

## TECHNICAL SERVICES DIVISION

TEi Technical Services Division originates from the Design and Engineering office of Foster Wheeler Power Products Limited purchased by our former owner Senior Engineering Plc from Foster Wheeler in 1988. This Division of TEi Ltd provides design, engineering, commissioning and consultancy to a broad range of external customers and other TEi Companies and Divisions.

### REAL EXPERTISE

TSD engineering expertise was originally founded upon the product and service ranges of FWPP but has developed in recent years to include greater coverage of the systems and processes associated with steam plant in general.

The Middlesex Office is certified to ISO 9001 and has the staff and technology to provide engineering services utilising standards and computer software developed over many years. These include computer modeling of thermal and mechanical design, in addition to many in-house developed programmes for performance (combustion, heat transfer, fluid dynamics, etc).

### CONSULTANCY SERVICES

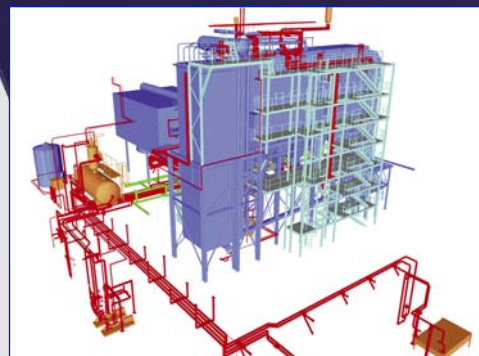
- Computer modelling of thermal & mechanical design
  - Condition and remnant life assesment
  - Control system upgrade
  - Plant comissioning
  - Operator training & O&M manual preparation
- Fuel conversion studies
- Service life prolongation
- Pipe stressing
- Expert witness services
- Emission studies
- Performance monitoring
- Spares supply

### PLANT UPGRADING

Pressure part analysis often shows the need to update the superheater or other components which result in a prolonged more economic life. Improving efficiency can be achieved by incorporating extra economiser surface, an air heater and by lowering excess air. Cycle modifications can incorporate feed heating and topping cycles through to a total CHP retrofit.

### FUEL CONVERSION

Your existing plant can probably be converted to burn COAL, OIL, GAS, low CV or Waste Fuels. All associated storage, handling, operation and maintenance requirements can be incorporated in scheme proposals. Boilers currently burning fossil fuels can have Gas Turbine Exhaust Gas or Process Waste Gas burning or Heat Recovery facilities added to reduce running costs. In fact, TEi Technical Services Division will add FUEL FLEXIBILITY to any boiler, allowing greater peace of mind for boiler plant operation.



- We carry out process and system design including heat / mass balances.
- We work with preparation of P & ID's and PFD's etc.
- We carry out component design and engineering, including pipework code and structural design utilising AUTOCAD V2006 work stations to produce detail drawings and pipework isometrics with material / equipment schedules.
- We have a team of experienced commissioning & test engineers to provide operational services including problem solving, emission monitoring, efficiency testing, operator training and the production of related manuals.
- Proprietary software includes: STAAD/PRO QSE (structural frames) and PSA5 (Whessoe pipe stressing programme for ANSI B31.1,3,4. BSEN 13480 and BS806)
- We are familiar with pressure vessel, pipework and boiler pressure part codes including ASME, LR, ABS, RINA, Bureau Veritas, Det Norske Veritas, Ansi and EN/BS. We have also supplied engineering using NFPA, Gas Council and H&S Executive Guidance notes.
  - We are also familiar with HAZOP procedures, having contributed to reviews on various contracts. Feedback from these is integrated into our design and engineering review.
  - We provide supporting documentation for PED requirements.



## DESIGN & DETAILED ENGINEERING

Design studies and engineering for plant upgrading, fuel conversion and problem solving include the production of comprehensive reports, complete with project programmes and budget estimates. Detailed manufacturing drawings and mechanical design, including pipework design, can also be provided. If you have any problems regarding plant operation, maintenance or performance, these can be quickly solved using our extensive experience and Technical Information Database built up through TEi Technical Services Division.



PO BOX 80 | CALDER VALE ROAD  
WAKEFIELD UK WF1 5YS

TEL: +44 (0)1924 780000  
FAX: +44 (0)1924 201901

techserv@tei.co.uk  
www.tei.co.uk