

# GAS TURBINE ROTOR LIFE EXTENSION

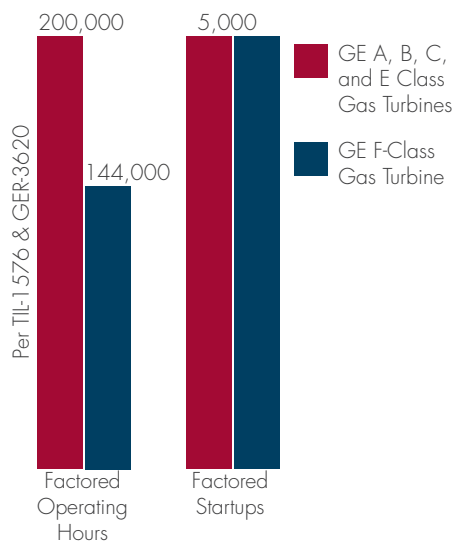


**Rotor Life Extension (RLE)** provides an economical alternative to replacement, by extending the useful service life of a rotor beyond the original service life limits published by OEMs. Each client has different requirements and goals; Structural Integrity (SI) is ready to develop a solution balancing operational needs and risk to meet your expectations.

## PROVIDING THE TOTAL PACKAGE

Coupling OEM equivalent services, advanced NDE, and client focused engineering, our rotor life extension program provides an economical approach to extending rotor serviceability.

- SI's partnership with **Sulzer Turbo Services** combines Sulzer's proven turbine services with SI's industry leading engineering and advanced NDE services. Sulzer's shop, repair and component replacement manufacturing are equivalent to OEM services.
- **Structural Integrity's** turbine rotor experience spans decades – born from an extensive background in rotor design and fleet management, and solidified through industry leading NDE development. SI's engineering combines materials understanding, turbine-specific FEA analysis, and advanced inspection findings into a probabilistic rotor evaluation.

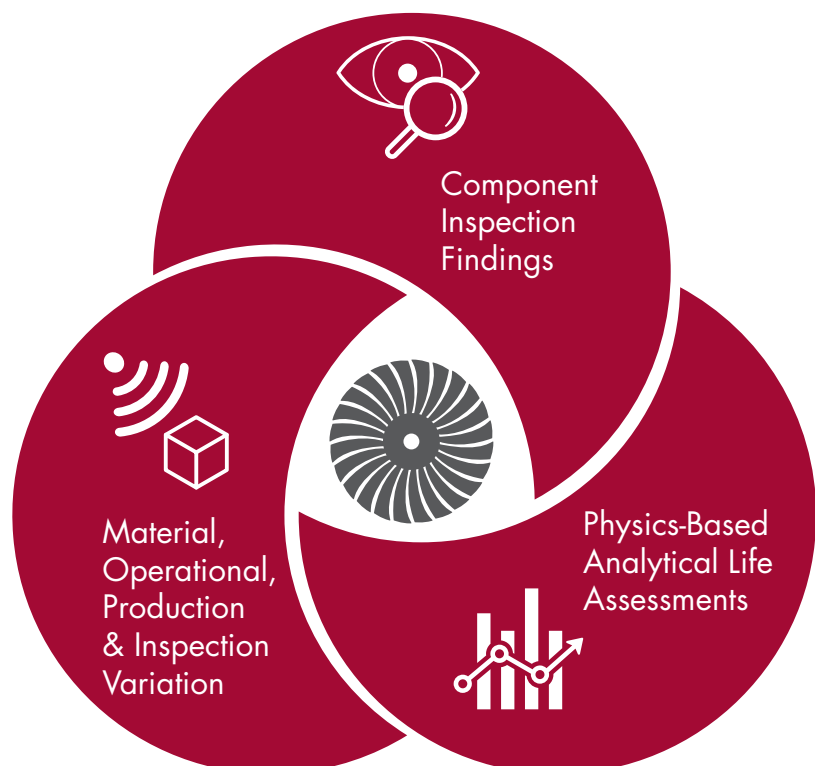


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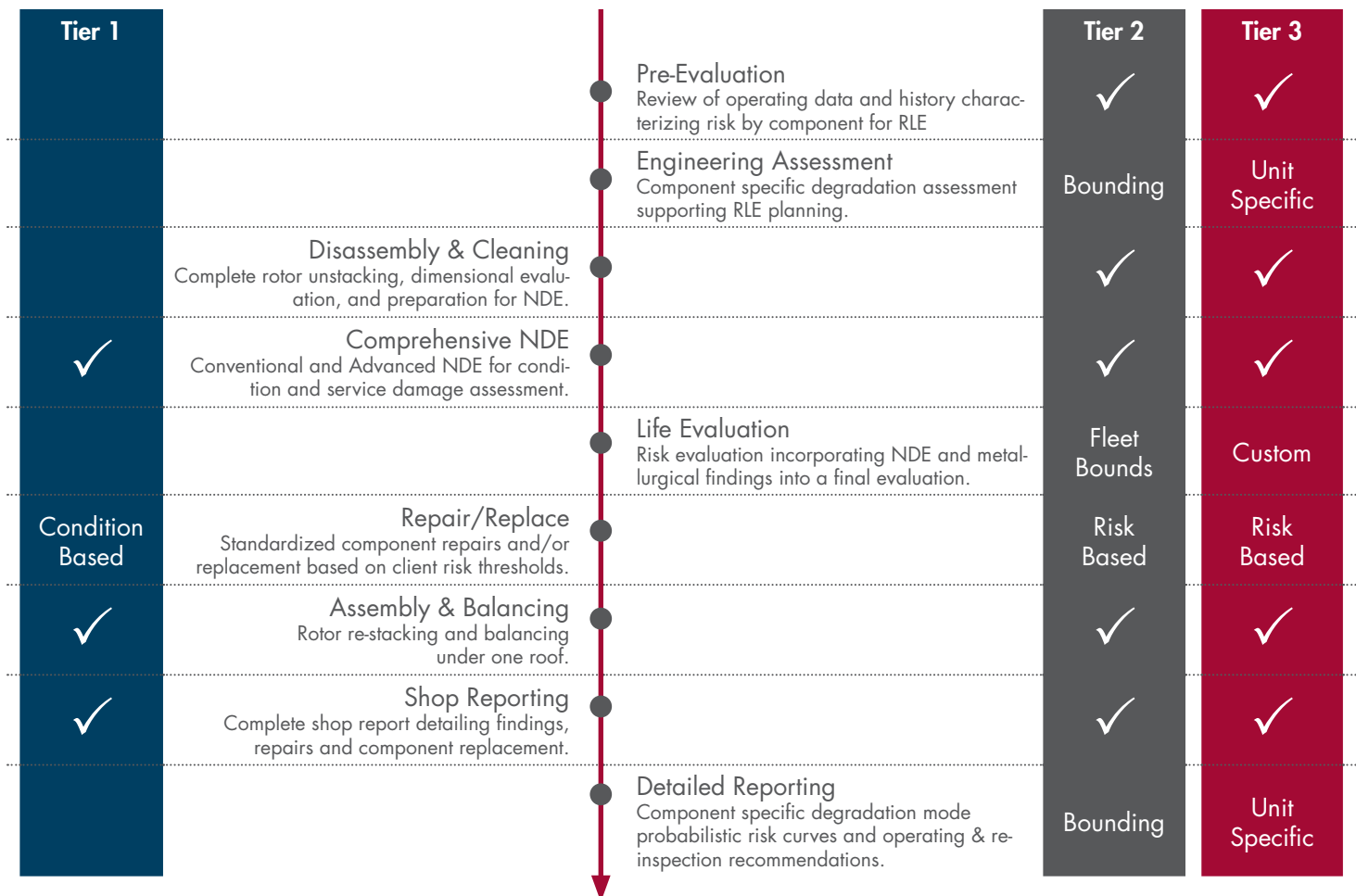
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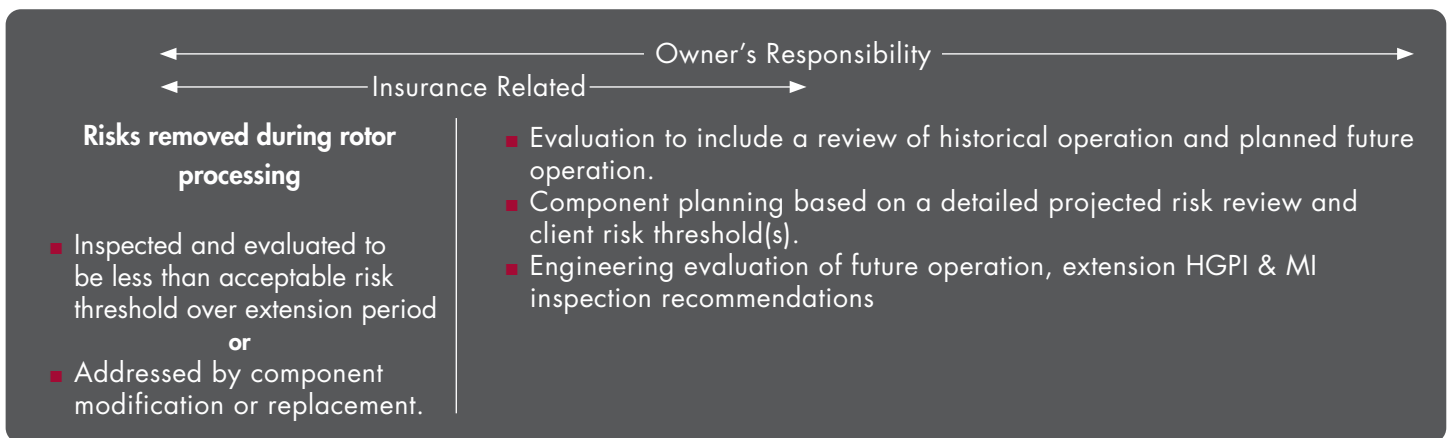
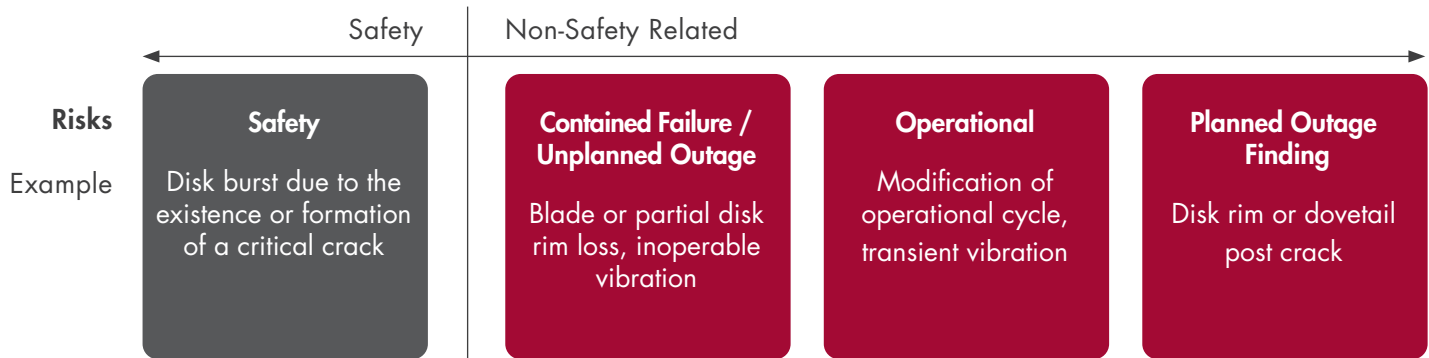
## Rotor Life Extension-Program Overview



Coupling OEM equivalent services, advanced NDE, and client-focused engineering, **Structural Integrity's Rotor Life Extension** services provide an economical approach to extending rotor serviceability. We focus on our clients' needs and seek to have a transparent, non-biased, risk-centric discussion versus forced component replacement typical of OEMs and other consultant groups.

## Transparent Risk Discussion Vs. Forced Component Replacement

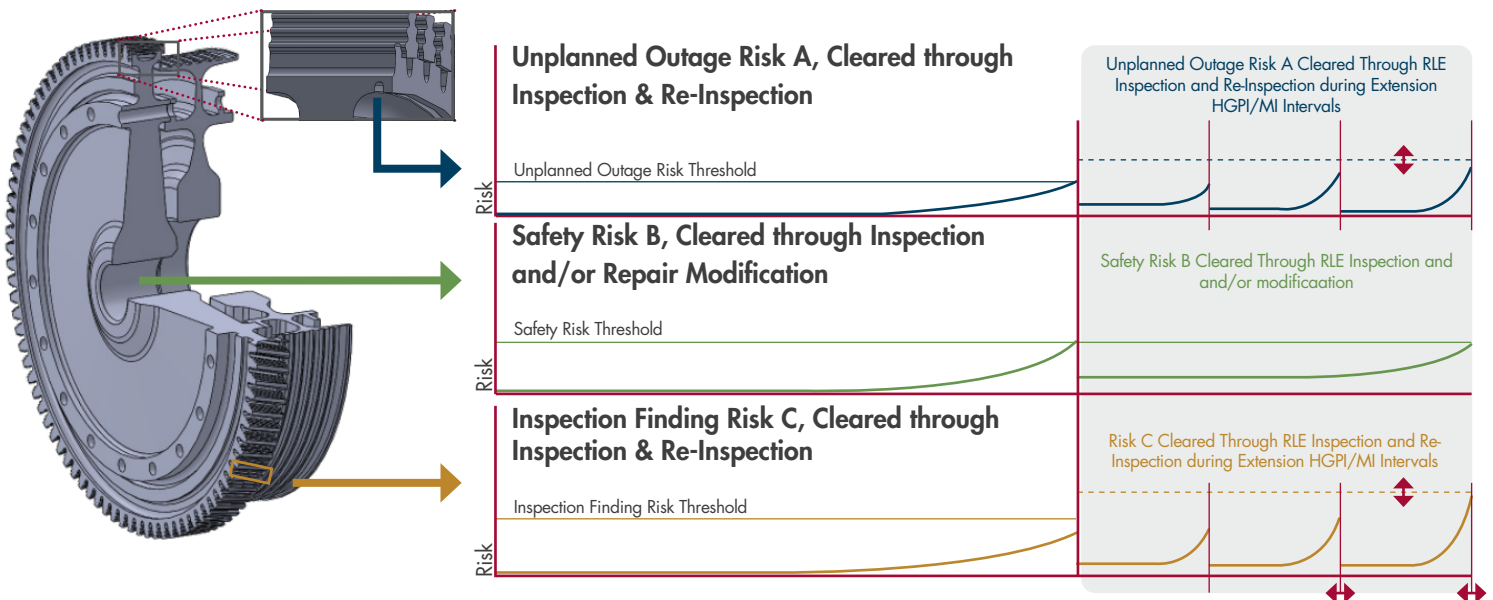
Structural Integrity's approach is to provide a transparent, non-biased discussion versus a forced component replacement recommendation provided by an OEM or other engineering consultant.



## Risk Management Through Extension Period

Vs.

## Forced Component Replacement



Unplanned outage and inspection finding risks can be optimized based on desired interval and client risk threshold.

## ABOUT STRUCTURAL INTEGRITY ASSOCIATES

**Our Mission:** Provide the best in value, innovative, and fully integrated asset life cycle solutions for our clients

Our 40+ year history is a story of innovation. We emphasize creative, multidisciplinary approaches to design and evaluate critical components, combining sophisticated engineering and inspection tools for a unique, integrated blend of technical expertise with cutting-edge technologies.

Our diverse experience ranges from detailed evaluation of complex engineering phenomena to cutting-edge inspections to characterize degradation. We leverage world-class expertise in fields ranging from computer analysis and design codes to damage mechanisms and nondestructive examination to provide asset lifecycle solutions to the power generation, processing, and civil infrastructure industries.

## LET US DEMONSTRATE THE VALUE OF AN INTEGRATED TURBINE & GENERATOR ASSET MANAGEMENT PROGRAM

### RISK ASSESSMENT AND LIFE EXTENSION

- Industry leader in development of advanced analytical tools for rotor lifing
- 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)
- SIQ 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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