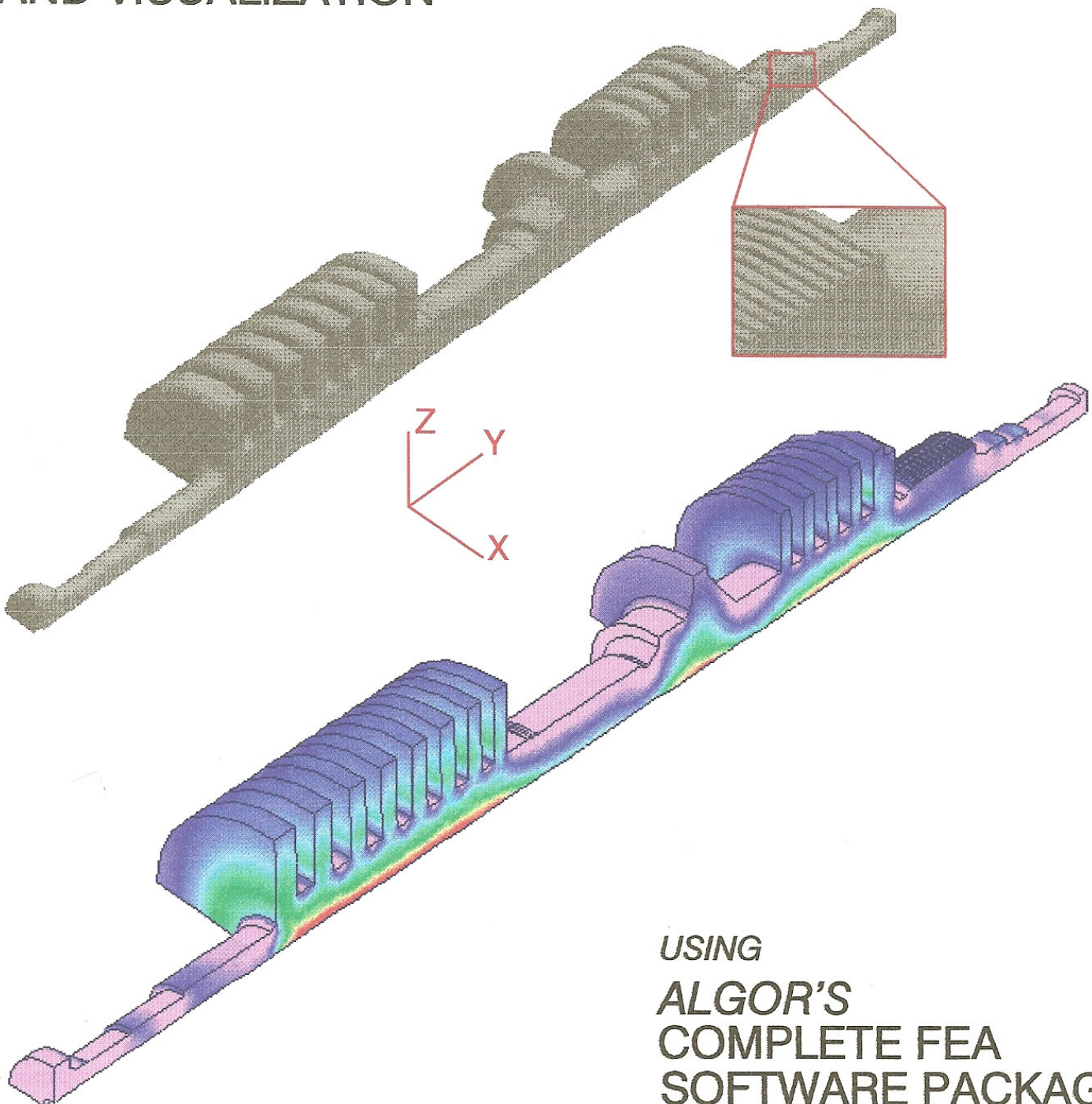


REINHART & ASSOCIATES, INC.

NOW OFFERS

THREE DIMENSIONAL
FINITE ELEMENT ANALYSIS
AND VISUALIZATION



USING
ALGOR'S
COMPLETE FEA
SOFTWARE PACKAGE

The Engineering Department at R&A provides the following services for engineering design and analysis:

Finite Element Analysis

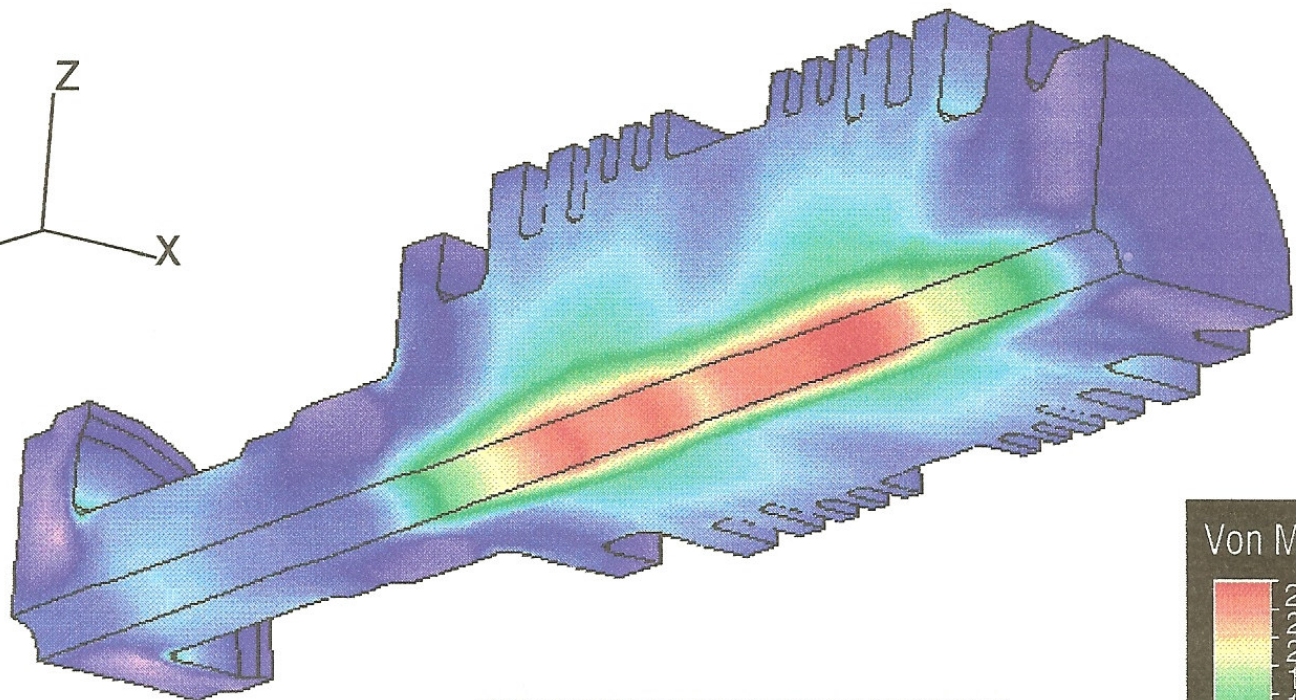
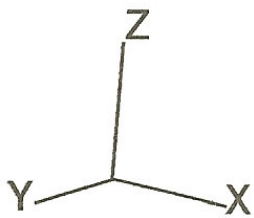
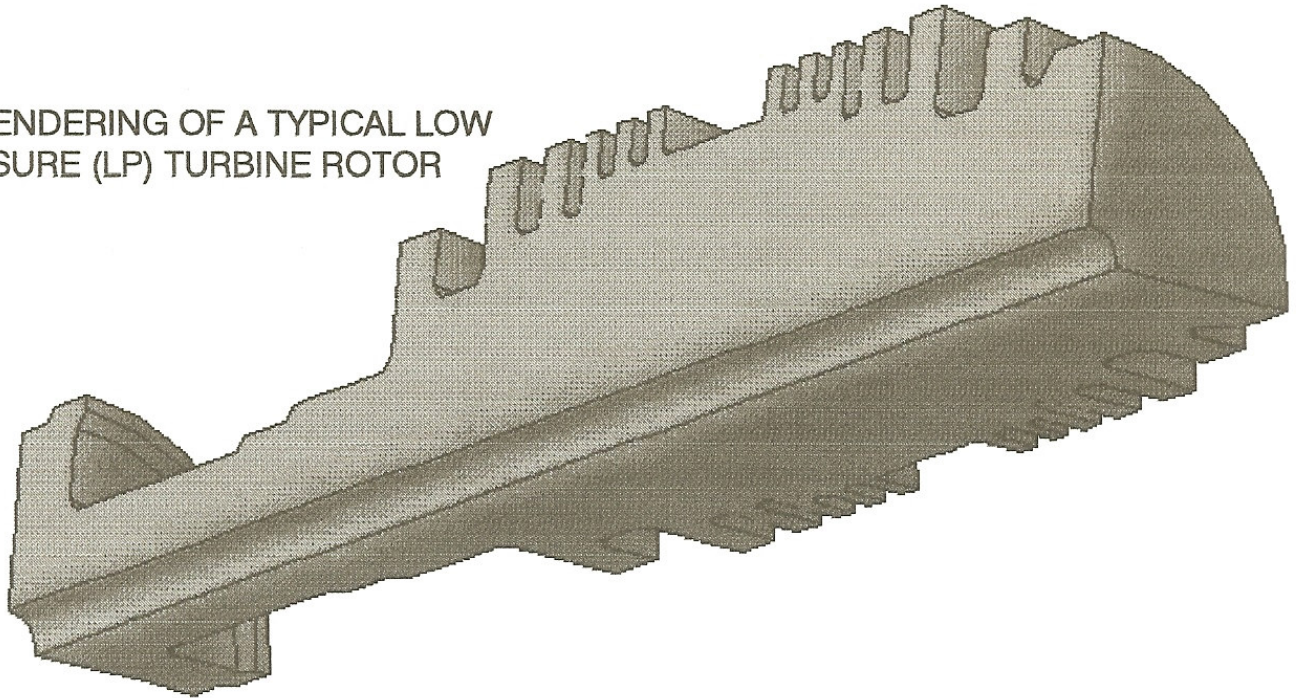
- Linear & Nonlinear Stress and Vibration Analysis
- Steady-State and Transient Heat Transfer Analysis
- Steady-State and Transient Fluid Flow Analysis

Visualization

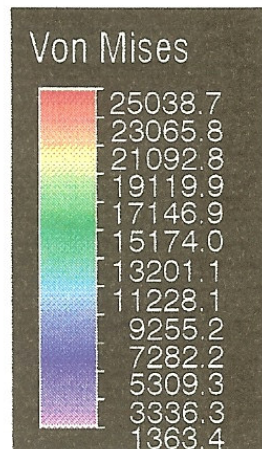
- Solid Model Rendering
- Analysis Results Visualization
- Precision Contouring for Model Verification
- Flow and Deformation Animation

THREE DIMENSIONAL RENDERING AND LINEAR STRESS ANALYSIS OF VARIOUS COMPONENTS AND SYSTEMS

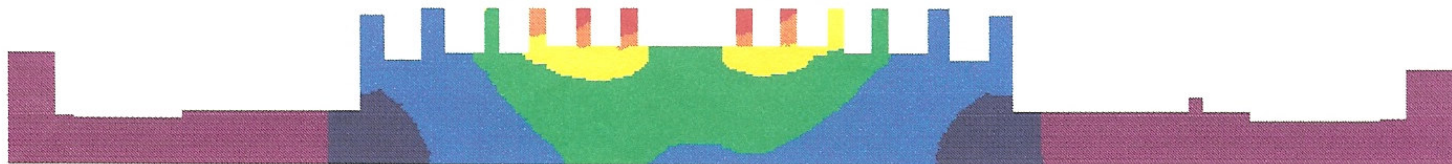
3-D RENDERING OF A TYPICAL LOW PRESSURE (LP) TURBINE ROTOR



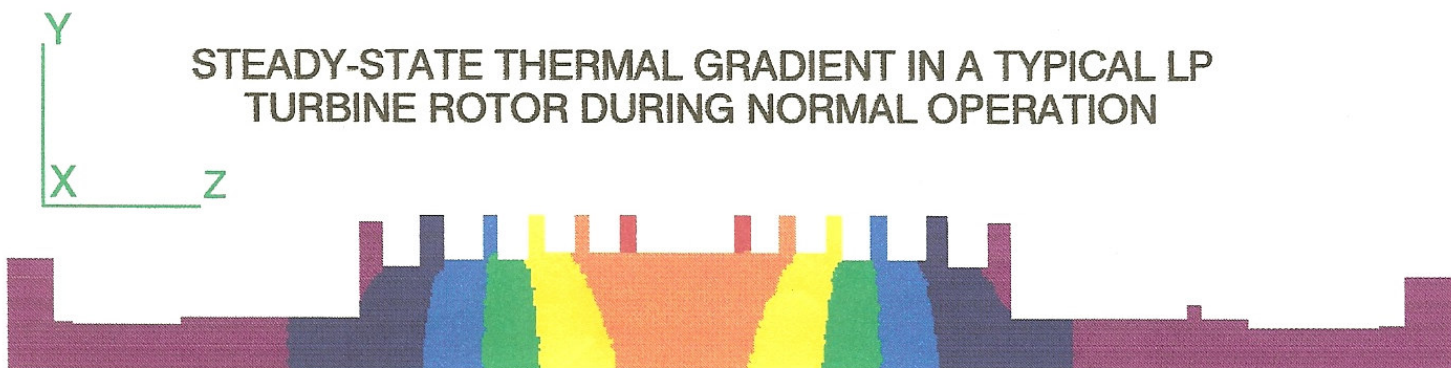
STEADY-STATE OPERATING STRESSES WITHIN THE LP ROTOR DURING TYPICAL OPERATION AT 3600 RPM



TRANSIENT THERMAL GRADIENT IN A TYPICAL LP TURBINE ROTOR DURING A START-UP CYCLE



STEADY-STATE THERMAL GRADIENT IN A TYPICAL LP TURBINE ROTOR DURING NORMAL OPERATION



REINHART & ASSOCIATES, INC.

*NONDESTRUCTIVE EVALUATION
SPECIALISTS*

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