

STEAM TURBINE OVERHAUL FOR STEEL INDUSTRY CUSTOMER

By Sydney Gross, Director - Steam Turbine Engineering

RMS was tasked with performing a Phase 1 inspection on a spare steam turbine rotor used in a steel mill blast furnace blower.

The rotor was from a 1947 vintage DeLaval condensing turbine. Visual and NDT inspection revealed several blade rows required replacement or repair while runout indications showed the rotor to be bowed.



Figure 1

a built-up rotor, discs on shaft, the conditions of the Phase 1 inspection required a Phase 2 disassembly inspection to investigate and rectify the bow.

After obtaining the critical dimensional information for the rebuild, the rotor was destacked. Indication of the bare shaft revealed it to be the source of the rotor bow. In addition, the blade rows to be replaced were found to be corroded into the discs so thoroughly that replacement of the discs was necessary.

RMS performed all reverse engineering and design work to restore the rotor to its former glory with new blades, discs and shaft. The effort was accomplished with skilled reverse engineering performed by craftspeople and designers with decades of experience caring for turbomachinery of all sizes and manufacturers.

The rotor is undergoing final inspections and at-speed balance before being returned to the customer for another 73 years of reliable service.

For more information:

Sydney Gross, Director - Steam Turbine Engineering
Email: sgross@rotatingmachinery.com
Tel: 484-821-0702

Headquarters

2760 Baglyos Cir.
Bethlehem, PA 18020

Houston Office

16676 Northchase Dr., Ste 400
Houston, TX 77060



rotatingmachinery.com

Tel: 484-821-0702

Parts: rms@rotatingmachinery.com

Rotating Machinery Services, Inc. | 2760 Baglyos Circle, Bethlehem, PA 18020 | Tel: 484-821-0702