

EMERGENCY REPAIR OF A DR E-138 FCC EXPANDER

By Don Shafer

Rotating Machinery Services was called to respond to an emergency shutdown of an E-138 Expander in Corpus Christi, Texas in October 2012. RMS sent a team of experts to site immediately to aid in the initial failure investigation as the machine was being disassembled. The evaluation showed a blade failure had occurred and RMS was contracted to perform a Root Cause Failure Analysis on the failed components. RMS was then contracted to provide a new Integral Stator Shroud and Low Erosion Rotor Blades to replace the failed existing components. All of RCA analysis results were used to ensure that the new components that were being produced would not be susceptible to the prior failure modes. RMS was also responsible for restoring the existing casings and components in preparation for reassembly of the unit. RMS was able to provide much shorter deliveries on these key components due to the fact that a set of castings for the rotor blades was in RMS inventory and the stator vane casting program had just produced another set of castings for another customer. RMS Purchasing was able to find forging suppliers to provide aggressive



deliveries for the integral stator shroud inner and outer rings. A March 2013 delivery was predicted based on this and with no unexpected discoveries of the components to be inspected and repaired.

RMS executed the design and manufacture of the new components to support this schedule. During the inspection of the used parts that were to be repaired, some of the casings and the seal housing were found to be in very poor condition. A repair plan was developed and executed to restore these components for one more operating campaign. The amount of repair and rework did extend the actual delivery by 5 weeks, with RMS meeting the adjusted delivery date to have the rebuilt unit back at site for a June 2013 installation.

This project was a prime example of how RMS experience can react quickly to the customer's needs and work to get their equipment repaired and suitable for service in the most efficient manner without compromising quality. It also shows that with teamwork between all the disciplines within RMS along with working closely with the customer these types of aggressive deliveries can be accomplished. This was not a site that RMS had supported in the past for their power recovery train. With the successful execution of this project, we hope to be their preferred supplier to support the entire power recovery train in the future.



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