

## **THE GROWTH OF QUALIFICATION AND CERTIFICATION OF NDT PERSONNEL IN CHINA AND OUR POINT OF VIEW ON ISO 9712**

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**Abstract:** The growth of qualification and certification of NDT personnel in China, especially after the founding of the Chinese Society for NDT(ChSNDT) in 1978, has been briefly introduced in the paper. When and why we carried out ISO 9712 for the qualification and certification in our society and our point of view on it have been shown as well. We would like to see under ISO 9712, that the qualification and certification would be more standardized and normalized, and become the foundation for setting up the international mutual recognition. This would benefit the NDT personnel not only in developing countries but also in the developed countries as well.

**Key Words:** Society NDT Personnel Qualification and Certification

In the period of 1950 to 1978, the classification of NDT was not related to NDT methods in China. The persons who were engaged in NDT and called NDT operators or NDT workers, were expected to be able to do UT, RT and PT as well as MT. In China, all workers were classified into eight levels according to their operating skill; so were the NDT workers. There were not any training materials and text books for the NDT methods.

In 1978, upon the founding of the Chinese Society for Non-destructive Testing(ChSNDT), the German Society for NDT kindly sent our society as a present one set of NDT text books of all methods in different levels. A translation team was organized and text books of UT, RT, MT, PT and ET of our own were published. Investigation was done of the certification standards adopted by ASNT (USA) and JSNDI (Japan) such as: Recommended Practice No. SNT-TC-1A and NDT text books A and B of JSNDI were translated as reference. In 1980, the Qualification and Certification Working Committee of ChSNDT was set up.

“Recommendation of Training and Levels classification and Certification of NDT Personnel” was formulated as our society’s Guideline document. This was aligned with the training, qualification and certification world-wide in that it had three levels for each testing method. The work that the Society had done was reviewed and well received by some industrial authorities. They set up their qualification and certification systems using ours as a model. The text books and training materials of all five NDT methods in three levels of some industries were published.

In the year of 1982, at our request, the Canadian Society for NDT kindly sent free-of-charge a set of Canadian General Standards Board (CGSB) documents related to NDT certification together with exam questions for RT, UT, MT, PT and ET. These materials interested us in observing ISO TC-135 SC-7 .

As our county was a member of the ISO family, we received documentation from ISO TC-135 SC-7 as the first ISO 9712 was being developed. Based upon those early ISO documents, we formulated our own National Standard GB9445-1988 named: Rules for Qualification and Certification of NDT Personnel.

We set up branches of the national society in each main provinces and established in each branch one NDT training center and qualification committee but only for Levels I and II. Level III training, examination and certification were performed by the certification committee of the national society.

In 1985, delegation of ChSNDT attended 11<sup>th</sup> WCNDT held in Las Vegas in USA. In the conference, Dr. Kopinek the president of German Society for NDT as well as the chairman of Harmonization Committee of Certification of NDT Personnel of ICNDT appealed for the mutual recognition of NDT certificates of nations and countries as it would benefit not only NDT personnel (avoiding repeated certifications) but also international trade. In response to that appeal, our society signed an agreement with German Society for NDT on mutual recognition in UT and RT in 1990 and MT, PT in 1991, respectively.

With the development of our industries especially after entering WTO, more and more foreign enterprise came to China and joint-venture companies were established. The NDT work has drawn much attention due to the quality of products and safety issues. Now there are more than 200,000 NDT personnel in China in such industries as: machinery, aviation, aerospace, railway, metallurgy, chemical engineering, architectural engineering, bridge building, petroleum pressure vessel and nuclear power plants. As all these persons need to be trained systematically and qualified and certificated, our society devoted more than 20 years of work toward this goal. Today, more than 150,000 NDT certificates in China have been issued .

We have more than 30 training centers and qualification committees in our branch societies and in certain industries such as machinery, bridge building and steel constructions. In order to make the qualification/certification more standard and conforming, not only internal but external NDT certification should be unified under one standard which each party/country can recognize; that is why ChSNDT choose only ISO 9712.

Therefore, in 1997, we revised our national standard GB 9445-2001 according to ISO 9712-1992. Two years later, the revised version of ISO 9712-1999 was published. In cooperation with the National Standard Committee, we again revised our national standard GB 9445-2004 but this time we formulated our standard identify more closely to ISO 9712-1999.

The new version exhibits great differences to the old version and system of certification. We now have 4 industry sectors, and according to ISO 9712:1999, we should build up new question bank and specimens for training and examination. The text books as well as training materials should be revised correspondingly. The most important job we are doing is setting up a management system (software) according to ISO/IEC 17024:2004 assisted by Dr. Murphy of Natural Resources Canada, chairman of ISO TC SC7. We have set up a certifying body led by certifying committee of our society. We have one examination center in Shanghai for the time being. More examination centers will be set up in other main provinces and industries after being checked by the certifying body .

The Chinese Society for NDT will still pay great attention to the qualification and certification of NDT personnel in China. And implement the national standard strictly. The main task of ours is promoting mutual recognition of the certificates internally and externally under ISO 9712. We would like to cooperate well with all other NDT societies to speed up the international mutual recognition, it is for the benefit of the NDT personnel not only in developing countries but also in developed countries as well.