

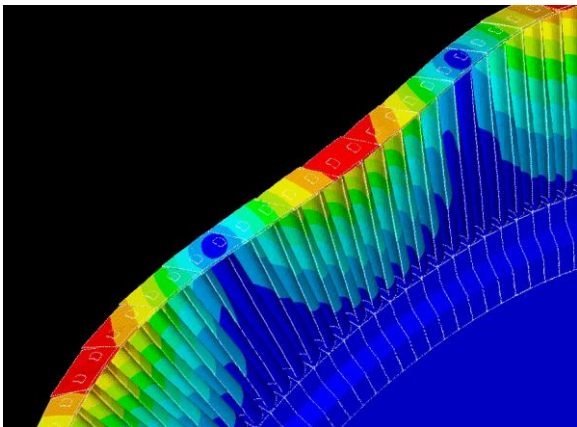


WORLD-CLASS STEAM TURBINE ENGINEERING SERVICES

STS, Inc. combines hundreds of years of experience in all aspects of steam turbine design, engineering, maintenance, repairs and evaluation to bring you one of the most comprehensive and experienced independent steam turbine engineering service teams in the world.

ENGINEER

- Power plant steam cycle analysis and optimization
- Mechanical and thermodynamic design review
- Project feasibility analysis
- Failure analysis with FEA, CAD and Lab Capability
- Engineered repair solutions for repair shops
- Insurance claim investigations and analysis



DEVELOP

- Sellers and buyers broker for pre-owned steam turbine generator purchases and sales
- Steam turbine mechanical and thermodynamic fit evaluations for pre-owned steam turbine generators
- New power plant development & feasibility studies
- Plant upgrade feasibility studies and analysis
- New unit bid specifications and evaluations

ASSESS

- Steam Path Audits with cost/benefit analysis
- NPW analysis for all repairs
- ASME PTC 6, 6.2 and 6S testing capability
- Power plant and performance training courses
- Hydro turbine testing

MAINTAIN

- Team of highly experienced Field Engineers for outage management/technical direction and owners engineer/representative
- Outage scheduling with Oracle-Primavera P6® or Microsoft Project®
- Complete major and minor inspection bid specification preparation
- Vendor bid price evaluation and selection
- Repair solution design reviews
- Owners representative for shop repair and inspections





"In all of my years of selling used plants and machinery, I will say that you are perhaps the most accommodating, helpful and knowledgeable technical resource and advocate that I have seen."

-Jesse Spector, Phoenix Equipment Co.

MONITOR

- **STEAM** Program™. The most comprehensive in service steam turbine generator inspection and evaluation and monitoring program in the industry!
- Expert evaluation of STG performance and operational efficiency
- Preventative monitoring to reduce risk of unwanted trips
- Basis of condition based maintenance and outage interval decisions
- Detailed evaluation of all critical steam turbine generator auxiliary systems which are the primary reason for unit trips
- No disruption in operation for evaluation
- Adding borescope during outage increases CBM data
- Can be done between 2-4 times/yearly
- Outage and parts planning support
- Product service and technical support hotline available for program members- 7 days/365 days/year



Member of US DOE EE & RE
Steam System Assessment
Steering Committee since 2006

TROUBLESHOOT

- Troubleshoot turbine steam path, performance and auxiliary system issues
- Eliminate chronic issues:
 - water in lube oil
 - lube oil leaks through oil deflector/seals
 - excess generator H2 leakage
- General turbine operational issues
- Turbine and generator controls problems

TRAIN

- Customized steam turbine/generator training courses
- Any OEM, any steam turbine technology
- Operator training
- Maintenance training
- On or off site locations

