



# INSPECTION & TESTING ENGINEERS

*QUALITY COMMITMENT INTEGRITY*



**Experts in the inspection of critical components of Power Plant, Oil Refineries, Fertilizer Plants, Infrastructure and Cement Plants.**



# BACKGROUND



**Inspection & Testing Engineers was founded by Mr. A. K. Pawar, Ex. Scientific Officer, Nuclear Power Corporation of India Ltd. (NPCIL) in 1997.**

**Since its inception, ITE has been a pioneer in offering on time services and path breaking solutions to its customers all across the country.**

**ITE has developed a fine-tuned and successful synergy between innovative technical solutions and quality assurance, resulting in new dimensions in the domain of Non Destructive Testing and related services.**

**ITE is an ISO 17025 certified organisation & is proud of its strong client focus and long term relationships. In the year 2013, ITE received NABL accreditation in the domain of Mechanical & Chemical Testing**



# **BACKGROUND...**



**With a strength of more than 100 employees, ITE is one of the most reputed firm working in the domain of NDT in India.**

**Over a period of more than 18 years, ITE has worked all across the country and has a solid customer base of 1000 + customers.**

**Services are offered in Non Destructive Testing (NDT), Destructive Testing (Mechanical & Chemical), Heat Treatment, Third Party Inspection, ASNT Level III services, NDT trainings & Certifications, Welding Consultancy, etc.**

**In past few years, ITE has developed a competitive advantage in critical inspections related to components of Power Plants, Fertilizers/Chemical Plants, Refineries, Boilers/Pressure Vessels', Cement Plants, etc.**

# SERVICES OFFERED



**ITE's services portfolio is divided in seven divisions, which are :-**

**Non Destructive Testing (NDT)**

**Destructive Testing (DT)**

**Heat Treatment (HT)**

**Third Party Inspection (TPI)**

**ASNT Level III Consultancy**

**Welding Consultancy**

**Trainings & Certifications**





# Non Destructive Testing



**Non Destructive Testing Division covers those services which are employed to detect flaws in components without impairing their end use. Services offered in NDT are :-**

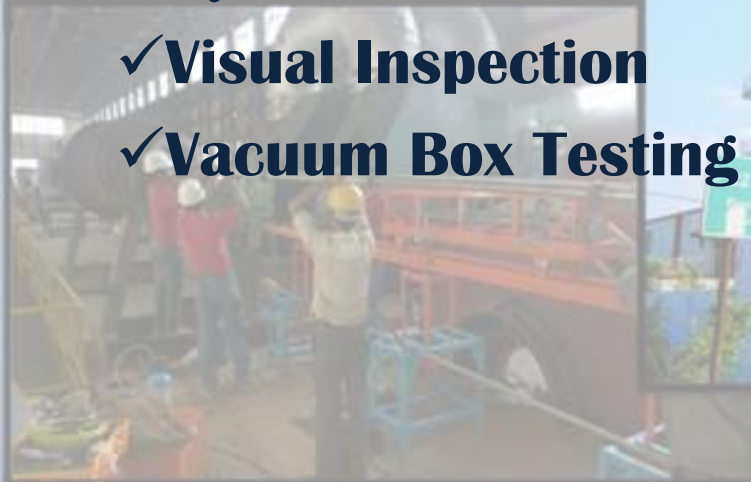
- ✓ **Helium Leak Testing**
- ✓ **Positive Material Identification (PMI)**
- ✓ **Eddy Current Testing / Residual Field Electromagnetic Testing (ECT/RFET)**
- ✓ **Internal Rotatory Inspection System (IRIS)**
- ✓ **Ultrasonic Testing (A Scan/B Scan/TOFD/PAUT)**
- ✓ **Magnetic Particle Testing (Coil/Yoke/Prod/Fluorescent)**
- ✓ **Radiography (Gamma Ray/X Ray) Testing**
- ✓ **Borescopy/Videoscopy Testing**
- ✓ **Oxide Scale Measurement**
- ✓ **Ultrasonic Thickness Measurement**



# Non Destructive Testing (contd..)



- ✓ Online Condenser Leak Testing
- ✓ Dye Penetrant Testing (Visible/Fluorescent)
- ✓ Visual Inspection
- ✓ Vacuum Box Testing





# Destructive Testing



**Destructive Testing Division covers those services which are employed to detect actual condition of the items but impairs their end use. Services offered in DT are :-**

- ✓ **Tensile Test (UTS/YS/% Elong.)**
- ✓ **Bend Test (Side/Root/Face)**
- ✓ **Chemical Analysis/Spectro (Fe/Cu/Ni/Al/Zn Bases)**
- ✓ **Impact Test (Izod/Charpy)**
- ✓ **Welding & Welder Qualification Tests as per ASME Sec IX, AWS D1.1, API 1104, SA 370, etc.**
- ✓ **Hardness Test (HRB/HRC/HB/HV)**
- ✓ **Fracture Test**
- ✓ **Macro Fusion / Etching Test**
- ✓ **Flattening Test**
- ✓ **Flaring Test**
- ✓ **Microstructure Analysis (Lab/Insitu)**

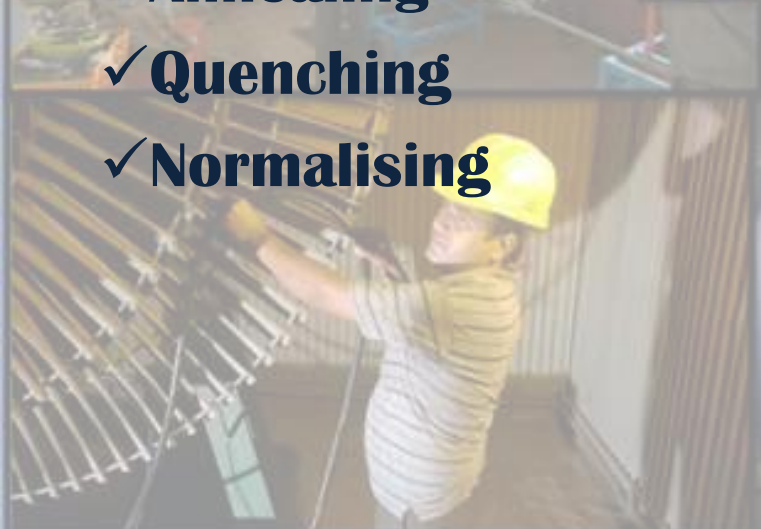


# Heat Treatment



**Heat Treatment is a tool to obtain desirable material characteristics especially before/during and after welding.**  
**Services offered in Heat Treatment are :-**

- ✓ **Post Weld Heat Treatment (PWHT)**
- ✓ **Pre Heating**
- ✓ **Stress Relieving**
- ✓ **Annealing**
- ✓ **Quenching**
- ✓ **Normalising**





# Third Party Inspection



**Through our TPI division, we perform inspections of items/components for customers' to ascertain whether the items fabricated/installed meet the statutory/contractual requirements or not. Services offered in TPI are :-**

- ✓ **Pre Fabrication/Installation Inspection**
- ✓ **Inspection during Fabrication/Installation**
- ✓ **Post Fabrication/Installation Inspection**
- ✓ **Pre Dispatch Inspection**
- ✓ **Preparation of Quality Assurance/Inspection Plans**



# ASNT Level III Consultancy



**ITE offers ASNT NDT Level III services in UT, RT, PT, MT, VT, LT and ECT. Services offered are :-**

- ✓ **USTAMP Certification Consultancy**
- ✓ **Preparation of Written Practices as per SNT TC 1A and CP 189**
- ✓ **Preparation and approval of procedures as per ASME, ISO, AWS, EN and other relevant codes/standards**
- ✓ **Carrying out quality audits**





# Welding Consultancy



**ITE offers consultancy/assistance in improving over all welding quality and solutions to problems faced by the customers with regards to welding related problems.**

**Services offered are :-**

- ✓ **Preparation of WPS/PQR/WQR as per ASME, AWS, ISO, EN, etc.**
- ✓ **Witnessing of Welding and Welder Qualification**
- ✓ **Approving welding related documents**
- ✓ **AWS Certified Welding Inspector services**
- ✓ **Supervision of welding works**

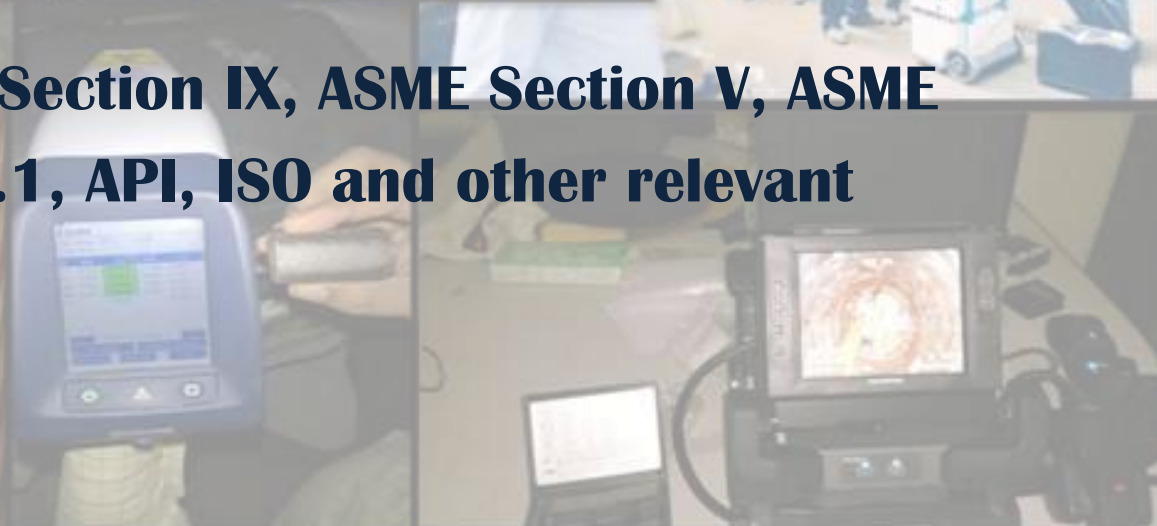


# Trainings & Certifications



**ITE offers trainings and certifications in quality assurance and inspection related areas . Services offered are :-**

- ✓ **NDT Level I & Level II in UT, RT, MT, PT, VT, LT as per SNT TC 1A**
- ✓ **Workshops on Quality Assurance**
- ✓ **Workshop for Welders and Welding Supervisors**
- ✓ **Workshops on NDT**
- ✓ **Workshops on ASME Section IX, ASME Section V, ASME Section VIII, AWS D1.1, API, ISO and other relevant codes/standards**
- ✓ **NDT for Starters**





# Esteemed Clients



ITE offers its wide range of services to a vast variety of clients in various domains like Power, Hydro, Fertilisers, Infrastructure, Refineries, Aviation, etc. Some of the major clients include :-



# Esteemed Clients..



**Ambuja  
Cement**



**HINDUSTAN ZINC LIMITED**





# Jobs Executed



**Over the period of more than 18 years, ITE has serviced various customers and has done variety of job all across the country. Some of the jobs executed are as follows :-**

- ✓ **Remnant Life Assessment at NTPC Badarpur, Delhi. RLA included activities like Borescopy, UT, MPT (Coil/Yoke), DPT, Metallography, Natural Frequency Test, etc.**
- ✓ **Type testing and Production testing of valves using helium for M/s Advance Valves Glpbal, M/s Advance Valves Pvt. Ltd, M/s Cesare Bonetti, etc.**
- ✓ **Borescopy of pedestal oil inlet to the throttle area in oil inlet pipeline and oil inlet pipeline from throttle to lub oil inlet header at Kota Super Thermal Power Station, Rajasthan**

# Jobs Executed..



- ✓ UT and TPI of columns at Hindan Air Base for M/s Boeing
- ✓ Third Party Inspection of Mechanical Components for DMRC for Kochin Metro Rail.
- ✓ NDT of components of AFCONS, L&T, L&T-SUCG, FEMC Pratibha and other major organizations working for DMRC, Delhi projects.
- ✓ Visual Inspection, Dye Penetrant Testing and Ultrasonic Testing of steel structures like trusses, inclined, etc. for M/s Uttar Pradesh Rajkiya Nirman Nigam Limited at Saifai, UP.
- ✓ NDT and TPI of Launching Girders, Columns, etc. for various DMRC sites across Delhi.
- ✓ NDT and TPI for components for RDSO at various sites .
- ✓ TPI of components of bridge over river Neera, Puna for Reliance Infrastructure Ltd.



# **Jobs Executed..**



- ✓ **Online Condenser Leak Testing of Water Cooled Condenser of 210 MW units at Chattisgarh State Power Generation Company Limited, Korba**
- ✓ **Online Condenser Leak Testing of Water Cooled Condenser of Gujarat State Electricity Corporation Limited, Sikka, Gujarat**
- ✓ **Online Condenser Leak Testing of Water Cooled Condenser of 500 MW units NTPC Tamil Nadu Energy Company Ltd., Chennai, Tamil Nadu, etc.**
- ✓ **Ultrasonic Testing, Magnetic Particle Testing, Stress Relieving, Radiography, Heat Treatment of various power plant components at JPL, Haryana.**
- ✓ **Condenser Leak Testing of Air Cooled Condenser of power plant, Aditya Birla Group**
- ✓ **Oxide Scale Measurement of boiler tubes at GSECL, Gujarat**

# Jobs Executed..



- ✓ **Radiography Testing and Heat Treatment of components of power plant, Nabha Power Limited, Punjab.**
- ✓ **NDT of components of Nagarjuna Fertilisers, Orrisa**
- ✓ **Visual Inspection, WFMPI, DPT, UT Thickness, UT Flaw Detection, Hardness, Hydro Test & Foundation Test of 1650 Cu. Mtrs. Capacity Ammonia Storage Horton Sphere at NFL Naya Nangal, Punjab and so on...**





# Equipment & Infrastructure



Equipment Type	Make/Model	Quantities
PAUT / TOFD Advance Ultrasonic System	Olympus Omni Scan MX2	02 Nos
Eddy Current Testing Equipment (ECT)	Olympus MS 5800	01 No.
Remote Field Electromagnetic Testing Equipment (RFET)	Olympus MS 5800	01 No.
Internal Rotation Inspection System (IRIS)	Olympus MS 5800	01 No.
Helium Leak Detectors	Adixen/Pfeiffer/Alcatel	02 No.
Borescope (18 Meter Length & 6 mm dia.)	Olympus – IPlex FX	01 No.

# Equipment & Infrastructure



Equipment Type	Make/Model	Quantities
Ultrasonic Flaw Detectors	Sonatest, KK, EEC & Modsonic	13 Nos
Radiography & X-Ray Equipments	Roli-1,2, Spec 2T, X Ray	10 Nos.
Borescope (18 Meter Length & 6 mm dia.)	Olympys – IPlex FX	01 No.
Oxide Scale Measurement Gauge	Olympus	02 Nos.
Vacuum Box Testing Systems	EWC	03 Nos.
Magnetic Particle Testing – Coil/Prod Unit	Magnaflux	02 Nos.
Magnetic Particle Testing – Yoke Unit	Magnaflux, EEC, SIMS, Permanent	08 Nos.



# Equipment & Infrastructure



Equipment Type	Make/Model	Quantities
Ultrasonic Thickness Gauges	KK, EEC, Olympus & Modsonic	16 Nos
Positive Material Identification	Bruker S1 Titan SP	01 No.
Hardness Testers	TIME/FASNE	07 No.
Temperature Recorders and Control Panels	SITEX/RECOL/TEMCON	20 Nos.
Universal Tensile Machine	FIE – 40 Tonne	01 No.
Impact Tester	FIE – Charpy/Izode	01 No.
Rockwell Hardness Tester	Rockwell	01 No.
Vickers Hardness Tester	Vickers	01 No.
Spectrometer (Fe, Cu, Al, Ni, Zn bases)	Amtek	01 No.

# Equipment & Infrastructure



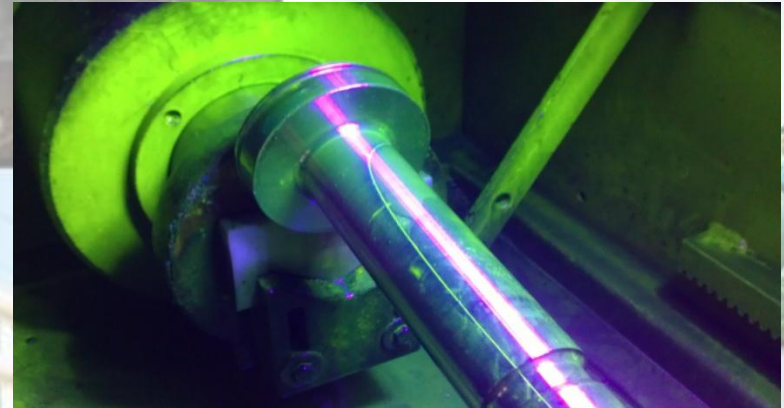
- ✓ **ITE has three offices i.e. Registered Office, Lab and Industrial Facility.**
- ✓ **Registered office is at D-155, Sector-49, Noida. This facility is more than 153 Sq. Mts. in land area and is ITE's official address for all correspondences.**
- ✓ **Lab is in Village Barola, Sector-49, Noida. This facility is 180 Sq. Mts. in land area and is ITE's destructive testing lab. All lab related testings takes place here.**
- ✓ **Industrial facility is at F-22 & F-23, Site-C, UPSIDC, Surajpur Industrial Area, Greater Noida. This facility is 2,000.00 Sq. Mts. in area and our RT tests, sample machining for DT and other activities are conducted here. It is an approved facility for all of ITE's radiation sources.**



# Miscellaneous



**ITE's Engineer performing  
Fluorescent MPT of turbine blades**



**Crack observed in Fluorescent  
MPT**



**Bearing and oil inlet being  
inspected using Borescope**



**ITE's Office in Greater Noida,  
Surajpur**



# Miscellaneous..



**Fugitive Emission Testing of Valve using Helium Leak Detector**



**ITE's Industrial Borescope with 18 meter length and 6 mm dia.**



**Ultrasonic Testing of Bearing being carried out**



**Ultrasonic Testing of critical pipeline being carried out**



# Miscellaneous..



**ITE's MPT equipment for  
Coil/Prod method**



**Helium Leak Testing of Heat  
Exchanger being done**



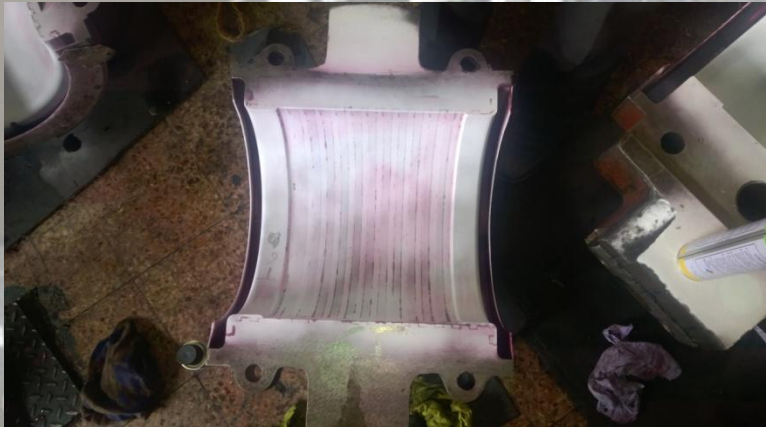
**Turbine of 210 MW unit at Kota.  
Borescopy & UT was done**



**Positive Material Identification  
being done of Alloy Steel**



# Miscellaneous..



**Visible Dye Penetrant Testing of bearing**



**Visible Dye Penetrant Testing of Forged/Machined item**



**LP Stage of 95 MW unit being inspected for flaws**



**ITE's representative taking lecture on NDT at ITE's conference room**



# Contact Details



**For any query or any service requirement, feel free to contact as per the details below :-**

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