

TECHNICAL REPORT

**Performance of high-voltage direct current (HVDC) systems with line-commutated converters –
Part 1: Steady-state conditions**

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TECHNICAL REPORT

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**Performance of high-voltage direct current (HVDC) systems with line-commutated converters –
Part 1: Steady-state conditions**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

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CONTENTS

FOREWORD.....	7
1 Scope.....	9
2 Normative references	10
3 Types of HVDC systems.....	11
3.1 General.....	11
3.2 HVDC back-to-back system.....	11
3.3 Monopolar earth return HVDC system	13
3.4 Monopolar metallic return HVDC system	15
3.5 Bipolar earth return HVDC system.....	16
3.6 Bipolar metallic return HVDC system.....	19
3.7 Two 12-pulse groups per pole	20
3.8 Converter transformer arrangements	20
3.9 DC switching considerations.....	22
3.10 Series capacitor compensated HVDC systems	25
4 Environment information.....	29
5 Rated power, current and voltage.....	31
5.1 Rated power.....	31
5.1.1 General	31
5.1.2 Rated power of an HVDC system with transmission line	32
5.1.3 Rated power of an HVDC back-to-back system.....	32
5.1.4 Direction of power flow	32
5.2 Rated current.....	32
5.3 Rated voltage.....	32
6 Overload and equipment capability.....	33
6.1 Overload	33
6.2 Equipment capability	33
6.2.1 General	33
6.2.2 Converter valve capability	34
6.2.3 Capability of oil-cooled transformers and reactors	34
6.2.4 AC harmonic filter and reactive power compensation equipment capability.....	34
6.2.5 Switchgear and buswork capability	35
7 Minimum power transfer and no-load stand-by state.....	35
7.1 General.....	35
7.2 Minimum current.....	35
7.3 Reduced direct voltage operation	35
7.4 No-load stand-by state	36
7.4.1 General	36
7.4.2 Converter transformers – No-load stand-by	36
7.4.3 Converter valves – No-load stand-by	36
7.4.4 AC filters and reactive compensation – No-load stand-by	36
7.4.5 DC reactors and d.c. filters – No-load stand-by.....	36
7.4.6 Auxiliary power system – No-load stand-by.....	36
7.4.7 Control and protection – No-load stand-by.....	36
8 AC system.....	36
8.1 General.....	36

8.2	AC voltage	37
8.2.1	Rated a.c. voltage	37
8.2.2	Steady-state voltage range	37
8.2.3	Negative sequence voltage	38
8.3	Frequency	38
8.3.1	Rated frequency	38
8.3.2	Steady-state frequency range	38
8.3.3	Short-term frequency variation	38
8.3.4	Frequency variation during emergency	38
8.4	System impedance at fundamental frequency	38
8.5	System impedance at harmonic frequencies	38
8.6	Positive and zero-sequence surge impedance	39
8.7	Other sources of harmonics	39
8.8	Subsynchronous torsional interaction (SSTI)	39
9	Reactive power	39
9.1	General	39
9.2	Conventional HVDC systems	39
9.3	Series capacitor compensated HVDC schemes	41
9.4	Converter reactive power consumption	41
9.5	Reactive power balance with the a.c. system	41
9.6	Reactive power supply	42
9.7	Maximum size of switchable VAR banks	42
10	HVDC transmission line, earth electrode line and earth electrode	42
10.1	General	42
10.2	Overhead line(s)	42
10.2.1	General	42
10.2.2	Electrical parameters	43
10.3	Cable line(s)	43
10.3.1	General	43
10.3.2	Electrical parameters	43
10.4	Earth electrode line	44
10.5	Earth electrode	44
11	Reliability	44
11.1	General	44
11.2	Outage	44
11.2.1	General	44
11.2.2	Scheduled outage	44
11.2.3	Forced outage	44
11.3	Capacity	45
11.3.1	General	45
11.3.2	Maximum continuous capacity P_m	45
11.3.3	Outage capacity P_o	45
11.3.4	Outage derating factor (ODF)	45
11.4	Outage duration terms	45
11.4.1	Actual outage duration (AOD)	45
11.4.2	Equivalent outage duration (EOD)	45
11.4.3	Period hours (PH)	46
11.4.4	Actual outage hours (AOH)	46
11.4.5	Equivalent outage hours (EOH)	46

11.5	Energy unavailability (EU)	46
11.5.1	General	46
11.5.2	Forced energy unavailability (FEU).....	47
11.5.3	Scheduled energy unavailability (SEU)	47
11.6	Energy availability (EA)	47
11.7	Maximum permitted number of forced outages	47
11.8	Statistical probability of outages	47
11.8.1	Component faults	47
11.8.2	External faults	47
12	HVDC control	47
12.1	Control objectives.....	47
12.2	Control structure	48
12.2.1	General	48
12.2.2	Converter unit firing control	48
12.2.3	Pole control	50
12.2.4	HVDC substation control	52
12.2.5	Master control	52
12.3	Control order settings	53
12.4	Current limits.....	53
12.5	Control circuit redundancy.....	53
12.6	Measurements.....	53
13	Telecommunication	54
13.1	Types of telecommunication links.....	54
13.2	Telephone	54
13.3	Power line carrier (PLC)	55
13.4	Microwave	55
13.5	Radio link.....	55
13.6	Optical fibre telecommunication.....	55
13.7	Classification of data to be transmitted	56
13.8	Fast response telecommunication	56
13.9	Reliability.....	57
14	Auxiliary power supplies	57
14.1	General.....	57
14.2	Reliability and load classification.....	57
14.3	AC auxiliary supplies.....	58
14.4	Batteries and uninterruptible power supplies (UPS)	58
14.5	Emergency supply.....	59
15	Audible noise.....	59
15.1	General.....	59
15.2	Public nuisance.....	60
15.2.1	General	60
15.2.2	Valves and valve coolers	60
15.2.3	Converter transformers.....	60
15.2.4	DC reactors	60
15.2.5	AC filter reactors	61
15.3	Noise in working areas	61
16	Harmonic interference – AC.....	61
16.1	AC side harmonic generation.....	61

16.2	Filters.....	61
16.3	Interference disturbance criteria.....	65
16.4	Levels for interference.....	66
16.5	Filter performance.....	67
17	Harmonic interference – DC.....	67
17.1	DC side interference.....	67
17.1.1	Harmonic currents in HVDC transmission line.....	67
17.1.2	Characteristic and non-characteristic harmonics.....	67
17.1.3	Groups of harmonics.....	68
17.1.4	Calculation of harmonic currents.....	68
17.1.5	Calculation of induced voltages.....	68
17.1.6	Personnel safety.....	68
17.1.7	DC filters.....	68
17.2	DC filter performance.....	69
17.2.1	Requirements for voice communication circuits.....	69
17.2.2	Levels of interference.....	69
17.2.3	Safety.....	70
17.3	Specification requirements.....	70
17.3.1	Economic level of filtering.....	70
17.3.2	General criteria.....	71
17.3.3	Factors to be taken into account for calculations.....	71
17.3.4	Calculation of currents.....	72
18	Power line carrier interference (PLC).....	73
18.1	General.....	73
18.2	Performance specification.....	73
19	Radio interference.....	74
19.1	Radio interference (RI) from HVDC systems.....	74
19.1.1	RI sources.....	74
19.1.2	RI characteristics.....	75
19.2	RI performance specification.....	75
20	Power losses.....	76
20.1	General.....	76
20.2	Main contributing sources.....	76
20.2.1	General.....	76
20.2.2	AC filters and reactive power compensation.....	77
20.2.3	Converter bridges.....	77
20.2.4	Converter transformer.....	77
20.2.5	DC reactor.....	77
20.2.6	DC filter.....	77
20.2.7	Auxiliary equipment.....	77
20.2.8	Other components.....	77
21	Provision for extensions to the HVDC systems.....	77
21.1	General.....	77
21.2	Specification for extensions.....	78
	Bibliography.....	80
	Figure 1 – Twelve-pulse converter unit.....	9
	Figure 2 – Examples of back-to-back HVDC systems.....	12

Figure 3 – Monopolar earth return system.....	13
Figure 4 – Two 12-pulse units in series.....	14
Figure 5 – Two 12-pulse units in parallel.....	15
Figure 6 – Monopolar metallic return system.....	16
Figure 7 – Bipolar system	17
Figure 8 – Metallic return operation of the unfaulted pole in a bipolar system.....	18
Figure 9 – Bipolar metallic return HVDC system.....	19
Figure 10 – Bipolar system with two 12-pulse units in series per pole	21
Figure 11 – Bipolar system with two 12-pulse units in parallel per pole	22
Figure 12 – DC switching of line conductors	23
Figure 13 – DC switching of converter poles	24
Figure 14 – DC switching – Overhead line to cable	25
Figure 15 – DC switching – Two-bipolar converters and lines.....	26
Figure 16 – DC switching – Intermediate.....	27
Figure 17 – Capacitor commutated converter configurations	28
Figure 18 – Variations of reactive power Q with active power P of an HVDC converter.....	40
Figure 19 – Control hierarchy.....	50
Figure 20 – Converter voltage-current characteristic.....	52
Figure 21 – Examples of a.c. filter connections for a bipole HVDC system	63
Figure 22 – Circuit diagrams for different filter types.....	64
Figure 23 – RY COM noise meter results averaged – Typical plot of converter noise levels on the d.c. line corrected and normalized to 3 kHz bandwidth $-0 \text{ dBm} = 0,775 \text{ V}$	74
Figure 24 – Extension methods for HVDC systems	79
Table 1 – Information supplied for HVDC substation	29
Table 2 – Performance parameters for voice communication circuits: Subscribers and trunk circuits	69

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**PERFORMANCE OF HIGH-VOLTAGE DIRECT CURRENT
(HVDC) SYSTEMS WITH LINE-COMMUTATED CONVERTERS –****Part 1: Steady-state conditions**

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IEC 60919-1, which is a technical report, has been prepared by subcommittee 22F: Power electronics for electrical transmission and distribution systems, of IEC technical committee 22: Power electronic systems and equipment.

This third edition cancels and replaces the second edition, published in 2005. This edition constitutes a technical revision.

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

- a) the changes have been made to the description of multi 12-pulse groups per pole, especially for a large scale ultra high-voltage direct current (UHVDC) converter arrangement;
- b) the different arrangements of d.c. smoothing reactors have been included;
- c) the figures depicting two 12-pulse groups per pole arrangement have been added.

The text of this technical report is based on the following documents:

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

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