

46ESS-53: Gas turbine certification – industrial engines

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Today, gas turbines are one of the most used power generating technologies for land applications. The users of this type of machine require: High availability/reliability, ruggedness, high power/weight ratio, efficiency in most of cases, low amount of emissions and low cost of operation and maintenance.

This paper provides an overview of the general requirements to certificate industrial engines regardless type of fuel and operation conditions that vary all over the globe. These conditions include basic design, accessories, inspection, testing, installation, commissioning, reliability, availability, maintainability and safety. On the other hand, an evaluation of emission limits of certain pollutants into the air from large combustion plants in the European Union is presented. Finally, the acceptance test in order to verify the power, thermal efficiency and other performance characteristics are described.

The manufacturers and users use many codes and standards to characterize their equipment. A briefly summary of the most used normative is described along this document.