

# INGERSOLL RAND 1100 FRAME STEAM TURBINE REPAIR

*By Scott MacFarlane*

RMS was offered a difficult task of rebuilding an Ingersoll Rand 1100 Steam Turbine that suffered catastrophic damage caused by over speed. The rotor, bearings, drive end bearing housing, reversing ring and seals were damaged beyond reuse. Being a critical piece of machinery, the customer fortunately had a spare rotor and several other spare wear parts. However, the challenge was in designing and manufacturing the bladed reversing ring and bearing housing as well as overhauling and reassembling the turbine within a short 5 week period.

The challenge was met by a dedicated project team working closely with purchasing, suppliers and the

shop. Expert project management, coordinated parallel engineering/drafting activities, excellent supplier relations, expanded inhouse machining capabilities, and experienced assemblers allowed RMS to provide a first class repair within the short timeframe.

The scope included cleaning, inspection, oil baffles, steam labyrinth seals, reversing ring, drive end bearing housing, reworked bearing spheres, valve rack rebuild, nozzle and diaphragm reprofiling, all new hardware, reassembly, alignment, painting and insulation as well as several other new parts and modifications. The machine was delivered on time, started and ran smoothly.



Figure 1



Figure 2



Figure 3



Figure 4

*For more information:*

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