setting achievable goals, and by planning, organizing and controlling to achieve them" (Petersen).

A management systems approach differs from a traditional safety and health program approach by emphasizing the elimination of underlying root

causes of process defects and by calling for continuous improvement. Management systems approaches for SH&E are based on the recognized quality concept "plan-do-check-act."

SH&E performance improvements and business results have been tied to implementation of effective management systems. For example, OSHA has reported success in improving occupational safety and health performance among companies participating in its VPP based on the agency's Safety and Health Voluntary Program Management Guidelines. The average VPP worksite has a lost workday incidence rate 52 percent below the average for its industry, with concurrent cost savings. These sites typically do not start out with such low rates. Rather, reductions in injuries and illnesses begin when the site commits to the VPP approach to safety and health management and the challenging application process (OSHA).

However, while some organizations have successfully applied management systems approaches, companies have only recently begun to systematically understand how SH&E programs can truly add value to the business, customers and shareholders. In its interview study of corporate business executives, *Enterprise for the Environment* observed that more strategic and significant breakthroughs in SH&E results and business results will come through the redesign of core business processes (Yosie and Herbst). SH&E integration into both day-to-day and strategic business processes is an essential mechanism for enabling these breakthroughs.

The Baldrige Framework

The Malcolm Baldrige National Quality Award was created by Public

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*The
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Law 100-107, signed into law Aug. 20, 1987. The award program, responsive to the purposes of Public Law 100-107, led to the creation of a new public/private partnership. Principal support for the program comes from the Foundation for the Malcolm Baldrige National Quality Award. The award is named for Malcolm Baldrige, who served as Secretary of Commerce from 1981 until 1987. His managerial excellence contributed to long-term improvement in government efficiency and effectiveness [NIST(b)].

The Business Case for SH&E Assessments Using Baldrige Criteria

The Baldrige framework is well understood and highly regarded by business executives. In 2003, Booz Allen Hamilton Inc., under contract with National Institute of Standards and Technology (NIST), conducted an assessment of leadership attitudes about the Malcolm Baldrige National Quality Award program and the criteria for performance excellence. The assessment found that throughout the U.S., the award enjoys broad, positive recognition among business leaders in each of the award-eligible sectors: manufacturing, service, education, healthcare and small business (Booz Allen Hamilton). In addition, more than 70 percent of leaders among Fortune 1000 companies said they are likely to use the criteria for performance excellence.

By using the Baldrige framework to assess SH&E processes and integration, SH&E professionals can

leverage a framework that is known, understood and accepted by senior executives. Assessments conducted using these criteria provide a perspective focused on customers and overall business excellence. This perspective will resonate with senior leaders and help identify the SH&E processes and activities most critical to overall business excellence. The credibility of an assessment based on Baldrige criteria can lead to meaningful discussions with senior management on how to continuously improve critical processes and overall SH&E business integration.

The Baldrige Criteria for Performance Excellence Framework

The Baldrige criteria provide a systems perspective for managing an organization and its key processes to achieve results and performance excellence. The seven Baldrige categories are: 1) leadership; 2) strategic planning; 3) customer and market focus; 4) measurement, analysis and knowledge management; 5) human resources focus; 6) process management; and 7) business results (sidebar below).

An organizational profile is another important element of the framework. It describes how the business operates, including competitive environment, key relationships and strategic challenges, such as applicable regulatory requirements. Although implementation of each category is important, successful management of overall performance requires their synthesis, alignment and integration. The Baldrige framework and category interrelationships are shown in Figure 1 (U.S. Dept. of Commerce; Blazey).

During assessments, processes associated with Baldrige categories 1 through 6 are evaluated using four factors: approach, deployment, learning and integration. "Approach" deals with process design, scope, formality and comprehensiveness. "Deployment" refers to how thoroughly the process has been implemented across the enterprise. "Learning" gauges organizational improvement. "Integration" refers to how well a process is blended with other organizational imperatives. Approach, deployment, learning and integration are viewed as an update of the traditional Deming plan-do-check-act cycle. During evaluations, the maturity level of each category is rated on a scale of zero to 100 percent. Scores are based on a holistic view—not a checklist—of the organization's achievement level across all four factors. Each scoring range for results items (category 7) also considers four factors, with scoring based on a holistic view of the achievement level across all four factors.

SH&E Performance Criteria

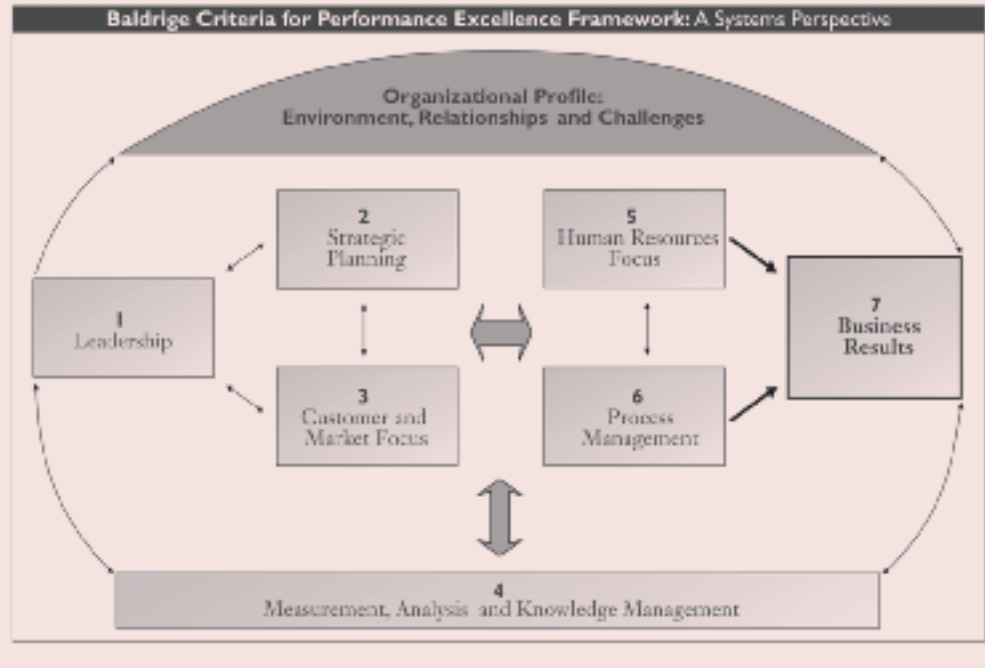
The Baldrige framework includes specific SH&E criteria under its leadership and human resources focus categories. Environmental aspects are included in the leadership category's social responsibility element. Safety and health aspects are covered within the human resources focus category's subcategory of employee well-being and satisfaction. The "Social Responsibility" sidebar on pg. 28 and the "Employee Well-Being" sidebar on pg. 29 summarize environmental and safety/health criteria, respectively. In

2004 Baldrige Categories

- 1 Leadership**
 - 1.1 Organizational Leadership
 - 1.2 Social Responsibility
- 2 Strategic Planning**
 - 2.1 Strategy Development
 - 2.2 Strategy Deployment
- 3 Customer & Market Focus**
 - 3.1 Customer and Market Knowledge
 - 3.2 Customer Relationships and Satisfaction
- 4 Measurement, Analysis & Knowledge Management**
 - 4.1 Measurement and Analysis of Organizational Performance
 - 4.2 Information and Knowledge Management
- 5 Human Resources Focus**
 - 5.1 Work Systems
 - 5.2 Employee Learning and Motivation
 - 5.3 Employee Well-Being and Satisfaction
- 6 Process Management**
 - 6.1 Value Creation Processes
 - 6.2 Support Processes
- 7 Business Results**
 - 7.1 Customer-Focused Results
 - 7.2 Product and Service Results
 - 7.3 Financial and Market Results
 - 7.4 Human Resources Results
 - 7.5 Organizational Effectiveness Results
 - 7.6 Governance and Social Responsibility Results

Figure 1

The Baldrige Framework



addition to meeting these specific criteria, it is expected that SH&E issues are integrated into other categories, particularly strategic planning, process management and business results.

Evaluating SH&E Processes & Business Integration

By reviewing key requirements contained in the Baldrige organizational profile and within each program category, SH&E professionals can begin to identify how well SH&E processes align, support and integrate with the overall business. Following is a high-level overview of how to assess SH&E business integration using the Baldrige framework.

Organizational Profile

The profile section asks, "What is your organizational culture? What are the purpose, mission, vision and values for the business?" SH&E professionals need to examine SH&E's influence. Are safety-related values incorporated into organizational policies, mission and vision statements? In general, how are these values adopted and demonstrated by the organization? Specifically, are SH&E responsibilities and accountabilities clearly defined for each level and function and are these integrated into the day-to-day activities of each employee?

Another key question in the profile asks, "What are the applicable SH&E regulations for the business?" This requires a critical assessment of whether a complete inventory of federal, regional, state and municipal requirements has been assembled and whether the impacts of those requirements have been determined.

The profile also poses the question, "What is your organizational structure and governance system?" This should prompt the SH&E professional to look at audit processes, third-party audit verifications and audit reports to senior management and corporate leaders. With passage of the Sarbanes-Oxley Act of 2002, SH&E professionals should also be concerned with how well SH&E audit results integrate with the organization's process for reporting items potentially material to the firm's liquidity. Table 1 (pg. 30) summarizes these key organizational profile questions and corresponding SH&E integration points.

Leadership Category

A key question under the social responsibility section of this category asks, "What are your key compliance processes, measures and goals for achieving and surpassing regulatory and legal requirements as appropriate?" Emphasis is placed on going beyond simple compliance. SH&E professionals must think about and evaluate those processes and actions essential for compliance assur-

ance. In addition, they should help set goals for and measure performance of critical processes. An excellent integration point is the business annual operating plan (AOP). Are SH&E compliance assurance goals developed and incorporated into the AOP?

Another social responsibility question asks, "What are your key processes, measures and goals for addressing risks associated with your products, services and operations?" This question should prompt SH&E professionals to evaluate risk assessment processes. How are risks identified? What assessment method and prioritization scheme is used? What is the required frequency for conducting risk assessments? Are these expectations met? Are risks being reduced across products, services and operations?

Strategic Planning Category

The Baldrige criteria in this category cover both strategic plan development and strategic goals. SH&E professionals need to be engaged in both efforts. A key criteria question asks, "How do you ensure that strategic planning addresses . . . your strengths and weaknesses, including human and other resources and financial, societal and ethical, regulatory and other potential risks?" Is SH&E actively involved and providing input to business strategic planning? SH&E compliance assurance and risk reduction efforts need to be an integral part of strategic planning in order to achieve overall business excellence.

Customer & Market Focus Category

This category looks at both customer and market knowledge and customer relationships and satisfaction. One question that is especially important from an SH&E standpoint asks, "How do you listen and learn to determine key customer requirements and expectations, including product and service features?"

"Product and service features" refers to all important characteristics of products and services and to their performance throughout their full life cycle and

Social Responsibility Criteria

1.2 Social Responsibility (50 pts.) — Process

Describe HOW your organization addresses its responsibilities to the public, ensures ETHICAL BEHAVIOR and practices good citizenship.

Within your response, include answers to the following questions:

a) Responsibilities to the Public

- 1) HOW do you address the impacts on society of your products, services and operations? What are your KEY compliance PROCESSES, MEASURES and GOALS for achieving and surpassing regulatory and legal requirements, as appropriate? What are your KEY PROCESSES, MEASURES and GOALS for addressing risks associated with your products, services and operations?
- 2) HOW do you anticipate public concerns with current and future products, services, and operations? HOW do you prepare for these concerns in a proactive manner?

b) Ethical Behavior

HOW do you ensure ETHICAL BEHAVIOR in all STAKEHOLDER transactions and interactions? What are your KEY PROCESSES and MEASURES or INDICATORS for monitoring ETHICAL BEHAVIOR throughout your organization, with KEY partners, and in your GOVERNANCE structure?

c) Support of Key Communities

HOW does your organization actively support and strengthen your KEY communities? HOW do you identify KEY communities and determine areas of emphasis for organizational involvement and support? What are your KEY communities? HOW do your SENIOR LEADERS and your employees contribute to improving these communities?

Notes:

N1. Societal responsibilities in areas critical to your business also should be addressed in Strategy Development (Item 2.1) and in Process Management (Category 6). Key results, such as results of regulatory and legal compliance or environmental improvements through use of “green” technology or other means, should be reported as Governance and Social Responsibility Results (in Item 7.6).

N2. Measures or indicators of ethical behavior (1.2b) might include the percentage of independent board members, measures of relationships with stockholder and nonstockholder constituencies, and results of ethics reviews and audits.

N3. Areas of community support appropriate for inclusion in 1.2c might include your efforts to strengthen local community services, education, and health; the environment; and practices of trade, business or professional associations.

N4. The safety and health of employees are not addressed in Item 1.2; you should address these employee factors in Item 5.3.

the full “consumption chain.” The criteria specifically indicate that those features might include “price, reliability, value, delivery, requirements for hazardous materials use and disposal, customer or technical support, and the sales relationship.” SH&E professionals need to evaluate how well the potential SH&E effects of the business’ products and services across their full life cycle are understood. Based on that knowledge, what is the plan to eliminate or reduce impacts and risks for improved customer satisfaction?

Measurement, Analysis & Knowledge Management Category

A key question in this category asks, “How do you select, collect, align and integrate data and information for tracking daily operations and for tracking overall organizational performance?” SH&E professionals must first examine what SH&E performance information is tracked, and evaluate how relevant it is with respect to strategic goals for compliance assurance. For example, if the information collected is exclusively about SH&E incidents, the organization is blind in terms of assessing progress on strategic SH&E goals. Selected upstream processes critical to compliance assurance must be measured. Once satisfied that key performance data requirements have been established, the next step is to assess how robust the measurement system is and how information collected is communicated and leveraged for continuous improvement.

Human Resources Focus Category

Work systems, employee learning and employee well-being and satisfaction are assessed in this category. Criteria related to SH&E include:

- “How do you improve workplace safety, health, security and ergonomics?”
- “How do workers take part in improving them?”
- “What are your performance measures or targets for each of these key workplace factors?”
- “What are the significant differences in workplace factors and performance measures or targets if different employee groups and work units have different work environments?”
- “How do you ensure workplace preparedness for emergencies or disasters?”
- “How do you seek to ensure business continuity for the benefit of your employees and customers?”

SH&E professionals need to critically evaluate how each criterion is addressed through existing processes and how well each is executed. As with all Baldrige assessment criteria, emphasis should be placed on executing processes and systems that exceed simple compliance with regulatory requirements. For example, does the company have an effective ergonomics improvement strategy and plan even in the absence of a specific regulatory driver? Is that plan fully integrated with business capital and expense budgets?

Another key question is, “How does the employee performance management system, including feedback to employees, support high performance work?” This is an opportunity for SH&E to be integrated into the performance appraisal system for the organization. Are executives and managers formally evaluated and held accountable for SH&E process support, deployment and performance through the performance appraisal process? Do merit increases and bonus/stock option awards include weighting with respect to supporting and achieving SH&E strategies important to overall business excellence?

Process Management Category

This category requires organizations to examine how they identify and manage key and support

Employee Well-Being & Satisfaction Criteria

5.3 Employee Well-Being and Satisfaction (25 pts.) — Process

Describe HOW your organization maintains a work environment and an employee support climate that contribute to the well-being, satisfaction and motivation of all employees.

Within your response, include answers to the following questions:

a) Work Environment

- 1) HOW do you improve workplace safety, health, security and ergonomics? HOW do employees take part in improving them? What are your PERFORMANCE MEASURES or targets for each of these KEY workplace factors? What are the significant differences in workplace factors and PERFORMANCE MEASURES or targets if different employee groups and work units have different work environments?
- 2) HOW do you ensure workplace preparedness for emergencies or disasters? HOW do you seek to ensure business continuity for the benefit of your employees and CUSTOMERS?

b) Employee Support and Satisfaction

- 1) HOW do you determine the KEY factors that affect employee well-being, satisfaction and motivation? HOW are these factors SEGMENTED for a diverse workforce and for different categories and types of employees?
- 2) HOW do you support your employees via services, benefits and policies? HOW are these tailored to the needs of a diverse workforce and different categories and types of employees?
- 3) What formal and informal assessment methods and MEASURES do you use to determine employee well-being, satisfaction and motivation? HOW do these methods and MEASURES differ across a diverse workforce and different categories and types of employees? HOW do you use other INDICATORS, such as employee retention, absenteeism, grievances, safety and PRODUCTIVITY, to assess and improve employee well-being, satisfaction and motivation?
- 4) HOW do you relate assessment findings to KEY business RESULTS to identify priorities for improving the work environment and employee support climate?

Notes:

N1. Specific factors that might affect your employees' well-being, satisfaction and motivation (5.3b[1]) include effective employee problem or grievance resolution; safety factors; employees' views of management; employee training, development, and career opportunities; employee preparation for changes in technology or the work organization; the work environment and other work conditions; management's empowerment of employees; information sharing by management; workload; cooperation and teamwork; recognition; services and benefits; communications; job security; compensation; and equal opportunity.

N2. Approaches for employee support (5.3b[2]) might include providing counseling, career development and employability services, recreational or cultural activities, nonwork-related education, day-care, job rotation or sharing, special leave for family responsibilities or community service, home safety training, flexible work hours and location, outplacement and retirement benefits (including extended healthcare).

N3. Measures and indicators of well-being, satisfaction, and motivation (5.3b[3]) might include data on safety and absenteeism, the overall turnover rate, the turnover rate for customer contact employees, employees' charitable contributions, grievances, strikes, other job actions, insurance costs, workers' compensation claims and results of surveys. Survey indicators of satisfaction might include employee knowledge of job roles, employee knowledge of organizational direction, and employee perception of empowerment and information sharing. Your results relative to such measures and indicators should be reported in Item 7.4.

N4. Setting priorities (5.3b[4]) might draw upon your human resources results presented in Item 7.4 and might involve addressing employee problems based on their impact on your business results.

processes for creating customer value and achieving business success and growth. A key question for consideration is, "How do you incorporate cycle time, productivity, cost control, and other efficiency and effectiveness factors into the design of the key processes and support processes, including financial, legal, facilities management, human resources, project management and administration?" This question should cause SH&E professionals to assess how they achieve better process performance and reduce variability. For example, are Six Sigma methodologies employed to define, measure, analyze, improve and control processes to eliminate SH&E defects? Use of Six Sigma techniques to ana-

lyze and address safety defects has been growing (Rancour and McCracken). SH&E professionals should evaluate how disciplined approaches such as Six Sigma are used to assess and continuously improve processes and performance.

Business Results Category

The last category deals with achievement of results across key business areas—customer satisfaction, product and service performance, financial and marketplace performance, human resources results, operational performance, and governance and social responsibility. Performance levels relative to competitors are also examined.

Select Baldrige Organizational Profile Questions & SH&E Assessment/Integration Opportunities

Organizational Profile	Example SH&E Assessment & Integration Opportunities
What is your organizational culture? Purpose? Mission? Vision? Values?	<ul style="list-style-type: none"> •SH&E included in policy, vision, mission and commitment statements? •How are SH&E values adopted and demonstrated by the organization?
What are the applicable occupational safety and health regulations; accreditation, certification or registration requirements; and environmental, financial and product regulations?	<ul style="list-style-type: none"> •Inventory developed of applicable SH&E regulatory impacts?
What is your organizational structure and governance system?	<ul style="list-style-type: none"> •Robust audit processes with reports to senior leadership/BoD? •Third-party audit verifications? •SH&E included in Sarbanes-Oxley material issue determinations?

SH&E professionals should be able to clearly demonstrate measurable results with respect to strategic goals. For example, measures might include audit scores indicating continuous improvement in regulatory compliance. Measures might also include the number of environmental impacts eliminated through implementation of green technologies, quantification of emissions reductions, and the number of environmentally sustainable products and services introduced. How have operations and services changed to reduce impacts or preferably enhance the welfare of communities neighboring the organization's facilities or using its products and services?

In addition to traditional incidence rate metrics, safety and health measures should address vital process improvements. For example, these measures might include strategic elements such as employee involvement in the development of safety and health processes or the number of ergonomics improvements completed and risk eliminated, or the number of safety enhancements implemented in products and services.

As SH&E professionals assess results, they should be prepared to help the business align with new global voluntary reporting requirements through the Global Reporting Initiative (GRI). GRI is an official collaborating center of the United Nations Environment Program. It is a long-term, multistakeholder, international process whose mission is to develop and disseminate globally applicable sustainability reporting guidelines. These guidelines provide information on how to report on the economic, environmental and social dimensions of organizational activities, products and services. GRI anticipates that 600 organizations will use these guidelines by the end of 2005 (GRI).

Suggested Approach

Whether a company formally participates in the Baldrige system, the framework can be a useful extension to traditional SH&E management systems for assessing both process quality and integration. A suggested approach is to form a team consisting of business leadership, operations/supply chain, human resources and SH&E staff. Because the framework does not rely on a set list of questions, the team must candidly discuss SH&E process quality and integration across each framework category. This discussion can help identify strengths and opportunities for

improvement, and can lead to a better understanding of SH&E linkages to overall business imperatives.

Conclusion

The Malcolm Baldrige framework is well regarded by senior executives and focuses on overall continuous improvement and business excellence. This framework can be a useful business integration assessment tool for SH&E professionals and can be used in concert with traditional SH&E management systems reviews. By critically reviewing SH&E processes across the Baldrige organization profile and categories, SH&E professionals can begin to recognize overall gaps in SH&E integration and identify those SH&E processes most critical to overall business success. The credibility of an assessment based on these criteria can lead to meaningful discussion with senior management on how to continuously improve SH&E business integration. ■

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