

5.1.18. PRESENT STATUS OF NDT APPLICATIONS AND QUALIFICATION & CERTIFICATION OF NDT PERSONNEL IN BANGLADESH

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Introduction:

In Bangladesh there are many old and new industries like power stations, fertilizer factories, ship buildings, steel mills, oil refinery, railways, aircrafts, paper mills, pharmaceutical industries, manufacturing plants, oil & gas pipe lines and many other industries which need NDT technology to insure product reliability, to prevent accident and save human life, to ensure customer satisfaction and to maintain the manufacturer's reputation, to aid better product design, to control manufacturing process, to lower manufacturing costs, to maintain a uniform quality level and to minimize the wastage of time and materials. Due to increasing awareness for quality, safety and environmental protection globally, the industrial sector of the Bangladesh are becoming more and more interested to utilize different NDT techniques for testing, inspection and quality control & quality assurance. At the same time to build up a strong and effective infrastructure of local NDT practitioners at international standard for catering the local industries for quality service, NDT training, qualification & certification program has already been introduced in the country with the aim to harmonize with the regional scheme for mutual recognition. Research & development work on different NDT techniques has also been initiated for promotion of technology transfer of new or advanced NDT technology. Bangladesh Atomic Energy Commission (BAEC) is pioneer for development and application of NDT technology in various sectors.

NDT Applications:

NDT in Bangladesh is being widely used in the following fields:

- to provide necessary NDT services to the local industries for quality control & quality assurance of the industrial products;
- to initiate research & development works on different NDT techniques;
- to develop human resources in the field of NDT.

NDT services to industries:

Different NDT techniques such as industrial radiography, ultrasonic, magnetic particle, liquid penetrant, eddy current and visual inspection are being used in the industrial sectors for NDT services. All industries in Bangladesh have been receiving necessary NDT services of various kinds from BAEC and local 5-6 NDT companies. BAEC alone has been rendering NDT services from eighties to till date and covered almost all industries in the country. Neither a NDT foreign expert nor a foreign NDT company is at all needed for local NDT services. So huge amount of foreign exchange is saved and the local industries are getting NDT services at a very low cost and the service is readily available. The range and capacity of NDT services are expected to expand further in future with the industrial demand.

Research and Development work:

The applied research programs on NDT have been initiated in BAEC and are mainly focused towards the current industrial needs of the country. Research is usually conducted on the following fields:

- Development of conventional & advanced radiographic inspection techniques
- Development of ultrasonic inspection technique for metallic and non-metallic materials
- Development of magnetic particle and penetrant techniques for detecting the surface and subsurface discontinuities
- Development of eddy current testing technique for planar and tubular products
- Development of NDT for concrete structures

University teachers and students are also associated with these R&D programs. BAEC closely works with the universities for providing research support and guidance to the students of the undergraduate/postgraduate level in order to carry out their research works.

Human Resource Development through NDT Training, Qualification & Certification:

NDT personnel are required to be trained, examined and certified in accordance with national or international standard. In order to build up a strong and effective infrastructure of local NDT practitioners at international standards and to attain self reliance in the field of NDT technology, NDT training program has been taken up in BAEC within the framework of UNDP/IAEA/RCA plan for Regional NDT Training and Certification for RCA countries. The infrastructure of the above program has been developed in order to increase the acceptability of its activities internationally through the adaptation of ISO-9712 “Non destructive testing- Qualification and Certification of Personnel”. A National Certifying Body in the name of “ NDT Personnel Certification Committee (NDTPCC)” has been constituted with the representatives from different organizations having the approval of the Govt. of Bangladesh. The NDTPCC is the only recognized body responsible for NDT Certification in Bangladesh. Recently, program has been taken for accreditation of Qualification & Certification activities of NDTPCC as per ISO-17024-“Conformity assessment-General requirements for bodies operating certification of persons”. BAEC has been organizing the National NDT training courses and qualification examinations and certification in active collaboration with the NDT Personnel Certification Committee since 1986. Under this program more than 800 personnel are trained through 50 National Training courses on five general NDT Methods. Many NDT personnel trained under this program are working at home and abroad with good name and fame.

Formation of NDT Society:

Bangladesh Society for NDT (BSNDT) was formed in 1990. Since its formation BSNDT made bilateral cooperation agreement with NDT societies of 11 countries and became member of ICNDT in 1996. BSNDT also organizes NDT training courses, seminars, conferences and workshops.

Conclusion:

Potentiality of NDT technology in the fields of R&D, service and training is great in Bangladesh and its requirement is increasing with industrial growth. BAEC and other related organizations are working with right earnest for development and applications of NDT technology in Bangladesh. As a result Bangladesh has attained self-reliance in the field of NDT technology.