

## **Certification and Training of NDT personnel**

Vijay V Vesvikar

Mechanical Engineering Technology  
Hafr Al-Batin Community College  
PO Box 1803, Hafr Al-Batin. 31991.  
Saudi Arabia.

### **Introduction**

Qualification and certification of NDT technicians in any organization involves intimate participation of three important entities. These are management, NDT instructor and the trainees. It requires a training that is the organized program developed to impart knowledge and skills necessary for qualification.

Each entity is responsible for successful implementation of laid down program to achieve the desired goals. Each one tries to fulfill its own part in best possible way to meet the objective within the existing constraints. In doing so all try to overcome the limitations in best possible way, but most of the times it becomes difficult to meet these objectives within the constraints and short cuts are resorted by both management and the instructor.

In this discussion I shall try to bring out the limitations of the management and the instructor in implementing such training programs. In doing so I shall try to bring some aspects real time issues, how to maintain credibility of these programs and credibility of instructor is in not undermined during the implementation of these training programs.

**Certification - A definition :** Before answering the question of why people certify, let's define the term certification. Issuing a written document or testimony that individual has undergone standard training and qualified to perform in a job. Certification is the practice of qualifying an individual to perform in a job or occupation, based on a minimum set of standards. That means a professional body or organization has come together to set standards concerning what individual should be able to know, do and be in a given field. That organization has also created a measurement tool to sample that performance. Certification programs are a standard way of distinguishing between a qualified and unqualified individuals, companies and institutions. Certification is typically created for two reasons : It protects the public from incompetent practitioners and promotes the professional competencies of an association's membership. It distinguishes an individual as someone who has been through a number of years of education, training, and rigor in order to serve the community. In a way, a balancing act exists for those seeking certification. It is the delicate balance between protecting the public and providing prestige for the profession.

**What certification is Not :** Certificate and certification are two terms that are often used interchangeably, though they are separate and distinct. Certification programs have predetermined standardized criteria on which participants are measured, usually through testing or assessment. The designation that results indicates the individual has met those standards or criteria.

**Certification - a delicate balance :** It provides the right balance of prestige and protection. Individuals become certified because it adds to their credibility as a professional. It provides greater opportunities for employment, promotion and increased earning potential. In addition certification may be required for them to perform in a given job.

## **Myths of Certification**

In the case of professional certification programs, many myths or beliefs have come to be accepted as truths. Those so-called truths affect the certification programs currently are designed, developed, managed and used. Not that any of those myths are bad but they are misleading.

**Job Performance :** When organization decides that employees need to be certified, the first questions asked are, Why certification ?, what problems are you trying to solve with certification ? The answers could be – reduce loss of revenue / profits due to poor job performance, decrease inconsistent work product results, accelerate the need for employees to achieve high consistent standard, verify employees have the skills and knowledge for which they are trained and create a best-in- class organization.

**Validation of Certification Program :** A true certification program needs to follow guidelines. A professional organization has done due diligence in creating a qualification process that – measures true knowledge and skill on the job, supports the program with training and information so that candidates can adequately prepare for the test, sustain the program by providing ongoing education and testing to keep the profession current.

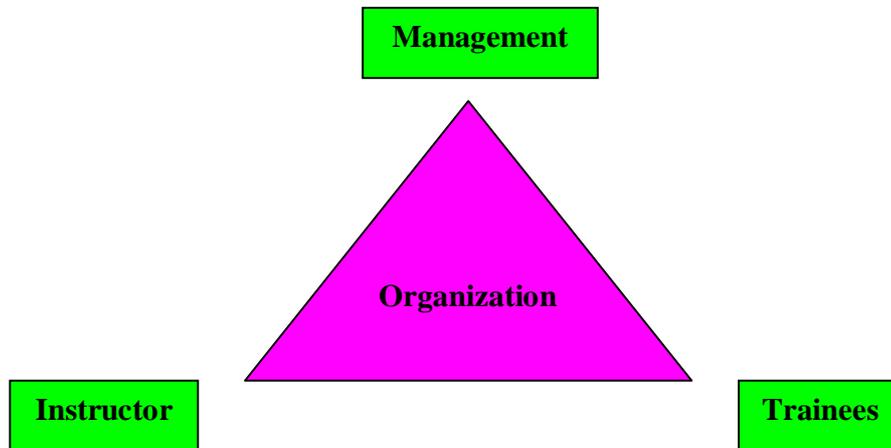
**Differentiator :** Certification is a competitive differentiator. It exists for all the organizations and is particularly true if competitive organizations begin adopting certification.

**Certification Program :** An organization should always build its own certification program. Before one makes that decision, find answer to the questions like – Is there an existing certification program that qualifies a particular employees in the organization for the skills required ?, If an existing program provides the necessary skills use it. Is there a existing program that can be used as a prerequisite to an internal certification program ? Develop new specific certification program based on existing one. Is organization ready to spare resources to design, develop and maintain an internal certification program ? If not, then an outside certification agency would be the best answer. Ultimately one needs to weigh pros and cons of external versus internal and decide.

**Competence :** Certification may be one measure of individual competence, but it does not tell whole story of an individual's performance. Certification is only one dimension of a multidimensional performance appraisal system and should never be considered as the sole measure of individual job competence.

**Loyalty :** Employers usually think trained and certified employees will leave the organization. However the reality is different. Employers who pay attention to their employees through continuous personal improvement, such as training and certification are more likely to see employees staying with that company.

**Cost :** Credentialing is a costly business. Cost of developing a certification program are usually heavy on the front end. It needs a supporting infrastructure, setting up system to answer customer inquiries and process transactions and can carry hefty price tag.



### **Management.**

Companies working in NDT field need to train and certify trainees to be qualified as NDT technicians. These certified NDT technicians must be capable of performing entrusted task independently.

Training involves imparting theoretical knowledge and conducting practical sessions for various NDT methods. During training it must be ensured that trainee understands the subject and he will be able to perform the task independently.

Management is under pressure to recruit and train candidates who neither meet minimum educational criteria nor do they have inclination to learn. This puts NDT instructor under additional pressure. He has to devise ways and means to make course simpler and interesting. At the same time motivate students to learn.

Management must have vision to plan training needs of today and tomorrow and may be for next five years. Based on the vision evaluate the requirement of NDT instructor and training aids. Selection of an NDT instructor is crucial. Being ASNT NDT Level III and wide experience in field does not necessarily means a good quality instructor.

Management must select a good NDT instructor. Management is guided by the ASNT document. It is necessary to increase the training hours and practical sessions depending upon the understanding of the students. This will dealt in detail when we discuss trainees. In that case more than standard classroom training hours and practical sessions will be mandatory. It is better to invest in the beginning by imparting extra training than required and make sure the subject matter is understood, rather than sending half prepared students for certification and getting failures.

## **NDT Instructor**

As per the guidelines of ASNT either an ASNT NDT Level III or a metallurgical engineer with one year experience or a NDT Level II technician with five years experience can be selected as an instructor. Usually ASNT NDT level III is preferred as an instructor. Being a qualified ASNT NDT Level III does not mean he is a good NDT instructor. It is important responsibility of the management that NDT Level III selected is a high caliber instructor. Various aspects of instructional capability must be assessed before selecting him as an instructor. These qualities can be assessed by a senior experienced manager during interview of the instructor. It is also imperative that if an instructor is incapable of performing his task and is ineffective to impart suitable training, that will be evident from the number of trainees being qualified as NDT technicians, must be relieved of duties at the earliest and replacement sought. Here again immediate replacement be available and management is forced to continue till suitable replacement candidate is available.

Alternative to this is to engage the services of external agency.

## **Trainees**

Trainee must possess basic instincts of learning – to understand the learning process. He must be keen to learn, must have interest, observed by being attentive in the class, shown by good performance in tests. Does his homework regularly. Must have determination to continue and succeed. This is all possible if the communication between the instructor and the trainees is good. The medium of instruction being English, students who have little or no adequate exposure to English find it very difficult to cope with the class instructions. This hurdle has to be cleared before commencing the training classes.

**Intake of trainees** – must have minimum higher secondary school level education, conduct IQ test to weed out useless material. Everyone who is coming to company for training need not be a suitable candidate. Trainees should be segregated based on the IQ test and special efforts be made to improve their skills in English. Deliberate efforts be made to achieve minimum standards required for learning this particular subject in English.

Subject matter may be translated into regional language through interpreter during classroom lectures. Similarly standards and codes also can be translated and taught in regional languages. This may help in understanding the subject better.

Trainees who are trained to Level II are capable of performing Level I jobs efficiently. Under the supervision the performance is better. It implies that not only instruction classes are required for longer time but also longer periods of hands on experience under supervision.

All codes and standards are in English, and comprehending this is more difficult than just reading them. Some times it is hard to believe that trainees are incapable of even reading the documents of inspection.

**Difficulties encountered by an instructor.** Incompetent and disinterested trainees and inadequate training aids and facilities.

## **Conclusion**

Understanding the needs of the management in terms of training and advise management in preparation of feasible training plan, i the interest of organization and students make a training and certification program which is simple and can be adhered to. In planning the courses, knowing the capabilities of the students incorporate extra hours for classroom training as well as for practical sessions. Preparation of innovative samples to make trainees exercise their mind. During actual conduct of training assess the traits of the trainees and have interaction with them accordingly. Sincere and attentive students be encouraged at the same time disinterested and dumb students weeded out.

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Author : Vijay V Vesvikar.

Qualifications and Professional Affiliations :

Metallurgical Engineer. ( bachelor of Technology )  
ASNT NDT Level III ( ET, MT, PT, RT, UT & VT )  
Welding Inspector CSWIP 3.1  
Radiation Safety Officer.  
Associate Member – Institution of Engineers India.  
Member – ASNT

Designation : NDT Instructor.

Organization : Hafr Al-Batin Community College.

### Speaker's Biography

Metallurgical engineer by profession.

25 years experience in manufacturing industry of automobile components.

10 years experience in Saudi Arabia as a NDT instructor, NDT inspector and Welding Inspector in Saudi Aramco. Out of which 4 years with an inspection company, 3 years in Saudi Aramco Training and Development Group of Inspection Department and remaining with Hafr Al-Batin Community College in establishing NDT training facility.

Served on the Board of Saudi Arabian Section of ASNT as a board member for two years.