

TECHNICAL SPECIFICATION

**UHV AC transmission systems -
Part 301: On-site acceptance tests**

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**UHV AC transmission systems -
Part 301: On-site acceptance tests**

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IEC TS 63042-301 has been prepared by IEC technical committee 122: UHV AC transmission systems. It is a Technical Specification.

This second edition cancels and replaces the first edition published in 2018. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) new subclause with measurement of short-circuit impedance and load loss for on-site assembly transformer has been added;
- b) new subclause with measurement of no-load loss and current for on-site assembly transformer has been added;
- c) on-site acceptance test requirement for GIL has been added;
- d) new clause with protection and control system on-site acceptance tests has been added.

The text of this Technical Specification is based on the following documents:

Draft	Report on voting
122/199/DTS	122/211/RVDTS

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this Technical Specification is English.

A list of all parts in the IEC 63042 series, published under the general title *UHV AC transmission systems*, can be found on the IEC website.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

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INTRODUCTION

With the increase in voltage levels, the reliability and safety of high-voltage electric equipment is facing new challenges. There is a need to have consensus on a series of technical criteria and requirements for on-site acceptance tests for electrical equipment of ultra-high voltage (UHV) AC transmission systems exceeding 800 kV to detect the damages or abnormal conditions that can occur during the transportation and installation processes and to determine whether equipment can be put into operation reliably and safely for power systems.

This document proposes on-site acceptance tests, relevant test items, test methods, and evaluation criteria for transformers, circuit-breakers, gas insulated switchgear (GIS) and gas insulated transmission line (GIL), surge arresters, voltage and current transformers, shunt reactors, series compensators, insulators, disconnectors, earthing switches and high-speed earthing switches.

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