

Transformer Services



Doble Global Power ServicesSM is Doble's expert engineering and testing division – the best independent consulting service in the industry.

Doble has been a trusted name in transformer needs for over 85 years. Doble's expertise in this field covers all aspects necessary to ensure the safe and reliable performance of your transformers throughout their operational life cycle.



Doble Global Power Services offers the following services for transformers:

- Specification Writing and Review
- Proposal Evaluation
- Design Review
- Owner's Engineer
- Field Testing
- Electromagnetic Interference (EMI) Diagnostics
- Oil Analysis
- Factory Inspections and Test Witnessing
- Factory Audits
- Condition Assessment
- General Consultation
- Forensic Analysis/Root Cause Analysis of Failures
- The annual "Life of a Transformer" Training Seminar and more...

Due to deregulation, downsizing and an ever shrinking experienced workforce, companies are increasingly looking to outsource for answers to their tough in-house problems. Doble Global Power Services leverages the resources of Doble's extensive library and experienced team of engineers in order to deliver the highest level of consulting services and knowledge-based solutions.

The Doble KnowledgeBase contains many decades of statistically significant data, including test data results on over 100,000 types of apparatus, manufacturers' service advisories, and thousands of documented client experiences in the form of case studies, technical reports and presentations. This information is invaluable to the Doble team when evaluating a client's situation.

A successful preventive maintenance program is one of the single most important elements to ensure high equipment reliability. Improvements in equipment reliability yield high returns on your capital investment, expand your bottom line and allow you to remain competitive in today's global economy. To help you with your equipment reliability and remain ahead of your competition

Doble Global Power Services has three experienced transformer design experts on staff with the world's largest repository of knowledge at their disposal. Doble's database has over 3 million sets of test records on file which provide valuable benchmark data for use in evaluating test results on your equipment.

Doble's database has over 3 million sets of test records on file which provide valuable benchmark data for use in evaluating test results on your equipment



Doble Global Power Services works in conjunction with other departments at Doble and other Doble offices worldwide, bringing together the resources necessary for the job.

Specification Writing and Review

The Doble design engineer and the client identify the specific details of the client's transformer application. This includes the loading requirements, environmental conditions, voltage variations, short circuit stresses, and other considerations. From this review, the engineer utilizes his experience in transformer design to translate the customer needs into a purchase specification incorporating the state of the art design features and manufacturing requirements that are tailored to meet the demands of the client's specific application.



Improvements in equipment reliability yield high returns on your capital investment, expand your bottom line and allow you to remain competitive in today's global economy.

Proposal Evaluation

The Doble engineer incorporates his knowledge of the various designs and capabilities of the transformer suppliers to perform a comprehensive evaluation of bids for new and rebuilt transformer orders. Specification considerations, past performance, schedules, application needs, factory capabilities and condition, workmanship and reliability considerations are just some of the factors involved with a comprehensive and complete evaluation.

Design Review

The Doble engineer meets with the supplier shortly after the award is executed. The manufacturer provides detailed technical information on the thermal, dielectric, and mechanical aspects of the transformer design. Materials, electrical clearances, oil flow, conductor size and many other design features are thoroughly reviewed and discussed to ensure that the technical requirements of the customer's specification are fulfilled.



Oil Analysis

Doble Engineering Company has been providing laboratory services to the electric power industry since the 1930's. More than two hundred different analytical tests and variations are offered on a routine basis encompassing both solid and liquid insulation. Doble lab analysts are considered to be the predominant experts in DGA, oil quality and corrosive sulfur analysis. In addition, the Doble high voltage laboratory provides testing at frequencies and voltages that are not available from other laboratories. This laboratory is also used for failure and forensic analysis.

Electromagnetic Interference (EMI) Diagnostics

EMI (Electromagnetic Interference) is a type of on line diagnostics that has been applied as a rotating machinery condition based maintenance tool since 1980. During several thousand motor and generator tests occasionally a major source of partial discharges or EMI was determined to be from an associated power transformer. This diagnostics tool is now applied for the detection of a variety of internal transformer defects and thus supports more established transformer diagnostics in providing a comprehensive assessment of an in-service transformer.

Owner's Engineer

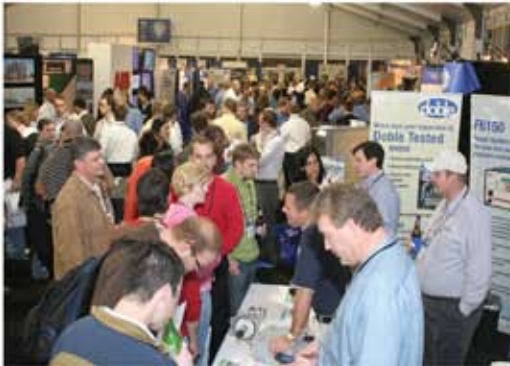
Under a contract as "Owner's Engineer" Doble can provide a range of front-end engineering services including:

- Process guidance, development and technology evaluation
- Project definition and conceptual design
- Preliminary engineering and feasibility studies
- Detailed project scope and capital cost estimates

Typical projects might include long term maintenance planning for a transformer bank, transformer fleet planning, resource allocation and scheduling, and economic decision making on transformer replacements.

The “Life of a Transformer” Training Seminar

This annual seminar is the world's first – and best – knowledge crash course on all aspects of large power transformers, from cradle to grave. The course has developed a reputation for excellence, attracting the top experts in the world with topics beginning with specification and design of a new unit, and finishing at failure analysis and end-of-life issues, while encompassing virtually every relevant topic in between.



Doble Global Power Services and the Doble Client Service Group – the Best in the Industry.



“We had a 24-year-old transformer with some historical oil degradation and heating problems. That was before I attended Doble’s “Life of a Transformer” Seminar in 2006 and gained useful transformer knowledge as well as a better understanding of Doble Global Power Services’ capabilities. A worsening oil sample prompted me to have Doble Global Power Services evaluate the transformer. They conducted a series of tests: Power Factor, Sweep Frequency Response Analysis, Leakage Reactance, Dissolved Gas Analysis and other Laboratory tests. They also did an on-site internal inspection of the transformer and reviewed our historic test data. As a result, Doble Global Power Services was able to identify the issues the transformer was having. Thanks to Doble we now know what needs to be done to keep our transformer going for at least another fifteen years.”

Joe Morley, Engineering & Operations Manager of Braintree Electric Light Department



For more information email
DobleGPS@doble.com

To be the “Best of the Best”
in today’s global economy,
choose Doble Global Power
Services.

www.doble.com