

2nd edition, April 2005

Original

O R

General procedures governing maintenance, operating and performance criteria for the UIC member railways telecommunication network

Procédures générales pour les critères de maintenance, d'exploitation et de performance des réseaux de télécommunications des membres de l'UIC

Instandhaltung, Betrieb und Leistungskriterien des UIC-Bahntelekommunikationsnetzes Allgemeine Verfahren



UNION INTERNATIONALE DES CHEMINS DE FER
INTERNATIONALER EISENBAHNVERBAND
INTERNATIONAL UNION OF RAILWAYS

Leaflet to be classified in Volume :

VII - Way and works

Application :

With effect from 1 January 1997

All members of the International Union of Railways

Record of updates

1st edition, January 1997

First edition

2nd edition, April 2005

Retyped in FrameMaker.

Important: the articles (points) in this leaflet have been renumbered in the new edition. The first digit of each point has been increased by one (i.e. 0 becomes 1, 1 becomes 2, and so on). Please take account of this when using cross-reference from other leaflets.

The person responsible for this leaflet is named in the UIC Code

Contents

Summary	1
1 - General.....	2
1.1 - Scope of document.....	2
1.2 - Service level agreements	2
2 - Existing network	3
2.1 - Maintenance	3
2.1.1 - General organisation.....	3
2.1.2 - Preventive maintenance of international circuits.....	3
2.1.3 - Corrective maintenance of international circuits	4
2.2 - Intervention of operators.....	5
2.2.1 - Function and equipment of operators	5
2.2.2 - Operators at the destination exchange	5
3 - Transient phase.....	6
3.1 - Testing and maintenance of mixed sections with digital and analogue exchanges. 6	
3.2 - Infrastructure phasing.....	6
4 - Digital era.....	8
4.1 - Network management.....	8
4.2 - Maintenance	8
4.3 - Fault handling	9
4.4 - Test and approval process and commissioning of international transit exchanges and connections	9
4.5 - Accounting	10
4.6 - Procurement	10
4.7 - Call accounting	10

4.8 - Performances	10
4.8.1 - Introduction	10
4.8.2 - Network Availability	11
List of abbreviations	15
Bibliography	16

Summary

The Leaflet gives recommendations about test, verification and fault handling of the present international circuit switched telephone network between railways in Europe.

The Leaflet also gives some hints over questions that must be solved for a smooth migration to a digital telephone network for the railways.

Finally, the Leaflet gives a scenario over a future IRTN/international railway telephone network. This scenario takes into account organisation, operation, fault handling, maintenance, network management, accounting and Quality of service.

R 1 - General

1.1 - Scope of document

This document describes the procedures to be adopted to maintain and operate the current telecommunications network of UIC member railways and to maintain, operate and upgrade the international railway telecommunications network (IRTN) together with the procurement specifications and the performance criteria for the grade of service available to users.

All references to the IRTN in this document identify with the new digital network.

This leaflet does not impose any requirement on railways' national networks procedures.

Most of the regulations in this leaflet are based in principle on those of the International Telecommunications Union (ITU-T) and ETSI and apply to the international circuit switched telecommunications services which will be provided to railway users in Europe in the digital era; matters relating to equipment and services are covered in *UIC Leaflet 753-1 and 753-2* (see [Bibliography - page 16](#)).

Terminology and definitions can be found in *ITU-T Volume I Fascicle 1.3*.

1.2 - Service level agreements

This document requires all railways to come to agreement, bilaterally at a minimum initially, then internationally, via Euratel or its members and franchisees with the IMO (IRTN Management Organisation) as to service response times, covering:

- grade of service,
- capacity provision,
- fault response and rectification,
- traffic measurement,
- traffic and routing management,
- inter railway billing,
- settlement to national PTTs.

R 2 - Existing network

2.1 - Maintenance

2.1.1 - General organisation

Theoretically maintenance is divided into "preventive maintenance", which is intended to avoid the appearance of faults as far as possible, and "corrective maintenance", which consists of eliminating faults.

The regulations laid down by each Railway are specific:

- to the equipment itself, which belongs to the Railway concerned;
- to maintenance of all the international circuits which form part of the national networks.

With regard to the operations to be carried out on the international circuits, the recommendations given in point 2.1.2 below and 2.1.3 - page 4 should be applied, also the directives in *UIC Leaflet 917-4* (see *Bibliography - page 16*) for the procedures for the exchange of service messages.

2.1.2 - Preventive maintenance of international circuits

2.1.2.1 - Consistence and frequency

This maintenance is limited to preventive tests, which comprise:

- "individual" tests, effected circuit by circuit, each day (this frequency is permissible as long as the number of circuits is small. Otherwise, it can be increased to a weekly frequency by agreement between the Railways concerned),
- "concentrated" tests, effected overall on each international connection annually.

2.1.2.2 - Preparation of test programmes

The working schedules of the tests are established bilaterally between the Railways concerned, for each international route. It will be advisable to provide for "concentration" tests in a time period near to that in which the peak traffic tendered is measured (see above), thus allowing for a complete exchange of information between the Railways at the same time.

2.1.2.3 - Working procedure

The "individual" tests shall be carried out in principle from a telephone or from a virtual automatic device provided for this purpose. The point called at the other end can be either a normal or simulated telephone.

The "concentration" tests are carried out, in principle, by means of:

- simultaneous call automatic transmitters, at the originating end;
- a concentration box of lines called, at the other end.