

SUPERALLOY DISKS...WHEN NEEDED

By Robert J. Klova, PE

Rotating Machinery Services, Inc. recently supplied superalloy disks to two major North American natural gas companies, as part of complete power turbine rotor overhauls. The complexity of these disks showcases RMS's reverse engineering, manufacturing, and quality control methods. They were manufactured from contoured forgings. A rigorous inspection program included forging chemical and mechanical certification, ultrasonic inspection, overall and firtree slot dimensional inspections, go/no-go gaging, blade fit-up checks, and final die-penetrant inspections. Both rotors are now in successful operation.



Replacement of both disks was required because their useful life limit was reached. Often, however, using remaining life analysis techniques pioneered by RMS personnel, we are able to extend the useful life of power turbine disks beyond their rated operating lives, which is typically 100,000 hours. RMS has been able to certify disks for operation up to 200,000 hours.

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