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NONDESTRUCTIVE TESTING (NDT)

TRAINING & CERTIFICATION: IS IT AVAILABLE, AFFORDABLE, ACCESSIBLE, AND CREDIBLE

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Background

Through extensive travel to various parts of the world working on oil and gas projects in the discipline of nondestructive testing (NDT), we, at Kellogg Brown & Root, Inc (KBR) have looked in depth at the issue of training, qualification and certification of NDT personnel in the international market and have reached conclusions that carry more questions than answers. One major question demands an answer more than others. The question is whether existing NDT training and certification services around the world are accessible, available, affordable, reliable, credible and acceptable to accommodate the increasing demand on NDT services by global construction, maintenance and service projects. This is the question chosen to be addressed in this keynote address.

It is recognized that in some parts of the world such as the US and Western Europe, the issue is not a concern due to the saturation of the market with such services for the past several decades. These services have been provided with a high degree of performance, availability and affordability to those in need of it. Despite various requirements of codes, standards and regulatory bodies, various NDT training and certification schemes have been developed and have successfully satisfied such requirements. However, the picture is not the same when applied to other parts of the world.

Despite the competition existing between various NDT certification schemes and programs to dominate the international NDT training and certification market and despite the fact that these services have succeeded in reaching major cities in some countries outside the US and Western Europe, they have had very limited success otherwise due to various reasons including the means of conducting business and anticipated results. This limited access has resulted in the deprivation of services and has limited the number of people possessing such credentials and the competency of those able to obtain them. Globalization of companies and expansion of construction, maintenance and service projects to new parts of the world has made this issue more pressing and has increased the demand for well trained, experienced and certified NDT personnel.

Basis

Some of the apparent reasons for the limited access to training and certification of NDT personnel in various parts of the world outside the US and Western Europe may be summarized in the following:

1. Business and financial issues. Since return on investment is the basis for any business, many organizations are reluctant to expand their training and certification services and invest in a market with uncertainty of size, continuity, stability and return on investment. Even

nonprofit organizations are compelled to take a cautious approach in being involved in such an endeavor due to financial concerns.

2. Language barriers. These may be manifested in two areas:

2a. Publications. Despite the attempts that have been made worldwide to translate training materials into various languages, it appears that such efforts have not gone far enough to serve the purpose. This may be due to reasons that stretch from cost to availability of technical translators who are proficient in both languages involved in the translation and who possess an acceptable level of technical capabilities in the subject being translated. Other issues such as copyright protection and, most importantly, the uncertainty of the actual need for such materials have seriously worsened the situation.

2b. Instructors' availability. Experience has shown that it may be easy to find instructors who are technically skilled in the subject they present. It may also be easy to find personnel who are skilled in a certain language, qualifying them to be efficient instructors. However, it is not easy to find instructors possessing both technical and language skills, who are technically efficient in presenting training material in a language other than their mother language. This has indeed contributed to the lack of qualified instructors.

3. Cost/Affordability. Due to the abovementioned and other related reasons, the cost of acceptable and credible training and certification has become unaffordable to many of those attempting to become NDT professionals. This is not to imply that NDT training and certification service providers are to be blamed since they must stay above a certain level of charged fees to be able to stay in business. Lack of competition may have encouraged such practices, preventing serious attempts to lower the cost of such services.

4. Credibility/Recognition. Despite difficulties related to the abovementioned factors, some institutions providing training and certification have been established in various countries. While these institutions may vary in their capabilities, efficiency and integrity, they share one major disadvantage in the lack of recognition and credibility of their programs by major global regulators and companies implementing construction, maintenance and service projects around the world. This has resulted in a lack of confidence in their programs by those who are in need of such service and has led to their failure to continue providing the service of NDT training and certification.

5. Diversity of requirements. The unlimited number of recognized international certification programs and the demand for such programs by various codes, standards and industries throughout the world has resulted in a situation that has made it impossible to possess certification that satisfies various codes and standards and that is affordable to individuals and employers.

Recommended Corrective Action

The picture painted above reflects a bleak and discouraging image of the current situation of this issue; however, the increasing demand for qualified and certified NDT personnel around the world compels NDT professional associations, the NDT community and the industry to explore means to correct the situation. Corrective action may involve, but is not limited to, the following:

1. Centralized certification. This may involve the expansion of centralized certification to provide mobile, acceptable and affordable tools for potential users. Any certification program must meet the requirements of international codes, standards and regulatory bodies.
2. Harmonization of international certification schemes. This critical issue calls on various existing certification schemes to realize the necessity of harmonizing these certification programs in order to serve the NDT community and industry. The apparent differences in the requirements of these programs require owners to join efforts to harmonize them in order to provide greater flexibility to the certified personnel and to the industry.
3. Accreditation. The issue of accreditation of training organizations must be encouraged and pursued. If implemented, it will be a win/win situation. It will serve the industry, training providers and users. It will root out unqualified training organizations and offer assurance of acceptable service provided to users. The accreditation program must include follow up through frequent auditing to ensure continued compliance with the requirements of accreditation and to maintain credibility of the service provided.
4. Publications. Since successful training depends partly on training materials, the availability of acceptable and affordable training material in languages other than major international languages is an important tool for successful training. As indicated above, this may be the most difficult task due to the need of qualified technical translators and the cost involved. A significant factor that must not be forgotten is that the best training material will not provide the anticipated value without an efficient, qualified and effective instructor.

Conclusion

Despite the fact that the importance of this issue may vary in different industries and parts of the world, its significance is increasing and demands action. Ignoring it will only result in a disservice to the NDT profession and to the industry. Because the issue affects many parties ranging from individuals to NDT service organizations to the industry, I call on NDT professional associations around the world to act and collaborate in dealing with the issue to meet their main purpose of serving the NDT community and the industry and to create a safer world by promoting the profession and technologies of nondestructive testing.