

RMS SUPPORTS THE NEW YORK CITY CHILLER MARKET

By Bill Velekei

Turbines are used throughout New York City to drive chillers that provide air conditioning for the tall buildings, including skyscrapers, hospitals, universities and high rise apartments. RMS recently completed an overhaul of an Elliott turbine, which drives a York chiller, for air conditioning of their building at a client's site in NYC.

The turbine was experiencing high vibration. RMS teamed up with a mechanical contractor to pull the rotor, diaphragms and TG governor. Upon disassembly at site, the diaphragms were seized in the turbine case. The decision was made to pull the entire turbine from the site and send to our repair facility. Hydraulic jacks and heat were used to remove the diaphragms from the case. The diaphragms and reversing ring were glass-bead cleaned, NDT'd and dimensionally inspected. The diaphragms had minor pitting. The reversing ring had major erosion and corrosion. The diaphragms were repaired and reversing ring replaced.

The rotor was check balanced, glass-bead cleaned, NDT'd and dimensionally inspected. It had extensive pitting on the buckets, erosion and corrosion on the inter-stage seal areas and bearing journals. The rotor was de-stacked. The shaft was undercut, coated and ground to finish size on the bearing journal, seal packing areas and inter-stage seal areas. The rotor was then restacked via a progressive balance and final balanced.

The casing had extensive rust and scaling. The steam chest had extensive internal cracking and wear. The seal boxes were severely corroded. The case was glass-bead cleaned, horizontal joint was stoned, blue checked and prepared for reassembly. The steam chest and seal boxes were replaced with new.

All components were reassembled and fit to the casing. All clearances and thrust dimensions were taken and recorded. Turbine was then disassembled and ship back to site for ease of installation. A Final report was then issued. The turbine was reassembled on-site and a test run of turbine was conducted. The turbine ran

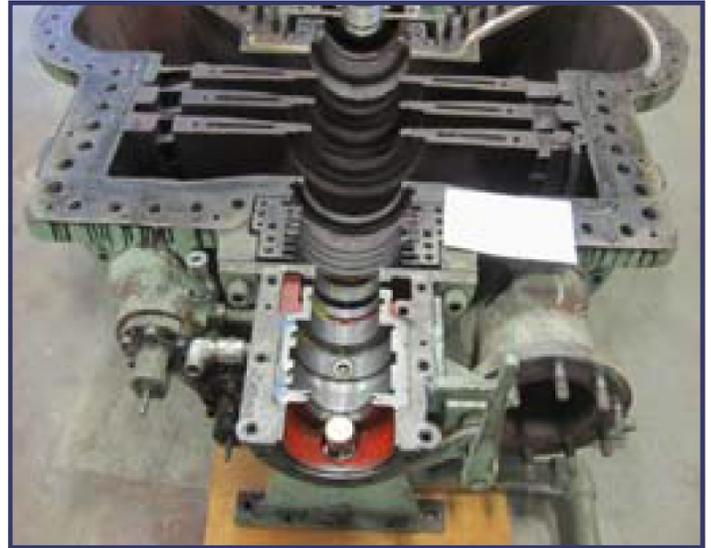


Figure 1

fine with minimal (acceptable) vibration.

Our customer was very pleased with the total turbine overhaul; the repaired condition of all parts, delivery of the repaired turbine ahead of schedule and within budget (no change orders).



Figure 2



Figure 3

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