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UHV AC transmission systems –
Part 303: Guideline for the measurement of UHV AC transmission line power frequency parameters

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CONTENTS

FOREWORD 5
INTRODUCTION 7
1 Scope 8
2 Normative references 8
3 Terms and definitions 8
4 General 9
4.1 Background 9
4.2 Measurement items 9
4.3 Main circuit configuration 10
4.4 Measurement condition 10
5 Requirement of measuring instrument 10
5.1 Current transformer 10
5.2 Voltage transformer 10
5.3 Measuring instrument of DC resistance 10
5.4 Offset frequency power source 11
5.5 Special measuring instrument of transmission line power frequency parameter 11
6 Conversion of offset frequency measurement results 11
7 Measurement of induced voltage and induced current 12
7.1 General 12
7.2 Induced voltage 12
7.3 Induced current 13
8 Phase verification and measurement of insulation resistance 13
8.1 General 13
8.2 Phase verification 13
8.3 Measurement of insulation resistance 14
9 Measurement of DC resistance 14
10 Measurement of positive-sequence parameter 15
11 Measurement of zero-sequence parameter 17
12 Measurement of mutual impedance and coupling capacitance between double-circuit transmission lines on the same tower 19
12.1 General 19
12.2 Measurement of line-mode impedance 20
12.3 Measurement of line-mode capacitance 20
12.4 Measurement of ground-mode impedance 20
12.5 Measurement of ground-mode capacitance 21
12.6 Data process 21
13 Measurement of phase parameters 22
13.1 Measurement of self-impedance 22
13.2 Measurement of self-capacitance 23
13.3 Measurement of coupling capacitance between two phases 24
13.4 Measurement of mutual impedance between two phases 25
Annex A (informative) Example of transmission line power frequency parameter measurement 28
A.1 Introduction of transmission line 28
A.2 Measurement of positive-sequence parameter 28

A.2.1 Measured data 28
A.2.2 Calculation results 28
A.3 Measurement of zero-sequence parameter 29
A.3.1 Measured data 29
A.3.2 Calculation results 29
A.4 Measurement of phase parameter 29
A.4.1 General 29
A.4.2 Capacitance matrix 30
A.4.3 Impedance matrix 30
Annex B (informative) Derivation process of measurement and calculation for coupling capacitance between two phases 31
Annex C (informative) Safety precautions 34
Bibliography 35

Figure 1 – Measurement of induced voltage 12
Figure 2 – Measurement of induced voltage 13
Figure 3 – Measurement of induced current 13
Figure 4 – Phase verification 14
Figure 5 – Measurement of insulation resistance 14
Figure 6 – Measurement of DC resistance 15
Figure 7 – Measurement of positive-sequence parameter 16
Figure 8 – Measurement of zero-sequence parameter 18
Figure 9 – Measurement of line-mode impedance 20
Figure 10 – Measurement of line-mode capacitance 20
Figure 11 – Measurement of ground-mode impedance 21
Figure 12 – Measurement of ground-mode capacitance 21
Figure 13 – Measurement of self-impedance by two-terminal synchronous measurement method 22
Figure 14 – Measurement of self-capacitance by two-terminal synchronous measurement method 23
Figure 15 – Measurement of coupling capacitance between two phases 24
Figure 16 – Measurement of mutual impedance between two phases 26
Figure B.1 – The π-equivalent circuit of 3-phase system during measurement 31

Table 1 – Calculation method of positive-sequence parameters 17
Table 2 – The calculation method of zero-sequence parameters 18
Table 3 – Calculation process and equations of parameters per unit length of double-circuit lines on the same tower 22
Table 4 – The calculation of self-impedance 23
Table 5 – The calculation of self-capacitance 24
Table A.1 – Measured data of transmission line I 28
Table A.2 – Positive-sequence parameters of transmission line I 28
Table A.3 – DC resistance of line I 29
Table A.4 – Measured data of transmission line I 29
Table A.5 – Zero-sequence parameters of transmission line I 29

Table A.6 – The capacitance matrix of transmission line I and II 30
Table A.7 – The resistance matrix of transmission line I and II 30
Table A.8 – The reactance matrix of transmission line I and II 30

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UHV AC TRANSMISSION SYSTEMS –

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IEC TR 63042-303 has been prepared by IEC technical committee 122: UHV AC transmission systems. It is a Technical Report.

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DTR	Report on voting
122/105/DTR	122/112/RVDTR

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 Report is English.

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/standardsdev/publications.

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.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

INTRODUCTION

AC transmission line power frequency parameters are important basic data used for various power system's calculations and applications, including engineering design verification, commissioning, and operation.

Due to the complication of the geological conditions along the corridor of long distance UHV AC transmission lines, it is difficult to obtain accurate transmission line power frequency parameters through theoretical analysis and calculation. To obtain the accurate power frequency parameters, a field measurement is necessary.

This document provides the guidance for measurement of UHV AC transmission lines power frequency parameters which include sequence parameters and phase parameters, etc. The measurement conditions, measurement methods, data process methods, safety requirements, etc. are described.

UHV AC TRANSMISSION SYSTEMS –

Part 303: Guideline for the measurement of UHV AC transmission line power frequency parameters

1 Scope

This part of IEC 63042 specifies measurement methods of UHV AC transmission line power frequency parameters. These measured parameters mainly include sequence parameters, mutual parameters between double-circuit lines, phase parameters and some other related parameters.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC Guide 115:2007, *Application of uncertainty of measurement to conformity assessment activities in the electrotechnical sector*