

TURBINE & GENERATOR MULTIDISCIPLINARY SERVICES

Structural Integrity (SI) provides comprehensive, fully integrated solutions for life assessment, inspection, failure analysis, and online monitoring of gas turbines, steam turbines, generator equipment, and plant auxiliaries. SI's multidisciplinary team has decades of experience, with deep understanding of turbine-generator design, operation, maintenance, and industry issues. Our holistic approach ranges from proactive management plans to emergent analysis and inspections and offers unprecedented value with an emphasis on maximizing the life of existing assets in a safe, risk-informed fashion.

RISK ASSESSMENT AND LIFE EXTENSION

- 3-D Scanning
- Model Generation
- FEA Meshing
- Transient / SS Thermal & Structural Analysis
- Linear / Non-Linear (Plasticity)
- SCC, Creep, Fracture Mechanics
- EPRI SAFER, LPRimLife



ADVANCED NON-DESTRUCTIVE EVALUATION (NDE)

- Blade Root and Disk Attachment PAUT
- Disk Bores & Keyways LPA
- Solid Rotor Volumetric UT
- Bore Prep & Boresonic
- Generator Retaining Ring
- WFMT & VT
- Technique Development



METALLURGICAL EVALUATION & ROOT CAUSE ANALYSIS

- Material Chemistry & Characterization
- Fracture Surface Evaluation
- Full-Service Lab

Field Metallurgical Analysis:

- Metallographic replication
- Mold replication
- Hardness surveys

Root Cause Analysis: Site forensic investigation

- Metallurgy & Failure Mechanism
- Causal Analysis
- Corrective & Preventative Actions



ONLINE MONITORING AND DIAGNOSTICS

- Asset Mapping through PlantTrack™
- SIIQ™ Platform for Advanced Monitoring
- Data Trending and Insights
- BOP Integration (Piping/ Valves)



LET US DEMONSTRATE THE VALUE OF AN INTEGRATED ASSET MANAGEMENT PROGRAM

RISK ASSESSMENT AND LIFE EXTENSION

- Industry leader in development of advanced analytical tools for rotor lifeing
- Hundreds of rotors analyzed, covering every major manufacturer
- Proven capabilities to balance life versus risk to optimize capital planning

ADVANCED NDE

- Decades of expertise with technology development and application
- Faster, less invasive, and lower cost alternative to OEM inspections
- Complete open/clean/close services in combination with trusted partners

METALLURGICAL EVALUATION AND ROOT CAUSE ANALYSIS

- Full-service metallurgical lab for sample characterization and failure evaluation
- Demonstrated expertise in causal evaluation and mitigative actions
- Compressor inlet hygiene assessments

ONLINE MONITORING AND DIAGNOSTICS

- State-of-the-art platform for fleet asset management (PlantTrack)
- SIIQ platform provides advanced hardware and proprietary algorithms for real-time tracking and recommendations
- Data-driven insights to optimize performance and/or avoid damage-likely conditions



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OUR SERVICES ARE AVAILABLE
INDEPENDENTLY OR AS PART OF A
COMPREHENSIVE ASSESSMENT PACKAGE.