Case Study: 7HA.02 Inner Turbine Shell

GOODWIN[®] INTERNATIONAL LTD

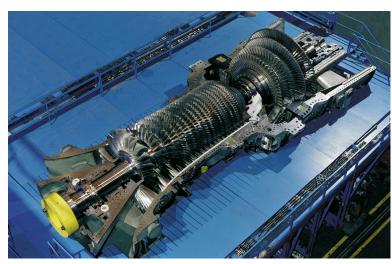
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Goodwin International is a world leader in the supply of large precision machined high integrity components including pressure vessels, gas turbine parts and power station valves amongst other applications.

We are also an accomplished supplier to the power generation sector. With our sister company Goodwin Steel Castings we produce a variety of components including the supply of castings, fabrication, machining and sub assembly in a wide range of materials from carbon steels to the more exotic stainless and duplex stainless grades.

Since 2014 Goodwin International has been one of the selected machinist for GE's 7HA.02 Gas Turbine components. One of the most complex components is the 7HA.02 Inner Turbine Shell. Since 2014 Goodwin have machined and assembled 5 of these components at a cost of over £1 million.





Once assembled the Inner Turbine Shell weighs in excess of 24 tonnes and with an overall diameter of 4 metres in B50A224B material. Goodwin International was chosen as a selected supplier due to the exceptionally complex machining requirements and stringent tolerances required in consideration of the application of the component.

The contracts covered, rough machining of segments, stress relief, finish machining, assembly and NDT of the free issued castings. NDT covered a range of activities from visual inspection prior to machining, MPI of machined surfaces, UT of critical areas identified by the client and surface finish measurements. All of the NDT identified by the project was accordance with their own quality requirements which was identified prior to contract implementation.

Supplementing this Goodwin International assembled all four casting to produce the final assembly. This was all conducted in house at our facility based in Stoke-on-Trent, therefore eliminating unnecessary transportation of the component to other sub suppliers. Procurement of the hardware for the project was carried out by our purchasing team here at Goodwin International and included the purchasing of over 166 ancillary components including Helicoils, pin dowels, nuts and bolts.

Goodwin engineers have many years experience dealing directly with engineers talking their language and tailoring their needs with our ability to add manufacturability to designs, manufacture finished components as well as procure ancillary components to meet the project requirements. Success in supplying large companies and projects arises from the tight integration and communication between the foundry and machine shop, offering our customers a single integrated solution. Our facilities are retained under common management by the sixth generation of the Goodwin family who have supplied cast product for over 130 years.

