

TECHNICAL REPORT



Guideline for planning of HVDC systems – Part 1: HVDC systems with line-commutated converters

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GUIDELINE FOR PLANNING OF HVDC SYSTEMS –

Part 1: HVDC systems with line-commutated converters

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IEC TR 63179-1, which is a Technical Report, has been prepared by IEC technical committee 115: High Voltage Direct Current (HVDC) transmission for DC voltages above 100 kV.

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

Draft TR	Report on voting
115/216/DTR	115/230/RVDTR

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.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

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- withdrawn,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.

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GUIDELINE FOR PLANNING OF HVDC SYSTEMS –

Part 1: HVDC systems with line-commutated converters

1 Scope

This document provides guidelines for the selection of a high-voltage directive current (HVDC) system with line-commutated converters (LCC), hereafter referred to as HVDC system, for the purposes of HVDC system planning. It covers the guidelines on the requirements for integrating HVDC systems in AC power networks, selection of rated voltage and power, overloads, circuit configuration, expandability, comparison of technical, economic, regulatory, political, social and environmental factors, etc. This document is applicable for planning an HVDC system.

This guideline is not exhaustive and it is possible that there will be other specific aspects, particular to a specific HVDC project, which will also need to be considered.

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 60633, *High-voltage direct current (HVDC) transmission – Vocabulary*