

# ITU-T Workshop

## “Reform of technical Regulation: International Experience of standardization in the field of Communication”

### Abstract

Almaty, 23-24 November 2005

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Speaker: Roberto Pomponi – Telecom Italia

Session: EMC Topic 1

Title of Presentation: ITU-T Study Group 5 activities

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The presentation shows how ITU-T Study Group 5 achieves its objective in limiting the risk of damages to telecommunication installation and equipment, disturbances to and from telecommunication systems and injury to people.

The number of damages, mainly caused by lightning and by electric power and traction systems, can be reduced by the equipment resistibility and the use of protection measures. The presentation shows the resistibility requirements for telecommunication equipment and examples of correct use of protective measures.

The procedure to study the electromagnetic interference from electric power and traction lines and the criteria to manage this interference problem are presented.

Today the lightning protection is based on the “risk assessment” concept which means that the evaluated risk of damages (i.e. the expected loss) is compared with the “tolerable risk” (i.e. the tolerable loss). The need of protective measures is based on the comparison between the expected and the tolerable risk. An example of application of this approach is shown.

To prevent equipment performance degradation and disturbances to other systems, telecommunication equipment shall comply with electromagnetic compatibility (EMC) requirements. The equipment manufacturers are responsible for the declaration of conformity based on test results on samples. Variation can occur on the EMC performance of telecommunication equipment items manufactured subsequently to compliance with EMC requirements. The presentation illustrates the new approach, suggested by the Recommendation K.63, that telecommunication Operators or equipment Manufacturers can follow to check the EMC performance within a batch of equipment at reasonable costs.

The introduction of the broadband systems, with the use of higher frequencies, can cause interference to other systems, in particular to radio systems, due to the network radiation. How to manage this interference problem is discussed based on the Recommendation K.60.

Unbundling and interoperability grow in importance and Resistibility, Safety and EMC requirements have been defined to ensure safe and problem free operation.

However damages and disturbances can not be avoided in the field. A collection of field problems is reported in a new Handbook which shows how these problems have been studied and solved.

The need of new EMC requirements in the Home Network is shortly discussed and the new activity on the electromagnetic security is presented.

Finally the presentation deals with the injury to people subject, introducing the second presentation of the EMC Session “Standardisation in the field of radiation protection”.