Power Services Overview

TOGETHER WE POWER THE WORLD®

Doble's unique business proposition combines three elements - diagnostic test instruments, expert consulting and testing services, and the world's largest resource library of related knowledge - into complete diagnostic solutions.

Complete Diagnostic Solutions – That's the Doble Difference

Doble has been a trusted name in diagnostic solutions for over 90 years. Today many companies are increasingly looking to outsource for answers to their toughest engineering problems. Trust Doble Power Services' consulting, testing and laboratory services for expert, unbiased diagnosis and assessment of critical assets.

Doble Power Services leverages the resources of Doble's library and team of more than 70 engineers with extensive experience in transformer, substation, rotating machinery and power systems engineering applications. When you hire Doble, you benefit from the shared experience of our entire engineering team to ensure the highest level of consulting services and knowledge-based solutions.

Services include:

- Expert consulting services
- On-line substation surveys
- Laboratory services
- Advanced & routine testing
- Partial discharge testing
- EMI Diagnostics℠ survey
- Condition assessment services
- Forensic analysis

Products supported include:

- Transformers
- Generators, motors and rotating machinery
- Circuit breakers
- GIS, switchgear and cable
- Iso-phase bus

Typical benefits:

- Unbiased, expert opinion
- Recommends maintenance strategies based on assessment
- Enables limited maintenance budgets to be targeted toward critical and/or problematic units
- Provides metrics to evaluate maintenance program effectiveness or improvement initiatives

Why Doble Power Services?

Extensive Global Experience
Doble has more than 70 engineers with extensive experience in transformer and power systems engineering applications.

Independent Expert Opinion
Trust Doble's expert consulting & testing services for unbiased diagnosis and assessment of critical assets.

Doble Peer Review Process
When you hire Doble, you are hiring the shared experience of our entire engineering team.

Doble KnowledgeBase
Provides valuable benchmark data for use in evaluating test results on your equipment.

Behind every Doble solution is 90 years of knowledge and expertise.

Power Transformer Services

- Expert consulting services
  - Specification writing and review
  - Factory audits
  - Proposal evaluation
  - Design review
  - Independent test witnessing
- Forensic analysis
- Condition assessment services
  - Asset health review
  - On-site condition assessment
- Advanced and routine testing
  - Commissioning/acceptance testing
  - Partial discharge (UHF)
  - IR and RFI survey
  - Acoustic
  - Insulation condition (power factor, capacitance, insulation resistance)
  - Electrical/magnetic (winding resistance, excitation current)
  - Mechanical (SFRA, leakage reactance)

On-site condition assessment & consulting services

Power Cable Services

- On-line PD tests at MV & HV cables
  - DC insulation
  - AC power factor and capacitance
  - AC partial discharge
- Off-line PD tests MV power cables
  - Tan delta
  - Partial discharge and PD fault location
  - Recovery charge voltage

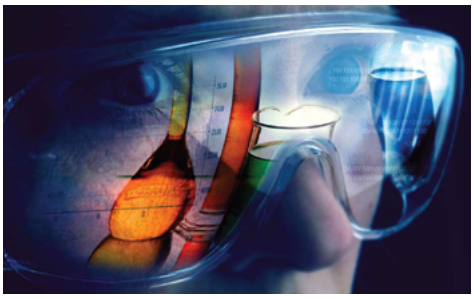
Network and Substation Services

- On-line partial discharge testing
  - RFI survey
  - Partial discharge (UHF)
- Surge arrester testing
- GIS commissioning & applied voltage testing
- GIS partial discharge survey
- Additional on-line tests
  - Infrared
  - Acoustic
  - SF_6 leak detection
  - Moisture in oil

On-line substation partial discharge survey using Doble PDS100.

Laboratory Services

- Over 200 different tests offered on both liquid and solid insulation
  - Dissolved gas analysis
  - Oil quality
  - Water in oil
  - Aging/oxidation
  - Furanic compounds in oil
  - Corrosive sulfur
  - Degree of polymerization
  - Metals in oil
  - Polychlorinated Biphenyls (PCBs)
- High voltage laboratory
- Laboratory diagnostic seminars
- Doble Oil "Survey"
- Doble Domino® USS
- Doble LTC diagnostics (LTCare)
- Doble OCB diagnostics (DBA)



Doble provides complete laboratory analysis and engineering guidance.

Rotating Machinery Services

- On-line tests
  - On-line partial discharge testing on stator windings
  - EMI Diagnostics℠ survey
- Off-line generator tests
  - Visual inspection
  - DC insulation
  - AC power factor and capacitance
  - AC partial discharge
  - Air gap search coils
  - Rotor winding integrity (RSO)
  - AVR testing
  - ELCID and Ring Flux
- Motor tests
  - Visual inspection
  - Vibration monitoring
  - MCA test for induction motors
  - Off-line tan delta and partial discharge

Gain a system-wide view of your plant and equipment with EMI Diagnostics℠

Rotating Machine Partial Discharge Measurements using 80-pF Line Couplers

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Doble is ISO Certified
Doble is an ESCO Technologies Company

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