



IEC/TC OR SC: 5	SECRETARIAT: China	DATE: 2018-06-28
---------------------------	------------------------------	----------------------------

Please ensure this form is annexed to the Report to the Standardization Management Board if it has been prepared during a meeting, or sent to the Central Office promptly after its contents have been agreed by the committee.

A. STATE TITLE AND SCOPE OF TC

Title: Steam Turbines

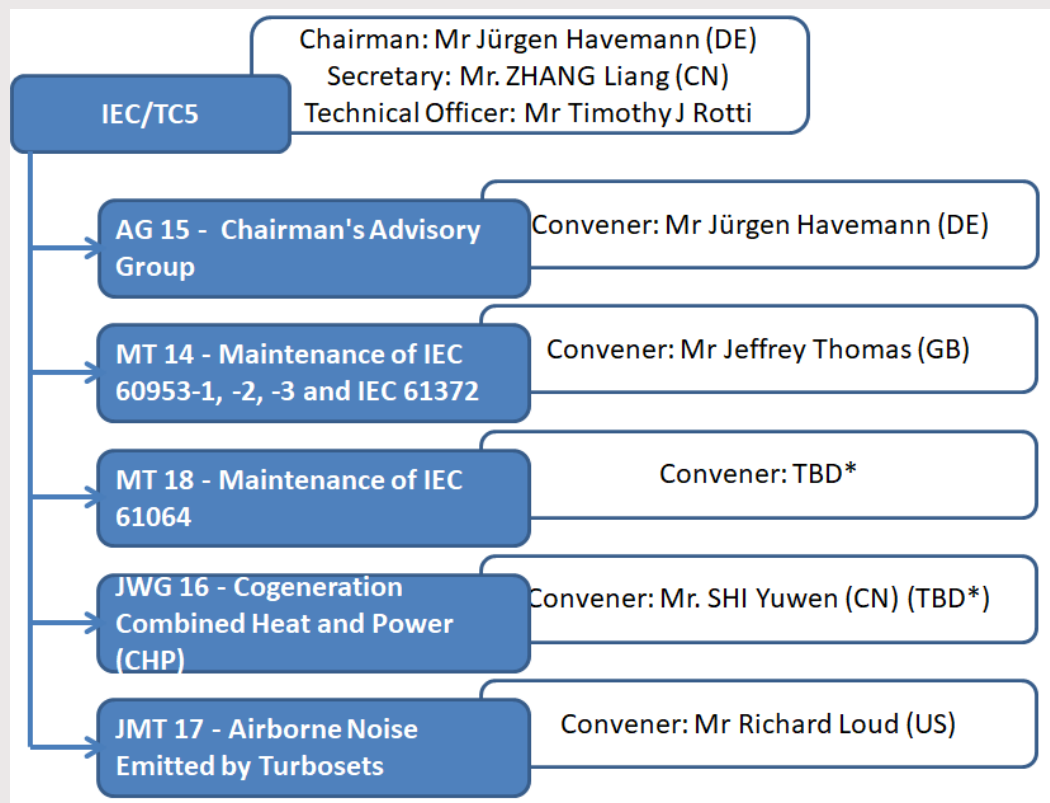
Scope: Preparation of specifications and standards for the rating and testing of steam turbines.

Remarks:

- There are no new or emerging trends in steam turbine technology that will impact the scope of IEC TC5.
- IEC TC5 concentrates its activities to standardization for steam turbines. Subjects relevant for the whole Combined Cycle Power Plants are dealt with in ISO TC 192 Gas Turbines. Therefore IEC TC5 established a liaison with ISO TC 192.

B. MANAGEMENT STRUCTURE OF THE TC

The below picture shows the management structure of IEC/TC5.



*There are two groups where clarifications are needed as follows:

- Considering the low participation, MT18 is to be withdrawn;
- Due to the job change, convener of JWG16 will be changed.

C. BUSINESS ENVIRONMENT

Standards produced by IEC TC5 are relevant for the steam turbine market for application in power plants and for industrial use. They support the purchaser and the supplier in the negotiation process for contracts and provide an internationally agreed basis for major acceptance test criteria and methods. They can also be used by other parties such as service companies, design bodies, etc.

As the specification standard for steam turbines (IEC 60045-1 ed 2.) produced by IEC TC5 now reflects the requirements for Product Safety it is an effective source to ensure regulatory compliance with respect to Product Safety.

D. MARKET DEMAND

Customers of the standards produced by IEC TC5 are

- Specifiers from Power Plant and Industrial Plant customers
- EPC contractor (Architect Engineer Organizations)
- Steam turbine suppliers
- Companies specializing in testing of steam turbines (thermal efficiency, noise, vibration behavior, quality of speed control)
- Educating organizations
- Service companies (maintenance, overhaul, retrofit)

E. TRENDS IN TECHNOLOGY AND IN THE MARKET

Trends in the steam turbine market are characterized by

- Highly efficient solutions are preferred
- Flexible operation is increasingly in focus
- Expectation for short erection time
- Requirement for cost effective design
- Increasing sensitivity to lifecycle costs
- Business models with the supplier taking over also the operation and maintenance

Trends in steam turbine technology answer the market requirements

- Higher power density
- Advanced technology for blading, sealing and exhaust hood
- Application of new materials allowing for higher steam parameters
- Application of modular design for steam turbine components enabling fast assembling and commissioning on site
- Fast startup technologies and design suitable for extreme part load conditions
- Design for higher availability and less maintenance effort
- Advanced monitoring and diagnostic features

F. SYSTEMS APPROACH ASPECTS (REFERENCE - AC/33/2013)

IEC TC5 is dealing with some subjects that are relevant for other areas of standardization as well.

The standard IEC 61063 Acoustics — Measurement of airborne noise emitted by steam turbines and driven machinery will be replaced by the joint ISO/IEC standard ISO/IEC 10494 Turbines and turbine sets – Measurement of emitted airborne noise – Engineering/survey method (see Questionnaire IEC TC 5/172/Q issued 2015-10-02). The joint maintenance team JMT17 is working on it with experts from

- ISO/TC 192 Gas Turbines,
- ISO/TC 43 Acoustics and
- IEC TC5 Steam Turbines.

A clarification on standardization needs in the area of Combined Heat and Power (CHP) was initiated by IEC SMB and allocated to IEC TC5 (see SMB/4612/R issued 2011-09-27). The Joint Working Group JWG 16 Combined Heat and Power is in building phase with experts from

- IEC TC 45 Nuclear instrumentation
- IEC TC 105 Fuel cell technologies
- IEC TC 5 Steam turbines.

G. CONFORMITY ASSESSMENT

All publications of IEC TC5 are in line with the requirements related to conformity assessment (see Clause 33 of Part 2 of the ISO/IEC directives. They will not be used for IEC Conformity Assessment Systems.

There are no special conformity assessment requirements generated by any of the standards in scope of IEC TC5.

Standards on Thermal Acceptance Tests and on Measurement of Airborne Noise include test specifications and test methods.

H. HORIZONTAL ISSUES

Indicate here how the TC/SC deals with horizontal issues such as energy efficiency, environmental aspects, safety, security...

Provide information on the interaction with SMB Advisory Committees, if applicable.

I. 3-5 YEAR PROJECTED STRATEGIC OBJECTIVES, ACTIONS, TARGET DATES

STRATEGIC OBJECTIVES 3-5 YEARS	ACTIONS TO SUPPORT THE STRATEGIC OBJECTIVES	TARGET DATE(S) TO COMPLETE THE ACTIONS
Finish revision of standards	WG 12: Issue IEC 60045-1 2nd ed.	2018-12
	WG 14: Issue IEC 60953-0 and IEC 60953-2	2019
	WG 14: Issue IEC 61 60953-x	2020

	JMT 17: Issue ISO/IEC 10494	2018-10
Initiated standardization tasks	JWG 16: Create report on standardization needs in the area of CHP	2018-12
	TC5 Secretary: Clarify status of standard IEC 61064	2018-10
Foster cooperation with other standardization bodies	TC 5 Secretary: Clarify type of liaison with IAPWS	2018-07
	TC 5 Secretary: Improve liaison contact to ISO/TC 192 Gas Turbines to explore for additional standardization needs	2018-10

Note: The progress on the actions should be reported in the RSMB.