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Strategy to Demonstrate the Value of Industrial Hygiene

Analysis of the Study

Eliminating lead from a raw material stream. Substituting a less toxic material for a chromate primer at an aircraft company. Installing engineering controls at a small company to control exposure to nanoparticles. Besides the fact that these are all significant examples of the critical roles IH plays within an organization, these developments also saved the companies millions of dollars, and in some cases, enabled the organization to increase its revenue stream. So, why doesn’t most executive management tie IH to financial positives?

BY COLLEEN MORRISON
Communicating the business value that any investment contributes is not an easy task, yet increasingly, employees must demonstrate the specific financial benefits of a project to get the program green-lighted. According to a recent report from the National Association for Business Economics, weakening market conditions and soaring commodity prices are squeezing profit margins at companies, and money is tighter than ever. In this market, companies are strapped. They are cutting costs, and new expenditures are approved only when a demonstrated financial return can be associated with the project.

What this means is that now, more than ever, industrial hygienists must tap their business side, reach into the world of “corporate speak,” and make the case to executive management that critical IH programs are not only necessary, they’re sound investments.

“Prior to about 10 years ago, the industrial hygienist’s role in business requests would involve writing a memo explaining the potential health risk—consider that we discovered high levels of carbon monoxide coming from an industrial process, for example—and we’d make recommendations for controlling it,” said Michael T. Brandt, vice president-elect of AIHA and technical chief of staff for operations, Los Alamos National Laboratory, Los Alamos, N.M. “Things are different now. In today’s environment, industrial hygienists need to understand business and organizational dynamics, budgeting, basic economics and finance to really excel.”

Approaching the Solution
To help the community do this, AIHA embarked on a multiyear project to study specifically which mechanisms allow industrial hygienists to demonstrate business impact at their organizations and to create a strategy that enables them to do it efficiently and effectively. Working with EG&G Technical Services Inc., a division of URS, and its partner ORC Worldwide, AIHA began an intensive process to create a strategy to help those in the field to show their business impact on company operating costs and procedures.

Using the AIHA strategy to evaluate specific examples also reiterated the conclusion that industrial hygienists have been touting for years: investing to protect worker health today yields cost benefits for years to come.

Studies in Specifics
Perhaps some of the most telling results came from in-depth case studies of select participating companies. These reviews provided concrete examples of ways in which IH activity can greatly affect the corporation and, even more, introduced unique ways of evaluating the value proposition of IH activities.

At one site that participated in the study, the substitution of a carcinogenic process chemical with a less toxic one improved the quality of the product, required less rework to produce quality products and, thereby, freed up resources that resulted in increased production capacity. The increased capacity resulted in additional sales, since the plant was already working at full capacity and its output was already “sold out” for the next several years. The changes made to

Six Phases of Research

| Phase I: Gather and Analyze Data |
| Phase II: Identify and Evaluate Model Components |
| Phase III: Develop and Assess Qualitative Submodel |
| Phase IV: Develop and Assess Quantitative Submodel |
| Phase V: Develop and Assess Overarching Strategy |
| Phase VI: Produce Strategy to Demonstrate the Value of the Profession |
reduce health risk at that facility have the potential to produce a continuing revenue stream of several million dollars each year for years to come.

In a second example, industrial hygienists contributed substantial value by enabling a process to keep running that was important to maintaining critical production capacity. The ability of the site industrial hygienists to develop a heat stress protection program for workers conducting repairs on a critical piece of equipment ensured that there was no shutdown of the process, which would have caused a multimillion dollar loss. Had the unit shut down, other units would have been shut down as well. A total shutdown for 10 days would have cost approximately $15 million.

Another company reported that IH involvement was critical for an entire industry that allows oil refineries to process lower-grade crude oil and subsequently results in millions of dollars of profit each year. By providing an essential function to a highly profitable process, industrial hygienists contributed tremendous value. Without their expertise in managing the radiation detector program, the delayed coking process could not have happened, and the company would have lost millions of annual profit. Again, the business impact of IH was significant.

“Industrial hygienists, as a whole, don’t fully understand the impact they have on their organizations,” said Dee Woodhull, senior consultant at ORC Worldwide in Washington. “They recommend controls, but many of the people we spoke with didn’t understand that the recommendations they made were impacting manufacturing processes and having a tremendous economic effect. They didn’t think to look about the information that can be used to demonstrate overall value.”

Making the Business Case: Key Findings
With all of this detail collected, the first thing that stood out was that ultimately, IH professionals were eager to participate in the study, but most knew very little about cost or business data and how to access it. It was clear that a general approach was needed to help those within the field characterize their work in terms of the value they bring to the table, expressed in both quantitative and qualitative terms.

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“Applying the new strategy, we were able to show in several companies that higher degrees of control are better for workers and also better for the financials of the organization,” said Woodhull. “We found that higher degrees of control actually can be the least expensive and most cost-effective to the company in the long run, even though their initial costs may be higher. This result reinforces what industrial hygienists have always thought and suggests that when they approach a solution, the best place to look is not at the bottom of the control hierarchy but at the top.”

Further review of study responses strongly pointed to the fact that industrial hygienists cannot work in a vacuum. Being seen as a part of the business, or

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—Tom Grumbles
Sasol North America
Figure 1. AIHA value model.
just as important, realizing their role as a member of the overall business team, is central to demonstrating the impact they have on the organization.

"Industrial hygienists can’t do this alone. To demonstrate value effectively, we need to create a cross-functional team from other disciplines. You may have someone from product engineering, operations, facilities engineering, maintenance, marketing and sales, occupational medicine, research and development or others. To collect the necessary information, we need to assemble a cross-functional team of subject-matter experts to build a convincing story to sell solutions to decision makers,” Brandt points out.

In yet another discovery, the study revealed that the most significant IH impacts on the business were not in those that have been traditionally tracked. Usually, those trying to measure the value of IH to the business evaluate the costs of injuries and illnesses, workers’ compensation premiums and regulatory compliance fines and penalties because they are the obvious connections and seem to be the easiest to quantify. However, the study showed that affecting the business process, designing process improvements to reduce or eliminate worker exposures, implementing hazard and engineering controls and including industrial hygienists on business teams all demonstrate a stronger business result in analysis than the “standards” of the costs of injuries and illnesses, workers’ compensation and reduced fines and penalties.

Strategic to Demonstrate the Value of Industrial Hygiene

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Strategy for Success

Evaluating the value proposition of IH in an organization really is specific to that individual company, which is why an overarching approach and strategy to defining the business case for IH is so important.

“What industrial hygienists really need to understand is the culture of their organization. We have to pay attention to the culture, understand how decisions are made and understand how much change an organization can tolerate,” said Brandt. “We can’t argue for blue-sky solutions without considering the company’s financial constraints. The idealized, perfect solution needs to be tempered with a practical solution.”

The strategy developed by AIHA takes a general approach to address these specific issues and even prompts the individual to consider all of the possibilities. In eight steps, it walks industrial hygienists through ways to examine different methods of looking at the value they contribute to the organization. The strategy starts with the identification of business objectives and IH hazards, moves through the evaluation and prioritization of value opportunities and then transitions into the assessment of risk reduction. From there, the industrial hygienist approaches the value proposition, identifies appropriate changes and assesses the impact of the decision. Last, but certainly not least, the strategy helps the industrial hygienist determine the value and present the value proposition (see Figure 1).

“What we’ve created with the strategy is not the golden bullet, but it’s a big step forward in demonstrating value,” said Grumbles. “Today, it’s more important than ever to compete for limited resources in an enterprise or company, and we think we’ve found the way for industrial hygienists to do this better.”

Implementing the Strategy

In the words of Benjamin Franklin, “Drive thy business or it will drive thee.” With this new strategy in place, industrial hygienists truly are in the driver’s seat in evaluating and expressing their contributions, not only to the health and safety of the workers, but also to the bottom line of the organization.

“I think that this strategy represents a paradigm shift for many industrial hygienists to expand their concept of how they impact organizations,” summed up Woodhull. “Industrial hygienists contribute to the health of the business as well as to the health of employees.” And now they have a way to articulate it.

AIHA Tools Available

AIHA launched www.ihvalue.org, a new Web site, to serve as a place for industrial hygienists to learn about the strategy, communicate how it has helped their efforts and exchange success stories. This site contains

- The complete study report and strategy.
- Six phases of how to demonstrate the business value of IH (from the main study report, separated out for convenience).
- Executive summary of the study and strategy.
- Strategy for demonstrating the business value in a standalone format.
- List of value-oriented resources.
- Success stories and testimonials.
- Frequently asked questions.
- Podcast of the general session at AIHce 2008, explaining the new strategy in more detail.