INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

L.17

(06/95)

CONSTRUCTION, INSTALLATION AND PROTECTION OF CABLES AND OTHER ELEMENTS OF OUTSIDE PLANTS

IMPLEMENTATION OF CONNECTING CUSTOMERS INTO THE PUBLIC SWITCHED TELEPHONE NETWORK (PSTN) VIA OPTICAL FIBRES

ITU-T Recommendation L.17

(Previously "CCITT Recommendation")

FOREWORD

The ITU-T (Telecommunication Standardization Sector) is a permanent organ of the International Telecommunication Union (ITU). The 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 Conference (WTSC), which meets every four years, establishes the topics for study by the ITU-T Study Groups which, in their turn, produce Recommendations on these topics.

The approval of Recommendations by the Members of the ITU-T is covered by the procedure laid down in WTSC Resolution No. 1 (Helsinki, March 1-12, 1993).

ITU-T Recommendation L.17 was prepared by ITU-T Study Group 6 (1993-1996) and was approved under the WTSC Resolution No. 1 procedure on the 20th of June 1995.

NOTE

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

Recommendation L.17

IMPLEMENTATION OF CONNECTING CUSTOMERS INTO THE PUBLIC SWITCHED TELEPHONE NETWORK (PSTN) VIA OPTICAL FIBRES

(Geneva, 1995)

Considering

the way of connecting customers to the public switched telephone network via optical fibre in order to achieve:

(a) improved quality of service:

- from stability of network performance during the addition of new services or the reconfiguration of the network;
- from a reduced range and complexity of components tolerant of lower craft skills for commissioning and maintenance;
- from the provision of network topologies given in A/L.15;

(b) reduced lifetime costs accruing from both initial equipment costs and on-going maintenance costs throughout the life of the network;

(c) exploitation of the flexibility of the existing civil infrastructure developed for copper cables,

it is recommended that

1) access by field personnel to plant items associated with individual customer circuits is limited to designated fibre positions;

2) the stress induced in fibre of plant items should be limited by the configuration of fibre to ensure no fibre breaks during the predicted fibre lifetime (greater than 20 years);

3) the number of different plant items which could be configured as sub-assembly modules are minimized so that the same modules can be used in the exchange, the customer's premises or in the external field network at flexibility points;

4) the packaging of fibres within a module should be controlled to provide stable transmission for each customer without affecting other customers (for example, single circuit management);

5) fibres within a module should be easily identified;

6) fibre routing mechanisms should ensure the packaging of fibres between the optical cable and the modules provide a continuously stable performance during reconfiguration for growth, upgrade, maintenance or recovery;

7) sufficient length of fibre tails should be provided to each module for several re-terminations without disturbing the optical performance of other fibres within the module;

8) provision is made within a module to allow interrogation of the module for maintenance purposes.