

# NON-DESTRUCTIVE TESTING (NDT) LABORATORY

## **Background**

Non-Destructive Testing (NDT) Laboratory was established at Physics and Engineering (P & E) Research Department under Central Research Organization (CRO) in 1993 based on International Atomic Energy Agency (IAEA) assisted projects. In early 1997, CRO has been developed as Ministry of Science and Technology (MOST) and, P & E has also become a section of Myanmar Scientific and Technological Research Department (MSTRD) under MOST. In 2005, NDT Lab. has been shifted from P & E to Department of Atomic Energy (DAE) which has full authorization for radiation applications. Until now, NDT lab. is under DAE (Natmauk-Office) which is situated at 123, Natmauk Road, Bahan Township in Yangon.

## **Objectives**

The main objectives of NDT Lab. are:

- (1) to provide NDT inspection services to industries, construction fields, transportations, and oil and gas enterprises under government.
- (2) to participate in IAEA Technical Co-operation and Assisted Projects concerning NDT applications.
- (3) to train our staff to get advanced NDT technologies and knowledge.
- (4) to share NDT technologies and knowledge to other NDT departments under government and private sectors.
- (5) to contribute technical knowledge and carry out research works to assist under graduate and post graduate students under MOST.

## **Facilities and Equipment**

In our laboratory, there are two portions; radioactive and non-radioactive. Radioactive Lab. is for X-Ray and Gamma radiographic testing works and Non-Radioactive Lab. is for ultrasonic testing, magnetic particle testing, penetrant testing and eddy current testing works.

The equipment set up in our lab. are as follows:

- Radiographic testing (RT) - Portable X-Ray set Site S D3006 with control machine Site X SCU 286.
- Ultrasonic testing (UT) – Flaw detector Dio 562 , thickness gauge DG 40B and WT 630
- Magnetic –particle Testing (MT) - Electromagnetic yoke Magnaflux, Defect detector Stressvision-2, Bench-type Magnaflux and Prod-type Ferrotest testers.
- Penetrant Testing (PT) - Sets of pressurized can, black light accessories and fluorescent liquid.
- Eddycurrent Testing (ET) - Crack tester.

### **Current Activities**

We provide conventional NDT inspection services to industries, construction fields, transportation and oil and gas enterprises under government if they requested us to service. Moreover, we participate in IAEA Technical Cooperation Projects and share knowledge and technologies to other NDT departments under government and private sectors. Beside these, we are studying advanced NDT techniques with the aid of IAEA Projects. Occasionally, we do research works and assist to under graduate and post graduate students under our ministry. Sometimes, we also participate in Scientific and Technological Seminars and exhibitions.

### **Future Plans**

In coming years, we intend:

- To train and practise our staff to be skillful in both conventional and advanced NDT techniques.
- To collect and maintain the NDT equipment for Advanced NDT.
- To provide inspection services with advanced NDT techniques to government departments.
- To organize a strong NDT Society with government and private companies in our country.

- To give awareness programs to industries, construction fields, transportations, and oil and gas enterprises for enhancement of NDT knowledge and application.

## **Conclusion**

To provide the highest - quality of inspection services, the NDT working group of DAE should become a strong group with sufficient skillful staff. So, we need to train manpower to get essential knowledge and technologies in NDT fields. Moreover, to fill up the required equipment is also important. Finally, we should try to establish Myanmar Society for Non- Destructive Testing for the cooperation and contact among the NDT departments in Myanmar.