

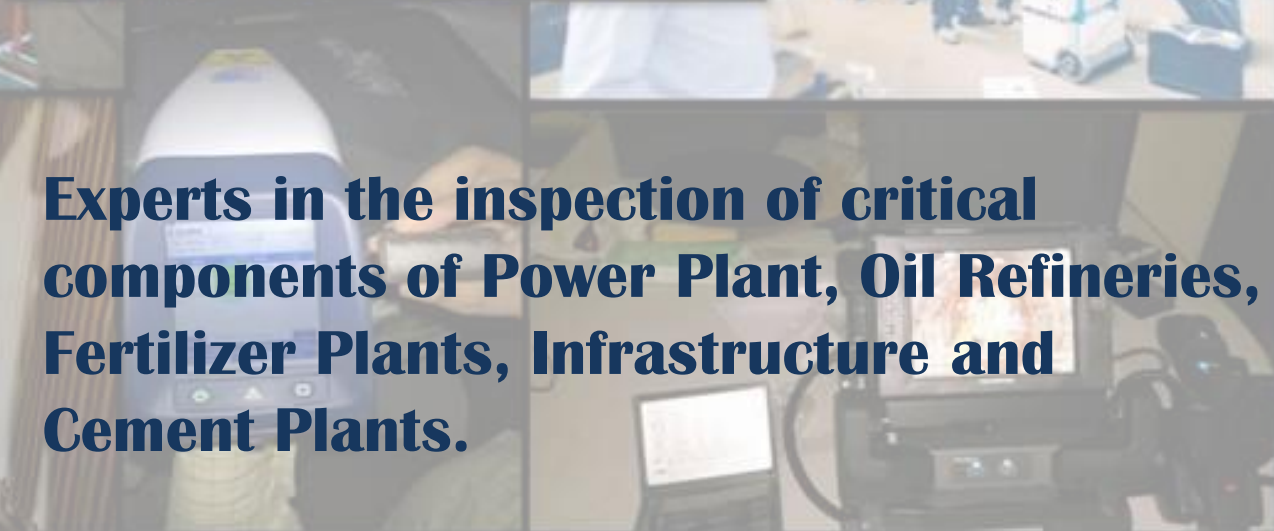


# INSPECTION & TESTING ENGINEERS

*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 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 more than 100 staff associated with us, ITE is one of the most reputed firm working in the domain of NDT in India.**

**Over a period of more than 25 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 :-**

- ✓ **Magnetic Flux Leakage for Tank Bottom Floor Inspection**
- ✓ **Ultrasonic Testing (A Scan/B Scan/TOFD/PAUT/COBRA Scanning)**
- ✓ **Helium Leak Testing**
- ✓ **Eddy Current Testing/IRIS/RFET**
- ✓ **Positive Material Identification (PMI)**
- ✓ **Magnetic Particle Testing (Coil/Yoke/Prod/Fluorescent)**
- ✓ **Radiography (Gamma Ray/X Ray) Testing**
- ✓ **Borescopy/Videoscopy Testing**
- ✓ **Oxide Scale Measurement**
- ✓ **Ultrasonic Thickness Measurement**
- ✓ **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



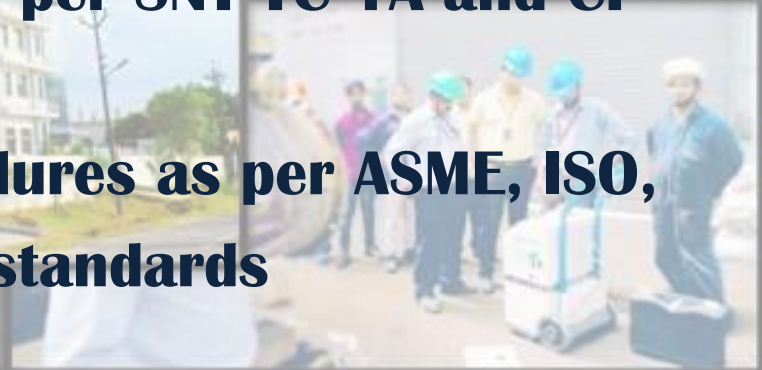


# ASNT Level III Consultancy



**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**



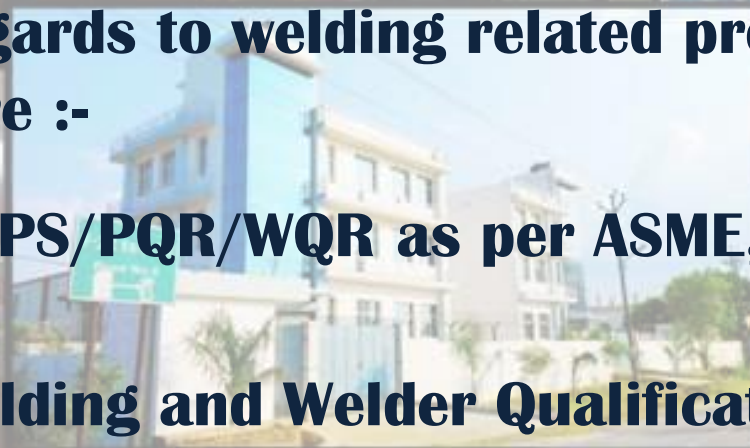
# Welding Consultancy



**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, IS, IRS, etc.**
- ✓ **Witnessing of Welding and Welder Qualification**
- ✓ **Approving welding related documents**
- ✓ **AWS Certified Welding Inspector services**
- ✓ **Supervision of welding works**

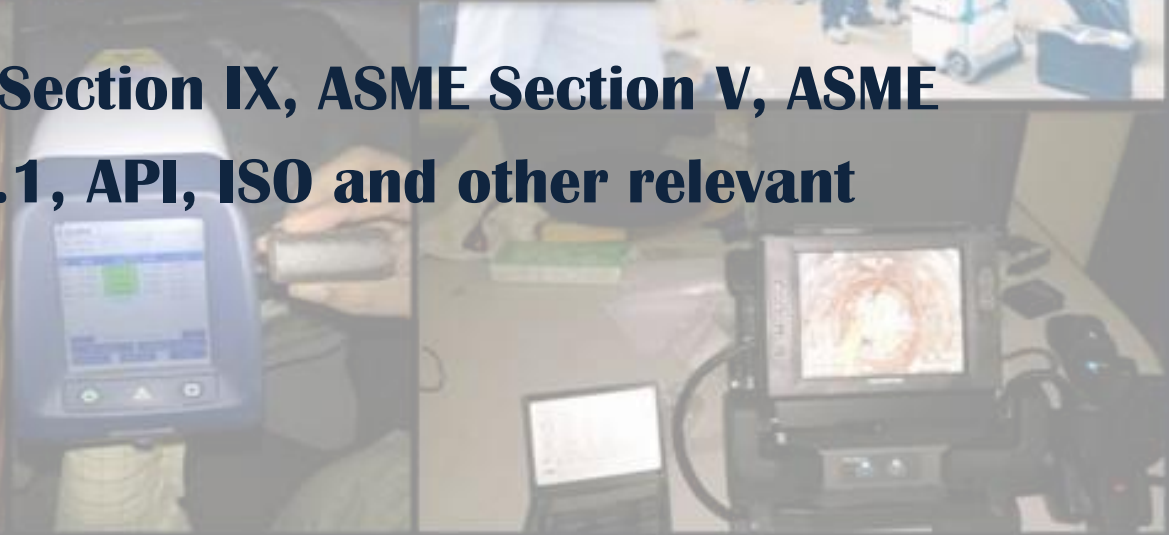


# Trainings & Certifications



**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 :-



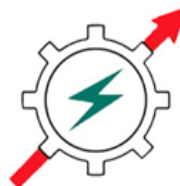
# Esteemed Clients..



Ambuja  
Cement



HINDUSTAN ZINC LIMITED



# Jobs Executed..



Over the period of more than 20 years, ITE has serviced various customers and has done variety of job all across the country. Some of the jobs executed are as follows :-

- **PAUT of pipes at M/s Samsung, Phase II, Noida site for M/s Hanmi Global**
- **UT and TPI of columns and other critical steel structures at Hindan Air Base for M/s Boeing India Pvt. Ltd.**
- **TPI of fabricated steel truss bridge bow string type for UP/Haryana border to Rohna section at HMM Infra Ltd., Ambala, NHAI - Northern Railway Project**
- **TPI of fabricated steel truss bridge bow string type for Bhiwani-Mundal-Jind road section for M/s Gawar Construction Limited, NHAI - Northern Railway Project**
- **Third Party Inspection including Visual inspection, Dimension Check, Ultrasonic Testing, Dye Penetrant Testing, Paint Inspection, etc. for Uttar Pradesh Rajya Setu Nigam Limited at Lucknow**
- **Third Party Inspection of components for Railways for their ROB, OWG. BOW String Bridges at Gulawathi, Sonipat, Rohtak, Ghaziabad, Delhi, and many more**
- **NDT of components of AFCONS, L&T, L&T-SUCG, FEMC Pratibha and other major organizations working for DMRC, Delhi projects.**

# Jobs Executed



- **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.**
- **TPI for Signature Bridge Project for M/s Gammon India Ltd, New Delhi**
- **Condenser leak testing of condensers (-ve pressure part) using helium gas at NTECL, Chennai; GSECL, Sikka; GSECL, Dhuvaran; NTPC, Kudgi; CSPGCL, Korba, etc. to name a few.**
- **PAUT cobra scanning of boiler tube joints at NPL, Rajpura; CLP Jhajjar Power; NTPC Gadarwara, NTPC Tanda, etc.**
- **Ultrasonic Testing, Magnetic Particle Testing, Stress Relieving, Radiography, Heat Treatment of various power plant components at JPL, Haryana.**
- **Radiography Testing and Heat Treatment of components of power plant, Nabha Power Limited, Punjab.**
- **NDT of components of cement plants like ACC, Ambuja, Ultratech, Heidelberg Cement, Prism Cement, etc. all across north India.**
- **Condenser Leak Testing of Air Cooled Condenser of power plant, Aditya Birla Group**

# Jobs Executed



- **NDT and TPI for components for RDSO and their contractors at various sites.**
- **NDT and TPI of Launching Girders, Columns, etc. for various DMRC**
- **TPI of components of bridge over river Neera, Puna for Reliance Infrastructure Ltd.**
- **Third Party Inspection of Mechanical Components for DMRC for Kochin Metro Rail.**
- **Remnant Life Assessment at NTPC Badarpur, Delhi. RLA included activities like Borescopy, UT, MPT (Coil/Yoke), DPT, Metallography, Natural Frequency Test, etc.**
- **NDT i.e. UT, MT (Coil/Yoke), PT, VT at NTPC Dadri, Uttar Pradesh.**
- **Statutory NDT Inspection of LPG Bullets & Horton Spheres for BPCL and IOCL**
- **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**





# Equipment & Infrastructure



<b>Equipment Type</b>	<b>Make/Model</b>	<b>Quantities</b>
<b>Magnetic Flux Leakage</b>	<b>MFE Mark IV</b>	<b>01 No</b>
<b>PAUT / TOFD / COBRA SCANNERS / UFDs</b>	<b>OLYMPUS MX2 and others</b>	<b>18 Nos.</b>
<b>Radiography &amp; X-Ray Equipments</b>	<b>Roli-1,2, Delta, X Ray</b>	<b>10 Nos.</b>
<b>Eddy Current/IRIS/RFET</b>	<b>OLYMPUS MS 5800</b>	<b>01 No.</b>
<b>Borescope (18 Meter Length &amp; 6 mm dia.)</b>	<b>Olympys – IPlex FX, others</b>	<b>02 No.</b>
<b>Oxide Scale Measurement Gauge</b>	<b>Olympus</b>	<b>02 Nos.</b>
<b>Helium Leak Detector</b>	<b>Adixen/Pfeiffer</b>	<b>03 No.</b>
<b>Magnetic Particle Testing – Coil/Prod/YOKE Units</b>	<b>Magnaflux</b>	<b>12 Nos.</b>

# Equipment & Infrastructure



<b>Equipment Type</b>	<b>Make/Model</b>	<b>Quantities</b>
<b>Ultrasonic Thickness Gauges</b>	<b>KK, EEC, Olympus &amp; Modsonic</b>	<b>16 Nos</b>
<b>Positive Material Identification</b>	<b>Bruker S1 Titan SP</b>	<b>01 No.</b>
<b>Hardness Testers</b>	<b>TIME/FASNE/Others</b>	<b>07 No.</b>
<b>Temperature Recorders and Control Panels</b>	<b>SITEX/RECOL/TEMCON</b>	<b>50 Nos.</b>
<b>Universal Tensile Machine</b>	<b>FIE – 100 &amp; 40 Tonne</b>	<b>02 Nos.</b>
<b>Impact Tester</b>	<b>FIE – Charpy/Izode</b>	<b>01 No.</b>
<b>Rockwell Hardness Tester</b>	<b>Rockwell</b>	<b>01 No.</b>
<b>Vickers Hardness Tester</b>	<b>Vickers</b>	<b>01 No.</b>
<b>Spectrometer (Fe, Cu, Al, Ni, Zn bases)</b>	<b>Amtek</b>	<b>01 No.</b>

# Equipment & Infrastructure



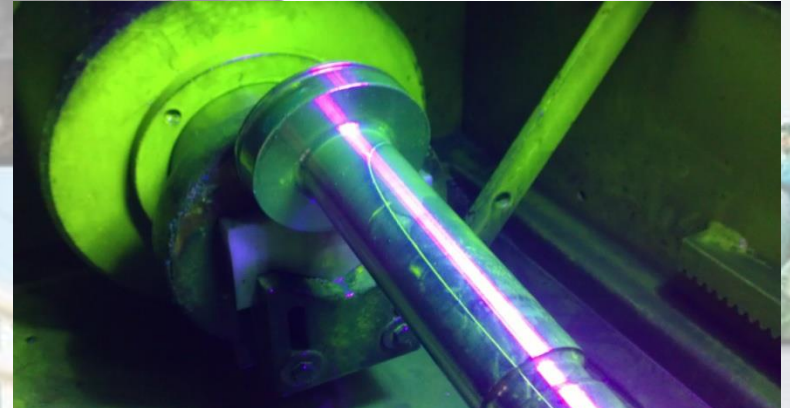
- ✓ **ITE has three offices i.e. Registered Office, Lab and Industrial Facility.**
- ✓ **Industrial facility is at F-22 & F-23, Site-C, UPSIDC, Surajpur Industrial Area, Greater Noida. This facility is 2,000.00 Sq. Mts. in area and our RT tests, sample machining for DT and other activities are conducted here. It is an approved facility for all of ITE's radiation sources.**
- ✓ **One collection center for samples is at D-155, Sector-49, Noida.**
- ✓ **Other collection facility is in Village Barola, Sector-49, Noida.**



# 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**

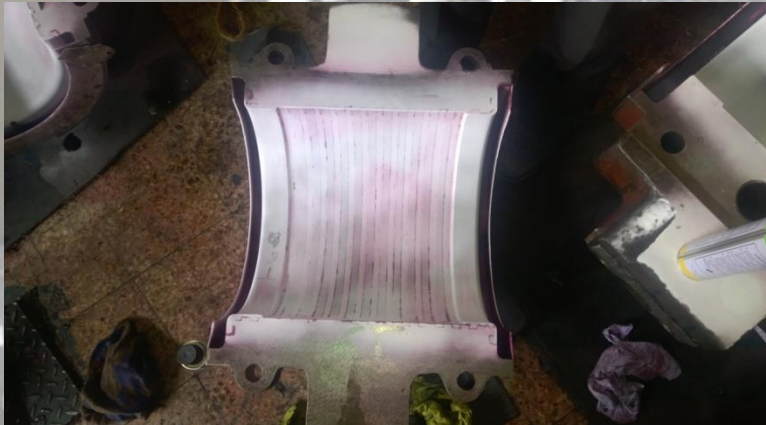


**Turbine of 210 MW unit at Kota. Borescopy & UT was done**



**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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