



Geneva, 14 May 1999

Publication Notice

**No. 270-9**

## **Directives concerning the protection of telecommunication lines against harmful effects from electric power and electrified railway lines. Volume V: Inducing currents and voltages in power transmission and distribution systems**



The Directives provide a comprehensive description of electromagnetic effects due to the close proximity of telecommunication lines to power and electrified railway systems. Such effects may result in danger to personnel, damage to telecommunication equipment, deterioration of telecommunication transmission quality or to disturbance of signalling.

Volume V "Inducing currents and voltages in power transmission and distribution systems" describes unbalanced and balanced power systems in normal operation and under fault conditions.

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**Date of publication:** 1st semester 1999

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**Language:** English, French and Spanish

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**Paper format:** About 70 pages – A4 (21 × 29.7 cm)

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**Article number:** English: 15071  
French: 15072  
Spanish: 15073

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**ISBN number:** English: 92-61-08011-1  
French: 92-61-08012-X  
Spanish: 92-61-08013-8

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**Price in Swiss Francs:**

**Catalogue Price: CHF 24.–**

Member States and Sector Members: CHF 20.–

Least developed countries: CHF 5.–

*Electronic Bookshop: CHF 24.– (No discount)*

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This Volume gives information about:

- the inducing current in a high voltage system (e.g. phase current, earth current due to asymmetry, harmonic current);
- calculation of fault current using symmetrical components;
- current in earth fault condition (earth connection of neutral point, earth fault current magnitude, earth wire current and its distribution along the line, capacitive zero-sequence current in a network with isolated or resonant-earthed neutral, double earth fault current);
- inducing voltages (voltage in normal operation and during earth fault);
- transients on high voltage power lines (d.c. offset of fault current, inrush current of transformers or capacitors, surges caused by lightning switching);
- inducing currents and voltages on high voltage d.c. power systems (load current, operating voltage, harmonics, fault current, ion flow).

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