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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 41147-2021

**Voltage sourced converter(VSC) valves for static synchronous
compensator(STATCOM) - Electrical testing**

Issued on: December 31, 2021

Implemented on: July 1, 2022

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

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foreword

This document is in accordance with the provisions of GB/T 1:1-2020 "Guidelines for Standardization Work Part 1: Structure and Drafting Rules of Standardization Documents"

drafted:

This document is identical to IEC 62927:2017 "Electrical Test of Voltage Source Converter Valves for Static Synchronous Compensation Devices":

The following minimal editorial changes have been made to this document:

---Incorporates the content of IEC 62927:2017/COR1:2017 technical errata, and the outer margins of the clauses involved use

Vertical double lines (||) are marked:

Please note that some content of this document may be patented: The issuing agency of this document assumes no responsibility for identifying patents:

1 Scope

This document applies to self-commutated valves in voltage source converters (VSCs) of static synchronous compensation units (STATCOM) and is limited to electrical

Type test and product test:

The tests specified in this document are based on air-insulated valves: For other types of valves, test requirements and acceptance criteria are agreed between buyer and seller

business decision:

2 Normative references

The contents of the following documents constitute essential provisions of this document through normative references in the text: Among them, dated citations

documents, only the version corresponding to that date applies to this document; for

undated references, the latest edition (including all amendments) applies to this document:

GB/T 20990:1-2020 HVDC Thyristor Valves Part 1: Electrical Tests (IEC 60700-1:2015, MOD)

Note: There is no technical difference between the quoted content of GB/T 20990:1-2020 and the content of IEC 60700-1:2015:

IEC 60060 (all parts) High-voltage test techniques (High-voltage test techniques)

Note: GB/T 16927 (all parts) high voltage test technology [IEC 60060 (all parts)]

IEC 60060-1 High-voltage test techniques - Part 1: General definitions and test requirements (High-voltage test techniques -

Part 1: General definitions and test requirements)

Note: GB/T 16927:1-2011 High Voltage Test Technology Part 1: General Definitions and Test Requirements (IEC 60060-1:2010, MOD)

IEC 60071-1:2006 Insulation co-ordination Part 1: Definitions, principles and rules (Insulation co-ordination - Part 1:

Definitions, principles and rules)

Note: GB/T 311:1-2012 Insulation Coordination Part 1: Definitions, Principles and Rules (IEC 60071-1:2006, MOD)

IEC 62501 Electrical test of voltage sourced converter valves for high voltage direct current transmission [Voltage sourced converter (VSC) valves

for high-voltage direct current (HVDC) power transmission - Electrical testing]

Note: GB/T 33348-2016 Electrical test of voltage source converter valve for HVDC transmission (IEC 62501:2014, IDT)

3 Terms and Definitions

The following terms and definitions apply to this document:

ISO and IEC maintain terminology databases for standardization at:

* IEC Electronic Encyclopedia: <http://www.electropedia.org/>;

* ISO online browsing platform: <http://www.iso.org/obp>:

3.1 Insulation coordination terms

3.1.1

Test withstand voltage testwithstandvoltage

Under specified conditions, the test voltage value of the standard waveform: When a new valve in good condition is applied for the specified number of times or for the specified duration

When this test voltage is applied for a period of time, no destructive discharge occurs and all other acceptance criteria specified for the particular test are met: