IS 15664:2006
ISO 2314:1989

(PREVIEW)

Indian Standard

GAS TURBINES — ACCEPTANCE TESTS

1 Scope and field of application

1.1 This International Standard specifies standard procedures and rules for-the conduct and reporting of acceptance tests in order to determine and/or verify the power, thermal efficiency and other performance characteristics of gas turbine power plants. It defines standard conditions which should be used if no other conditions are agreed at the time ‘of purchase. [1)] This International Standard is not intended to provide a basis for the conduct of test work generally aimed at development or research.

The extent of acceptance tests that are carried out on the manufacturer’s premises and at site respectively are to be agreed between the parties.

1.2 The acceptance requirements will have been satisfied if the mandatory tests given in 1.4 have been fulfilled under the procedures laid down.

Optional tests may, however, be included but should not be considered necessary unless specifically agreed upon by the parties to the test at the time of the purchase.

1.3 This International Standard applies to open cycle gas turbine power plants using normal combustion systems and also includes closed cycle and semi-closed cycle gas turbine power plants. In cases of gas turbine using free piston gas generators or special heat sources (for example chemical process, nuclear reactors, furnace for a supercharged boiler), this International Standard may be used as a basis but will need to be suitably modified.

1.4 The primary object of the acceptance (mandatory) tests is to determine

a) power under specified operating conditions (gas power, if only a gas generator is supplied);
b) thermal efficiency, heat rate or specific fuel consumption under specified operating conditions;
c) adequacy of essential protective devices as defined in 7.1.3.

1.5 Optional teats may also be included, provided that these are specifically agreed upon by both parties at the time of purchase. For example, such teats may include any of the following items or others specified by national or local requirements:

a) performance of the governing system and,, protective systems as given in 7.2.1 and 7.2.2
b) handling characteristics (for example, starting characteristics, time of loading);
c) amplitude and frequency of vibration;
d) stack emission;
e) waste heat recovery evaluation;
f) noise level;
g) thermal discharges;
h) anti-icing system.

2 References

ISO 5167, *Measurement of fluid flow by means of orifice plates, nozzles and venturi tubes inserted in circular cross-section conduits running full.*

ISO 6190, *Acoustics – Measurement of pressure levels of gas turbine installations for evaluating environmental noise —Survey method.*

IEC Publication 34-2, *Rotating electrical machines* – Part2: *Methods for determining losses and efficiency of rotating electrical machinery from tests (excluding machines for traction vehicles).*

IEC Publication 46, *Recommendations for steam turbines – Part 2: Rules for acceptance tests.*

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1) Points on which an agreement between parties to the test is to be reached at the time of the purchase or prior to the test are indicated by a vertical line to the left of the relevant text.