

# Professional Certification

*Its value to SH&E practitioners and the profession*

**By Paul S. Adams, Roger L. Brauer, Bruce Karas, Thomas F. Bresnahan and Heather Murphy**

**I**“I DON’T GET NO RESPECT.” That phrase, made famous by Rodney Dangerfield, is one many SH&E practitioners have felt and even expressed. One of the most significant ways to gain respect in one’s chosen career is to seek and achieve certification. In the search for safety certification, Board of Certified Safety Professionals (BCSP) and American Board of Industrial Hygiene (ABIH) provide such services for the safety and industrial hygiene professions.

Now celebrating its 35th anniversary, BCSP was established as an independent organization in 1969, following the recommendations of an Ad Hoc Study Committee formed in 1967 by ASSE to investigate the feasibility of establishing a safety certification program. The value of BCSP’s service to the profession and to individual practitioners is often assumed, yet rarely appreciated. Perhaps now is an appropriate time for SH&E practitioners to ask, “What is the value of professional certification and should I pursue it?”

Two other developments contribute to the

urgency of this question for noncertified practitioners. First, maintaining a career in occupational safety often means maintaining professional marketability. As layoffs continue because of downsizing and relocation of manufacturing overseas, competition for mid- and senior-level safety positions has intensified. Practitioners seeking these positions should objectively consider their options for improving their own marketability. Professional certification is frequently among the most important credentials for job applicants.

Second, certifications throughout the nonlicensed professions are proliferating. Practitioners need to spend their limited resources to acquire respected certifications that will be assets to their careers, not simply letters on a resume. Within the safety and allied professions, “gold standard” certifications are offered by established professional boards such as BCSP, ABIH, Board of Certification in Professional Ergonomics (BCPE), American Board for Occupational Health Nurses (ABOHN) and Institute of Hazardous Materials Management (IHMM).

These professional credentials are supported by four critical pillars: college-level education in courses aligned with professional rubrics; experience executing professional-level practice; passing one or more rigorous examinations; and, if certified, maintenance of continuing education. Each body also articulates a professional code of ethics and conduct that certified individuals use to guide professional practice. These certifying bodies also play a role in adjudicating claims against these codes of professional ethics and conduct.

Outside of this credentialing process, one can find many certificates (sometimes called certifications) of various descriptions. These may be granted by insurance companies, training firms, academic institutions and other agencies. In some cases, one need only attend complete a form and pay the designated fee to “qualify.” Astute employers recognize that this as a questionable approach; thus, it behooves candidates to pursue certifications that have the respect of the larger professional community.

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## Profile: Using Certifications to Enhance an SH&E Career

Pursuing professional credentials requires individual investment of time and effort. It may also require an individual to actively seek opportunities to bolster professional experience in terms of scope, breadth and depth of professional practice. Following is a typical SH&E career example.

### Education

- B.S. in Environmental Health and Safety from Bowling Green (OH) State University.
- Internship 1: NIOSH. Performed basic industrial hygiene functions at an underground mining operation.
- Internship 2: Building products manufacturer. Performed general occupational safety and health work in a heavy manufacturing plant.

### Professional Experience

- Hazardous waste company. Environmental safety and health specialist at Superfund sites.
- Large building products manufacturer (400-employee plant). Safety and health manager (with full scope of SH&E responsibilities, including industrial hygiene exposure assessments, job safety analysis process development, creation of leading performance indicators).
- Small steel manufacturer. Plant-level safety and health manager at a plant. Achieved the CIH credential during this time.
- Small steel manufacturer. Same employer, with expanded responsibilities. Safety and health manager. Provided SH&E services to sister steel plants within the company; worked with different management teams; and provided strategic SH&E direction for the company. Achieved CSP credential during this time.
- Large global beverage manufacturing company. Safety and health manager on a divisional staff serving numerous plants throughout North America (recent career move).

This career path started with a college education and subsequently included assignments that provided a broad set of professional experiences. Professional certifications enabled this practitioner to accept increasing levels of responsibility and to earn the respect of supervisors and peers.

This article discusses professional certification and the role it plays within an established community of practitioners. It then presents a behind-the-scenes glimpse at the work necessary to maintain the credibility of a certification so that the reader can objectively assess the value of certification options. A typical preparation path is provided, as are summary data profiling the current pool of CSPs.

### Certification Defined

The dictionary definition of certify is “to attest authoritatively as meeting a standard” (*Webster’s Ninth Collegiate Dictionary*). To become certified in a profession, a person must fulfill a set of requirements or satisfy a set of standards that are based on expectations of performance within that profession. In the SH&E-related professions, certified practitioners have been judged by an independent organization to be at least minimally competent to protect the safety and health of workers and the public.

In general, the higher the standards required for a certification, the more valuable it is and the more authority granted to the certificate holder by the public. However, the level of public trust and authority accorded a certification holder also depends on the integrity and validity of the certification process. Toward that end, organizations that bestow these credentials seek to maintain and increase the value of their certifications by aligning their standards with public and peer expectations and by rigorously protecting the integrity of their candidate judging process.

As noted, certification deems an individual minimally competent to practice the profession. Each individual must then work to continually improve his/her professional practice through ongoing self-education and, ultimately, performance on the job. Most of the safety and health certifying bodies cited have a program of certification maintenance designed to encourage current knowledge in the field.

### The Role of Professional Certification

In a recent *Engineering Times* editorial, Louis Guy summed up the essence of professional licensing and certification.

Earning trust, or credibility, is so valuable that most of us spend our lifetime building it and protecting it. When some stranger talks a good line, none of us has time to fully research his or her background. Credentials are tools that can

be very helpful in judging quickly the credibility of someone we don’t know (Guy).

Just as a degree from an accredited university provides solid evidence of advanced learning, an accredited professional certification is viewed by the public as credible evidence of skill and knowledge within a field of professional practice. The public inherently trusts those awarding certifications to protect them from fraud and incompetence, just as it expects state governments to prevent unlicensed individuals from providing regulated services in fields such as medicine, law and engineering. This does not mean that everyone who is competent is certified, nor that those not certified are incompetent. Rather, certification is simply a tool to indicate professional skill when other means of establishing credibility are either impractical to demonstrate or nonexistent.

To gain and then maintain the public trust, a certifying organization must uphold high standards of professional and ethical conduct for those who receive its credential. The public’s expectation is for those certified to have demonstrated a baseline level of competency. This concept is exemplified by the old joke—Q: What do you call the bottom student graduating from medical school? A: Doctor. Whether established by a faculty board for a medical school or board of directors for a profession, uniform standards define the achievement threshold passed by those certified as professionals.

Defining the minimal competency expectation for a profession requires both determining the scope of that profession and establishing assessment criteria by which to judge performance. In so doing, the cer-

## Domains of the CSP Examination Blueprint

The CSP Examination Blueprint identifies the knowledge and skills required to fulfill 24 responsibilities most commonly held by SH&E professionals. These responsibilities are categorized into four domains. These domains are listed here, along with an example of the responsibilities that fall within each. The complete blueprint is available at [www.bcsp.org](http://www.bcsp.org). A similar document for the CIH exam can be found at [www.abih.org](http://www.abih.org).

### Domain 1: Safety, Health & Environmental Management

Design comprehensive management systems by defining requirements and developing policies, procedures and programs to protect people, property and the environment.

### Domain 2: Safety, Health & Environmental Engineering

Evaluate facilities, products, systems, equipment, workstations and processes by applying qualitative and quantitative techniques to identify the hazards and assess the associated risks.

### Domain 3: Safety, Health & Environmental Information Management & Communications

Develop effective training programs by establishing learning objectives to impart knowledge and facilitate an understanding of hazards and controls.

### Domain 4: Professional Conduct & Ethics

Adhere to standards of professional conduct by limiting practice to areas of competence and avoiding conflicts of interest to minimize the potential for harm.

tifying board delineates the scope of that profession, assuming its standards reflect the scope of current professional practice. This de facto role provides a valuable service, especially when used by the legal system to qualify experts and by employers in writing job descriptions.

Maintaining the public trust also requires certifying boards to hold certificants accountable for unethical professional practice. The cited certifying bodies have codes of ethics and professional conduct that outline these standards, as well as processes to review individual cases when violations of these codes are alleged. SH&E professionals are expected to practice within these codes to ensure that public trust in the profession is maintained and enhanced.

### Achieving & Maintaining Certification Credibility

Professional certification has legitimacy only if the underlying process has validity and integrity. Providing credibility for a professional certification requires a rigorous process of discovery and field definition, criteria development and integrity management. As anyone involved in the safety field during the last 20 years can attest, the field has undergone significant change. In the recent past, safety professionals tended to be specialists in safety program management and/or safety engineering. Today, SH&E professionals are expected to have expertise in environmental management, ergonomics, industrial hygiene, product safety, workers' compensation, construction safety and organizational management, in addition to the more traditional aspects of safety management and engineering. For a certification to be viewed as relevant by the profession it serves, its requirements must reflect the breadth

and depth of the profession as currently practiced. This process, known as role delineation, typically begins by carefully selecting individuals who represent the broad spectrum of the target profession and asking them to define the activities they and their peers and subordinates perform. In the case of BCSP, a focus group that included experienced representatives from large manufacturers, consultants, academia, product developers, service companies, OSHA, small businesses, labor and trade associations was formed. With the assistance of an expert facilitator, group members documented the types of job activities they perform, as well as the duties of various associates.

The focus group then developed a preliminary list of core competencies required for someone to be considered "professional" in the field. This initial profile was then presented to a much larger group of CSPs (1,500) in the form of a validation survey. The outcome of this process was a set of "domains" that essentially define the scope of the "safety profession." ABIH followed a similar process in delineating the industrial hygiene profession. Domains for the CSP and CIH certifications are available at [www.bcsp.org/bcsp/images/stories/pdf/exam\\_guide/exam\\_guide.pdf](http://www.bcsp.org/bcsp/images/stories/pdf/exam_guide/exam_guide.pdf) and [www.abih.org/Docs/CIH-RDTA.htm](http://www.abih.org/Docs/CIH-RDTA.htm), respectively. The most recent study report for the CSP, "Job Analysis Study for Certified Safety Professional Examinations," is also available on BCSP's website. This study serves as a reference to support the description of the safety profession in ANSI Z590.2-2003, Criteria for Establishing the Scope and Functions of the Professional Safety Position, available from ASSE.

Using information from focus groups and member surveys, certifying boards assign a weighting to the domains identified, based on the importance of the skills in each domain to overall professional performance. For each domain, expectations and benchmarks are then established for "minimally competent" professionals. These data are used extensively in establishing the achievement standards required for certification. For example, BCSP examinations are carefully written to reflect the content and weighting of the domains as defined by the role delineation process. The difficulty of examination items and minimum passing scores are based on expected performance capability of the "minimally competent" professional.

Since it is statistically possible for someone with minimal subject knowledge to pass a multiple-choice examination, additional criteria are used to prequalify candidates for certification. Most organizations that bestow professional credentials require applicants to provide independent documentation of appropriate educational preparation (e.g., transcripts from accredited universities). In addition, many of these certifications can only be achieved after review and acceptance of work product/experience or other evidence of practice proficiency at a professional level. This procedure ensures that only individuals with relevant experience in a field can continue through the certification process. Process credibility for assessing applicants is achieved by following

and depth of the profession as currently practiced. However, a set of core technical/scientific competencies must also be maintained.

To meet accreditation standards, BCSP and other

**Table 1**

**Salary Impact of Certification**

Year	Source	Non-CSP Pay	CSP Pay	Difference	Comment
1981	ASSE*	\$25,950	\$29,750	\$3,800 (14.6%)	Non-CSP is no certification held.
1985	ASSE*	\$32,500	\$37,500	\$5,000 (15.4%)	Non-CSP is no certification held.
1990	ASSE*	\$45,611	\$52,648	\$7,037 (15.4%)	Non-CSP is no certification held.
1997	ISHN <sup>†</sup>	\$46,000	\$62,000	\$16,000 (34.8%)	Details were unpublished, but are taken from ISHN readership survey data. Non-CSP is no certification held.
1998	ASSE <sup>‡</sup>	\$53,305	\$66,275	\$12,970 (24.3%)	Increase from 1990 was three percent higher for CSP than for non-CSP (no certification held).
1998	BCSP <sup>§</sup>	\$53,663 <sup>¶</sup> (ASPs)	\$69,218	\$15,555 (29.0%)	Comparison is between those holding the ASP and those holding the CSP.
2000	BCSP <sup>  </sup>	\$57,909 <sup>¶</sup> (ASPs)	\$75,358	\$17,449 (30.1%)	Comparison is between those holding the ASP and those holding the CSP.
2003	ASSE <sup>**</sup>	\$71,620	\$83,036	\$11,416 (15.9%)	Non-CSPs may hold other certifications.
		\$65,673	\$83,036	\$17,363 (26.4%)	Non-CSP is no certification held.

\*1999 ASSE Membership Compensation Survey.

†1998 ASSE Member Compensation Survey.

‡"1997 EHS Salary Survey." Industrial Safety and Hygiene News. Aug. 1997: 20-21.

§1998 BCSP Salary Survey.

|| 2000 BCSP Salary Survey (unpublished).

¶Those holding the associate safety professional (ASP) are in process toward the CSP and are somewhat similar to being without certification.

\*\*"ASSE Compensation Survey: A Summary Report." Professional Safety. Oct. 2004: 26-27.

objective, uniform standards in the evaluation of education and experience qualifications.

Most professions rely on written exams to assess subject knowledge in the certification process. For example, BCSP uses a two-exam format. The first exam is typically administered shortly after completion of the academic requirements and assesses the basic knowledge expected of someone entering the field after completing an applicable bachelor's or master's program. The second exam draws on a broader base of knowledge and assesses skill in applying that knowledge to solve more complex problems. These skills typically take years of experience in the field to develop. (It should be noted that ABIH has recently begun using a single-examination format.)

Assessing competence through testing is both a science and an art. Many organizations, including BCSP and ABIH, use expert psychometric consultants to assist with examination construction to ensure validity. These specialists help the organizations develop examinations that measure knowledge and skill in rubrics or subject areas relevant to the profession, and to set passing or "cut-score" criteria to meet the organization's standard for minimally competent professionals.

Exam items, generally written by certificants in the profession, are carefully edited for clarity, technical relevance and rigor. Prior to incorporation into actual exams, test items are typically included as blind trial questions on live exams. For example, an exam with 200 questions might include 20 nonscored test items that are being prepared for use in future exams. Statistics on the performance of each item are used to construct future exams so that exam rigor remains fairly consistent. Consistency of examination performance is a key measure of process validity.

The integrity of the certification process must be carefully managed to maintain its value and credibility as well. Examination security is paramount. Illustrative of the need for security is a recent security breach with a national professional engineer's

**Benefits of Certification**

**Personal Satisfaction**

- Achieve a standard that is set and recognized by peers.
- Enhance image as a credentialed professional.

**Professional**

- Recognition by peers as competent within the profession.
- Elevate membership status in organizations.

**Practice**

- Increase pay, award or bonus from employer.
- Increase in responsibility or promotion.
- Access to senior positions that prefer or require certification.
- Improve credibility of position, office or department.
- Improve company image and ability to compete.
- Qualify for contracts for service.
- Enable the company to qualify for contracts.

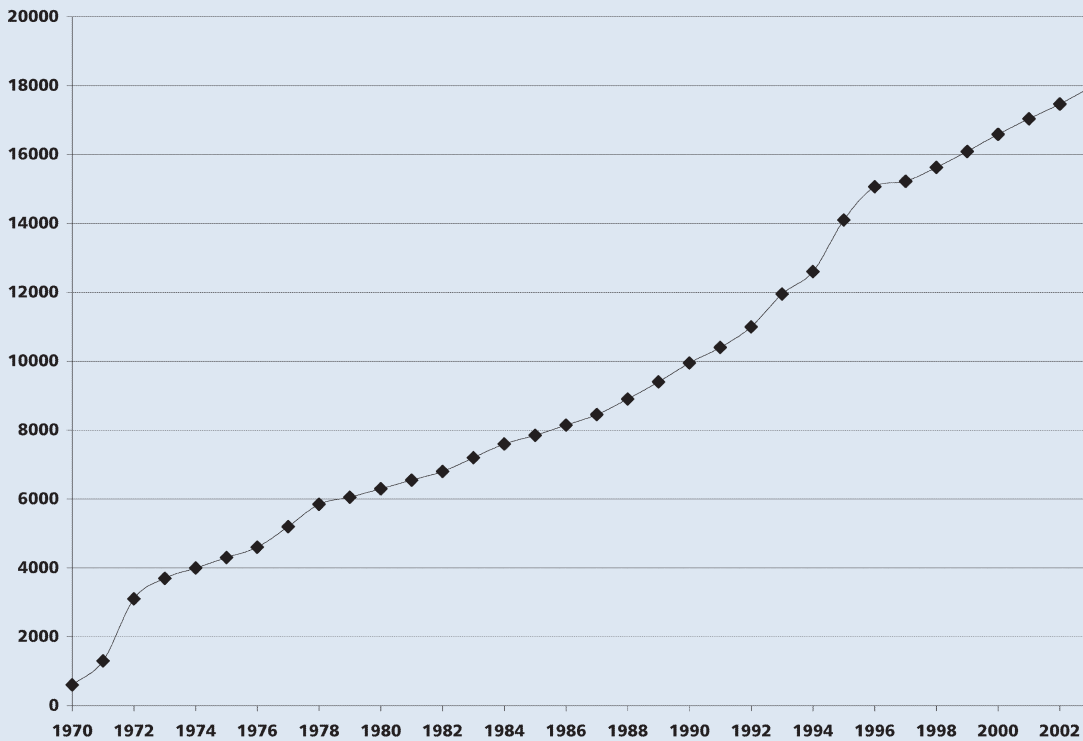
**Public**

- Instill confidence in professional performance.

examination. As a result of this breach, the testing organization had to prematurely discontinue and immediately replace an exam. Since professional performance exams often take several months or even years to develop, the cost of a single security breach can be huge. Policies for calculator use, control of test materials, proctoring procedures and use of reference

Figure 1

## CSPs Issued: Cumulative to 2003



Approximately 10,500 practitioners hold the CSP. In 2003, 409 people achieved the designation. Figure 1 demonstrates the growth in CSP certification holders over the last 30 years.

materials are all aimed at protecting that integrity. In addition, accredited certification organizations audit the procedures used to evaluate applications and deliver exams. Ongoing audits ensure fairness, consistency and adherence to written standards.

Without such measures in place, the credibility of a professional certification would be compromised. Public trust is only earned and maintained if credentials are credible. A certification that lacks credibility has little value, and pursuing such credentials is a waste of time and resources.

### Assessing the Value of a Professional Certification

Achieving a professional certification requires commitment and expenditure of time and money. Applicants need to make this investment to yield dividends for their careers. Fortunately, it is possible to assess the value and credibility of a particular certification. Certification value is in the eyes of the beholders, which, in the case of SH&E professionals, are external accrediting organizations, government agencies (federal and state), employers, courts and peers.

Accrediting boards are established by a group of organizations to uphold standards of performance, process integrity and quality. Perhaps the most familiar accrediting boards are those responsible for accrediting universities and their degree programs, such as Accreditation Board for Engineering and Technology (ABET) that accredits academic programs in engineer-

ing, technology and the applied sciences. ABET accredits academic degree programs for safety and industrial hygiene in the field of applied sciences.

Similarly, the National Commission for Certifying Agencies (NCCA) assesses and accredits programs, and the Council of Engineering and Scientific Specialty Boards (CESB) accredits professional certification processes.

In making their determinations, these boards focus on the appropriateness of content, the process used to develop standards, the process quality, the requirements for continuation of education, and the maintenance of integrity in governance and

financial affairs. To date, relatively few certifications in the safety and health fields have met the stringent requirements for certification by these boards. BCSP, ABIH and CCHEST certification processes are fully accredited by CESB; the CSP and OHST certification programs are accredited by NCCA. Accreditation of certification is an important factor in having credentials recognized and accepted, thereby qualifying the holder for professional positions, to work on some government contracts or to serve as an expert witness.

As business becomes increasingly global, there is a growing need to accredit professional certification of persons on an international basis. Both ANSI and International Organization for Standardization have recognized this need and have recently established a rigorous program for accrediting professional certification processes. BCSP was recently granted one of the first five accreditations awarded in the U.S. in any field. This is especially important for certificants employed by multinational organizations.

Another means for assessing the value of a certification is to objectively determine whether it is viewed as a "gold standard" by profession stakeholders. Surveys of recruiters and job advertisements in publications such as *Professional Safety* indicate a strong employer preference for applicants holding the CSP and/or CIH. These certifications are demanded for middle and senior-level safety positions more than any other credential. For example, of

the print ads published in *Professional Safety* during the last five years, about 50 percent either required or preferred applicants with the CSP. Further evidence of employer value is apparent from a recent salary survey of SH&E practitioners that found average salaries for CSPs were about \$15,000 higher than for those without the credential working in the field.

Finally, professional certification is a primary credential sought by judges in qualifying expert witnesses in court proceedings. Aside from academic degrees and state licenses, such as a P.E., judges frequently view the top professional certification in a field as evidence of competence and integrity. For example, for questions related to occupational health (e.g., chemical hazards and biological agents), experts are expected to hold the CIH; for accident investigation and other questions related to traditional safety, the CSP is considered to be an essential qualification.

### Is Certification the Right Career Path?

Achieving professional certification should be a goal for most practitioners seeking career advancement and, for some, career maintenance. It is not an easy process. It requires a significant investment of time in academic training and several years of practice in the field. However, the education qualifications required to sit for CSP and OHST examinations can usually be met by existing academic degrees.

For example, according to ASSE's 1998 member compensation survey, almost 90 percent of ASSE members would meet the educational requirement for the CSP and nearly all of the rest could qualify for the OHST certification. Educational requirements for the CSP include either a bachelor's degree (of any major) or an associate degree in safety and health (or closely allied field of study that includes 12 semester hours of safety courses). For those without the requisite degree, these educational requirements can typically be met by enrolling at either a local college or in accredited Internet courses and degree programs.

Throughout the process of acquiring knowledge and skill, applicants must adhere to standards outlined in codes of ethics and professional conduct. At the end of the process, applicants must demonstrate a specified level of understanding of the breadth and depth of their field, as well as competence in applying knowledge and experience to a series of moderately complex problems.

Although much of the skill needed to achieve certification develops naturally as one gains experience in the field, most practitioners find it necessary to study for certification exams. This process increases knowledge and fosters professional growth in applicants beyond the experience of a particular job, which in turn increases the value of the practitioner. Many employers recognize the value of such knowledge and skills, and reward successful certification candidates with bonuses or salary increases. They also recognize that certification makes the employee more marketable and financial rewards encourage retention.

### Conclusion

For the reader who wishes to grow and prosper

## For More Information

For more information about BCSP, visit [www.bcsp.org](http://www.bcsp.org); call (217) 359-9263; or send an e-mail to [bcsp@bcsp.org](mailto:bcsp@bcsp.org). For more information about ABIH, visit [www.abih.org](http://www.abih.org); call (517) 321-2638; or send an e-mail to [abih@abih.org](mailto:abih@abih.org).

Both organizations provide brochures and other printed materials on request, including descriptions of the respective professions, application procedures and qualification requirements, information on examination procedures and content, and requirements for continuing education and certification maintenance. Examinations are delivered electronically at local testing centers, which minimizes travel expenses for most candidates.

The Council on Certification of Health, Environmental and Safety Technologists (CCHST) offers the occupational health and safety technologist (OHST), construction health and safety technician (CHST) and safety trained supervisor (STS) certifications. CCHST is a joint venture of ABIH and BCSP. For more information on these designations, call (217) 359-2686; or send an e-mail to [cchest@cchest.org](mailto:cchest@cchest.org).

Examination review and preparation courses are not offered or endorsed by either certification board, as such training activities are restricted by program accreditation standards. Training materials and courses may be offered by independent organizations, such as local chapters of ASSE and AIHA, universities and consulting companies, but the certification boards themselves have no control over course content or materials.

in the SH&E profession, certification is likely to become a virtual career requirement at some point. Furthermore, for those interested in pursuing corporate-level positions, dual or multiple certifications are frequently expected. Having two or more professional certifications provides evidence of broad knowledge with substantial depth and experience. Corporate-level practitioners and consultants are often asked to address complex issues requiring expertise in diverse subjects, and many corporations recognize the value of dual-certified professionals in meeting these challenges.

Professional certification by an accredited and recognized certification organization is clearly an important benchmark in career development. It is an accomplishment that defines the individual as a professional in his/her chosen field of practice, and it is viewed by the public as evidence that the credentialed professional has agreed to practice in accordance with a code of ethics and professional conduct. A credible system of professional certification instills public trust and protects people, and protecting people is the common goal of SH&E professionals. ■

### References

- Guy, L.L. Jr. "Engineering Credibility and Credentials." *Engineering Times*. Dec. 2003.
- Hale, J. *Performance-Based Certification: How to Design a Valid, Defensible, Cost-Effective Program*. San Francisco: Jossey-Bass/Pfeiffer, 2000.
- ASSE Foundation and Board of Certified Safety Professionals (BCSP). *Career Guide to the Safety Profession*. Des Plaines, IL: ASSE, 2000.
- BCSP. "Job Analysis Study for Certified Safety Professional Examinations." BCSP Technical Report 2001-1. Savoy, IL: BCSP, 2001.

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