

Recently there has been a lot of discussion among members of NHA concerning CSA America's proposed hydrogen personnel certification program. Common to most of these discussions are questions about exactly what is personnel certification, and are similar programs used by other industries in the development and assessment of a competent workforce. In order to facilitate continued discussion of this important topic by the hydrogen industry, we offer the following information.

Personnel Certification is the assessment and formal recognition, through certification, of an individual's competence against objectively identified criteria within a specific subject area. Due to the rate at which new technology is introduced, and the resulting inconsistency in education and training, the goal of the certification program is to help improve public safety through the development and application of specific worker competency criteria that address the needs of workers, industry, regulators, and the general public. Unlike qualification based programs that look at an individual's education and general qualifications, CSA's program focuses on measurable competencies. This competency focused approach is based on ANSI/ISO/IEC 17024, *General Requirements for Bodies Operating Certification Systems of Persons*.

Stakeholder confidence in certification is achieved through the use of an established process of defining, assessment, surveillance, and periodic re-assessments of the competence of certified persons. To do this, the certification body facilitates the input of subject matter experts. The role of these experts is to define the certification and competency criteria that will best meet the needs of identified stakeholders while also

ensuring that existing programs and methodologies have been considered in the solution. This expert committee also defines appropriate examination content and methodology for an individual to be able to demonstrate competency against the defined criteria. The standard requires that the certification program be validated by the expert committee and that a system of on-going psychometric analysis be established for the purpose of verification that the program continues to achieve the intended purpose. (Exhibit 1)

Compliance with ISO/ICE 17024

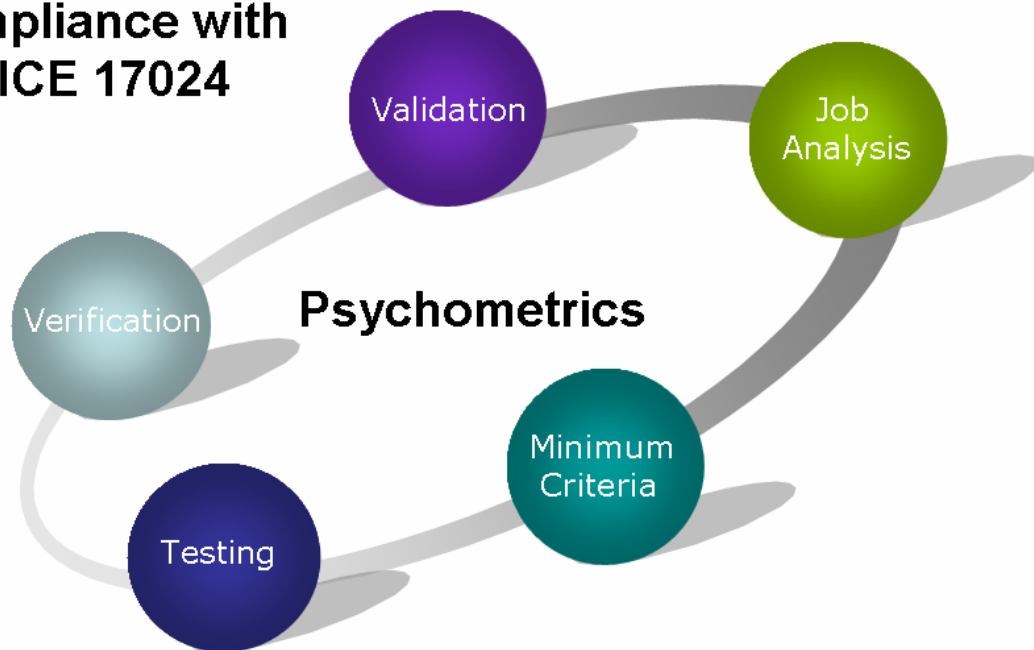


Exhibit 1

In the United States, the American National Standards Institute (ANSI) provides accreditation services for personnel certification organizations. ANSI's program is based on ANSI/ISO/IEC 17024. According to ANSI's website, as of July 2005, over 150,000 people held certifications from an ANSI accredited program. It is CSA's intent to pursue ANSI accreditation for its hydrogen based program.

The concept of personnel certification is not new. Thousands of personnel certification programs exist in practically every industry, from healthcare personnel to crane operators to safety professionals and non-destructive testing operators.¹ In the United States alone, there are over 1,700 personnel certifications programs in operation.² Numerous examples of these programs exist in the energy sector. Examples commonly cited are the National Propane Gas Association's Certified Employee Training Program (CETP), Industrial Training Services' (ITS) programs for persons working in the natural gas industry, and the American Petroleum Institute's (API) inspector certification programs. Additionally, both the International Code Council (ICC) and the National Fire Protection Association (NFPA) have relied on personnel certification programs to provide evidence of competence with regard to code requirements.

With the use of hydrogen becoming increasing commonplace, the expansion of certification programs into the hydrogen market is a logical outcome.

It is also important to note that the CSA's stakeholders have expressed an interest in two certifications related to working with hydrogen. The first is intended for code officials and first responders who need to have a basic understanding of hydrogen, including its use, storage, and dispensing. The second certification focuses on the operational side and is intended for individuals that work with hydrogen in the course of their normal job duties. CSA is currently identifying appropriate subject matter experts for the purpose of forming the committee necessary to complete the development of these programs. If you are interested in serving as a committee member please contact Connie Bielawski at

CSA. Connie can be reached at 216.524.4990 or via e-mail at connie.bielawski@csa-america.org.



Personnel Certification programs currently in operation at CSA include a Natural Gas Vehicle Cylinder Inspector certification program. Over 1,400 inspectors have gone through the associated training and examination of this program and are now certified to inspect NGV cylinders in the US.

CSA has the infrastructure, the capacity, and the processes in place to develop competency criteria. CSA's recognition as a leading service provider for training and information services also makes it a creditable provider of personnel certification in the areas where subject area recognition already exists.

¹ <http://www.iso.org/iso/en/commcentre/pressreleases/archives/2003/Ref847.html>

² <http://www.iso.org/iso/en/commcentre/isobulletin/articles/2003/pdf/ansi03-08.pdf>