

International Telecommunication Union

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

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SERIES K: PROTECTION AGAINST INTERFERENCE

**Protection of telecommunication lines against
harmful effects from electric power and
electrified railway lines**

ITU-T Recommendation K.26



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Summary

ITU-T Recommendation K.26 reports the titles of the nine Volumes of the Directives published in 1988. The revision of Volumes V and VI of the Directives has required that this Recommendation be updated.

Source

ITU-T Recommendation K.26 was approved on 13 April 2008 by ITU-T Study Group 5 (2005-2008) under the ITU-T Recommendation A.8 procedure.

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications, information and communication technologies (ICTs). The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

Compliance with this Recommendation is voluntary. However, the Recommendation may contain certain mandatory provisions (to ensure e.g. interoperability or applicability) and compliance with the Recommendation is achieved when all of these mandatory provisions are met. The words "shall" or some other obligatory language such as "must" and the negative equivalents are used to express requirements. The use of such words does not suggest that compliance with the Recommendation is required of any party.

INTELLECTUAL PROPERTY RIGHTS

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As of the date of approval of this Recommendation, ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementers are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database at <http://www.itu.int/ITU-T/ipr/>.

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ITU-T Recommendation K.26

Protection of telecommunication lines against harmful effects from electric power and electrified railway lines

ITU-T draws the attention to the need for adequate and reliable protection to be given to telecommunication facilities to guard them against danger, damage and disturbance arising from nearby electric power or electrified railway lines. The danger, damage and disturbance can arise due to conductive, capacitive or inductive coupling between the systems, and the safety of people using or working on telecommunication installations needs to be assured.

To meet this need, CCITT (presently ITU-T) issued the *Directives* concerning the protection of telecommunication lines against harmful effects from electric power and electrified railway lines, Geneva, 1988, which provide guidance in estimating possible overvoltages or overcurrents and recommending limiting values for these conditions. The Directives also give advice on methods used to measure overvoltages, overcurrents and relevant parameters, on protective devices and on protection methods and safety precautions.

The *Directives* (1988 edition) consist of nine volumes listed below:

- Volume I – Design, construction and operational principles of telecommunication, power and electrified railway facilities
- Volume II – Calculating induced voltages and currents in practical cases (Revised: 1999 edition)
- Volume III – Capacitive, inductive and conductive coupling: physical theory and calculation methods
- Volume IV – Inducing currents and voltages in electrified railway systems
- Volume V – Inducing currents and voltages in power transmission and distribution systems (New: 2008 edition)
- Volume VI – Danger, damage and disturbance (Revised: 2008 edition)
- Volume VII – Protective measures and safety precautions
- Volume VIII – Protective devices
- Volume IX – Testing methods and measuring apparatus

These volumes have been established by ITU-T in close cooperation with the International Council on Large Electric Systems (CIGRE) and the International Union of Railways (UIC).

ITU-T recommends that, when telecommunication installations are expected to be affected by nearby power or electrified railway lines, Administrations will find it in their own interest to observe the methods given in the *Directives* (1988 or later edition as indicated above).

The *Directives* (1988 edition) replace the *Directives* concerning the protection of telecommunication lines against harmful effects from electricity lines (Geneva, 1963, amended and supplemented in 1965, 1974, 1978 and 1982).

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Series A	Organization of the work of ITU-T
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Series F	Non-telephone telecommunication services
Series G	Transmission systems and media, digital systems and networks
Series H	Audiovisual and multimedia systems
Series I	Integrated services digital network
Series J	Cable networks and transmission of television, sound programme and other multimedia signals
Series K	Protection against interference
Series L	Construction, installation and protection of cables and other elements of outside plant
Series M	Telecommunication management, including TMN and network maintenance
Series N	Maintenance: international sound programme and television transmission circuits
Series O	Specifications of measuring equipment
Series P	Telephone transmission quality, telephone installations, local line networks
Series Q	Switching and signalling
Series R	Telegraph transmission
Series S	Telegraph services terminal equipment
Series T	Terminals for telematic services
Series U	Telegraph switching
Series V	Data communication over the telephone network
Series X	Data networks, open system communications and security
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