
Incoming inspection of hot gas path components

Assessing the manufacturer's quality control system

WHY PERFORM AN INCOMING INSPECTION?

Hot gas path components of a gas turbine are considered to be among the most expensive components of a gas turbine. As such, the last thing you want is an important quality issue on a set of new or repaired components. However, several critical quality issues have been found in the past, illustrating the importance of a proper inspection of the parts. Typically, all findings have one thing in common: they should have been detected during the manufacturer's quality control process. The added value of ENGIE Laborelec's incoming inspections is to avoid machine damage by preventing that components with quality issues are installed in the gas turbine.

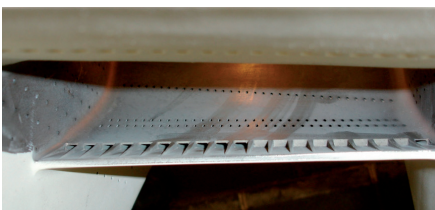
This vast experience with incoming inspections has allowed ENGIE Laborelec to assist several of the GDF-Suez CCGT plants with the quality issues that were found on their components. If the quality issues are critical, our inspection can even result in a complete swapping of the set of components.

INCOMING INSPECTION PROGRAM

In the past, an incoming inspection simply consisted of a 100% visual check of the delivered parts. With component designs that become increasingly more complicated due to the increasing use of high-temperature coatings and film cooling holes to lower the temperature of the component as much as possible, coating thickness and/or adhesion



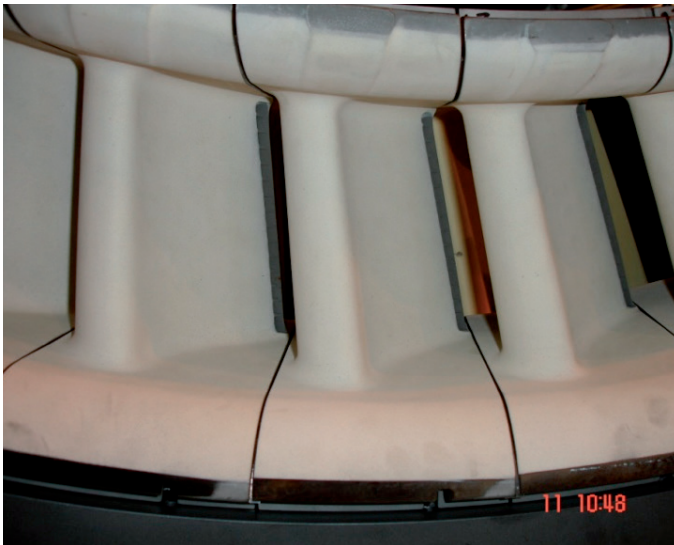
measurements, and fiberscope inspection of the internal geometry are also included in a typical incoming inspection scope. If requested by the customer, Laborelec can also foresee a training of local personnel in the field of incoming inspection of hot gas path components.



A VAST EXPERIENCE WITH GAS TURBINE COMPONENTS

Over the years, Laborelec has had the opportunity to gather a vast experience with the incoming inspections of both new and repaired gas turbine components from all major parts manufacturers, from blades and vanes to combustor parts. The main goal of these inspections has always been two-fold: on one hand checking the quality of the delivered parts, but on the other hand also checking the robustness of the quality system of the parts provider.





- Incoming inspection of Mitsubishi M701F3 combustor parts of the Castelnou power plant, Spain
- Development of incoming inspection guidelines for Alstom GT26 gas turbine components



REFERENCES

- Incoming inspection of Frame 7FA+e and 9FA+e capital spare parts for Marafiq IWPP, Saudi-Arabia and Al-Dur IWPP, Bahrein. Both missions included training of local personnel
- Incoming inspection of combustor parts and hot gas path components for the Frame 9FA+e and 9FB power plants in Belgium and Luxembourg

Five reasons for you to choose Engie Laborelec

- Wide range of technical competencies in Electricity Generation, Grids and End-Use
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