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GRUPO DE ANÁLISE E PREVISÕES

GRUPO DE ANALISIS Y PREVISION.

**PROPOSAL BY THE
"ANALYSIS AND FORECASTING GROUP" (GAP)
ON OPEN NETWORK PROVISION
(ONP) FOR LEASED LINES
IN THE COMMUNITY**

BRUSSELS, January 11, 1989

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PREFACE

1. The first GAP report on ONP ¹, which was discussed and approved by SOGT in April 1988, described the aims and scope of ONP and provided a general framework for more detailed work. The work programme proposed for the development of the ONP included study of the access to :
 - Leased Lines under ONP
 - Public Data Networks under ONP
 - ISDN under ONP
2. SOGT decided that GAP should continue the work on ONP, initially addressing leased lines.
3. During their meeting of 30th June in Luxembourg the Council of Ministers for Telecommunications confirmed the major policy goals in the Telecommunications policy², including :

"Rapid definition by Council directives, of technical conditions, usage conditions and tariff principles for Open Network Provision, starting with harmonized conditions for the use of Leased Lines..."
4. This report by GAP further develops common principles regarding the general conditions for the provision of leased lines under ONP by Telecommunications Administrations in the Community, in accordance with the mandate given by the Senior Officials Group for Telecommunications (SOG-T).

¹Report by the Analysis and Forecasting Group (GAP) on Open Network Provision (ONP) in the Community, Brussels, January 20, 1988.

²Council Resolution of 30 June 1988 on the development of the Common Market for Telecommunications Services and Equipment up to 1992 (88/C 257/01)

The content of this report is based on a large number of contributions from a variety of sources, including the following :

- Documents provided by GAP members through Member States' Delegations
- Communications from the European Commission, in particular the Green Paper³ and the subsequent document on implementing the Green Paper⁴.
- The recent resolution of the Council of Ministers in Luxembourg, June 1988
- Presentations by user organisations expressing their views on ONP and Leased Lines. GAP organised forums with user representative organisations on June 9th and November 8th, 1988.
- The input of external experts under contract with DGXIII of the European Commission.

This report is divided into the following main parts :

Sections 1 and 2 consider the scope of ONP Leased Lines

Sections 3 and 4 describe the types of Leased Lines to be offered under ONP and the technical interfaces appropriate to this provision.

Sections 5 and 6 describe the supply and usage conditions.

Section 7 considers the tariff principles to be applied.

Included in the annexes is a list of GAP Members and of other participants in GAP work.

In all sections the text leads to a number of "Proposed Positions": the text provides the rationale for the proposals in the report.

³Towards a Dynamic European Economy : Green Paper on the Development of the Common Market for Telecommunications Services and Equipment COM (87) 290 final 30 June 1987

⁴Implementing the Green Paper on the Development of the Common Market for Telecommunications Service and Equipment (COM) 88 48, February 1988.

EXECUTIVE OVERVIEW

Open Network Provision (ONP) was first defined in the Green Paper on the Development of the Common Market for Telecommunications Services and Equipment, which stated :

"... the Community will have to develop common principles regarding the general conditions for the provision of the network infrastructure by the Telecommunications Administrations to users and competitive service providers, in particular for trans-frontier service provision".

This concept has been endorsed as one of the major objectives of telecommunications policy in the Community by the Council of Telecommunications Ministers at the meeting of 30th June 1988.

The Senior Officials Group in Telecommunications (SOGT) issued a mandate to its sub-group GAP to develop a framework for ONP which resulted in the first report approved by SOGT in April 1988. GAP was then requested to work out further proposals for ONP initially addressing leased lines.

Although the study of leased lines has proved to be very complex, and a number of issues will require further study, GAP considers that this is the appropriate time to present the results of its work to SOGT.

ONP arrangements for leased lines represent a defined and guaranteed set of conditions which will apply to all users on a Community-wide basis. The ONP concept applies both to national and international Leased Lines. ONP Leased Lines are defined in terms of the technical, supply and usage conditions and tariff principles that apply to their provision. Other types of leased line (ie types with other technical, supply and usage conditions and tariffs principles) may be offered to users, including a continuation of the existing offerings.

The proposals in this GAP report apply initially to point-to-point permanent fixed destination leased lines (ie lines that start and end at network termination points on customers premises and are available to the user 24 hours a day). The availability of a defined set of ONP leased lines should be guaranteed Community-wide.

These are :

- ordinary quality, voice bandwidth leased lines
- special quality, voice bandwidth leased lines
- 64 kbit/s (nominal bit rate) digital leased lines
- 2 Mbit/s (nominal bit rate) digital leased lines.

General satisfaction with the existing technical standards for leased lines allows the use of existing interfaces wherever possible. However, where necessary, ETSI should be requested to provide full definition of the technical standards involved.

The supply conditions proposed by GAP are not defined in detail. These conditions, in accordance with user organisation views expressed at user forums, should be detailed through the contractual relationship between the TAs and the users. It is however important that supply conditions should be published and should be harmonised where possible and appropriate. Telecommunications Administrations should endeavour to further such harmonisation (e.g. through CEPT).

Usage conditions should only be applied to the extent that they are necessary to prevent the provision of network infrastructure and reserved services through ONP Leased Lines. Where usage conditions are necessary these should be enforced by regulatory means and not via technical restrictions.

With regard to tariffs GAP has restricted itself to a limited set of basic principles.

The guiding principle for tariffing ONP leased lines is that tariffs should be oriented towards cost. Moreover, tariffs should be composed of a limited number of elements to achieve a structure which is readily understandable by users. Access charges may be levied (on an optional basis) where leased line interconnection with a public network is allowed.

In the preparation of this report GAP has noted the views of users as expressed at two user forums. These views have been discussed in GAP and, where it is considered possible, these have been incorporated in the text.

Although this GAP report does not cover all issues regarding ONP Leased Lines completely, it is considered that these proposals can constitute a first, but important step, towards the harmonisation of the provision and usage of Leased Lines and therefore to the development of pan-European value added services.

1 Introduction

1.1 Background

In the CEC document : "Towards a dynamic European Economy : Green Paper on the Development of the Common Market for Telecommunications Services and Equipment", it is stated that :

"... the Community will have to develop common principles regarding the general conditions for the provision of the network infrastructure by the Telecommunications Administrations to users and competitive service providers, in particular for trans-frontier service provision".⁵

This concept is known as Open Network Provision.

The Green Paper defines the development of the conditions for Open Network Provision (ONP) as a progressive and participatory process in the following terms :

"Clear definition by Community Directive of general requirements imposed by Telecommunications Administrations on providers of competitive services for use of the network, including definitions regarding network infrastructure provision.

This must include clear interconnect and access obligations by Telecommunications Administrations for trans-frontier service providers in order to prevent Treaty infringements.

Consensus must be achieved on standards, frequencies, and tariff principles, in order to agree on the general conditions imposed for service provision on the competitive sector. Details of this Directive on Open Network Provision (ONP) should be prepared in consultation with the Member States, the Telecommunications Administrations and the other parties concerned, in the framework of the Senior Officials Group on Telecommunications (SOG-T)."

In the communication COM(48)88 on the Implementation of the Green Paper, the Commission made the following statement on the progressive opening of telecommunications services market to competition from 1989 onwards :

"Opening must ensure free (unrestricted) provision of non-reserved services within Member States (in competition with Telecommunications Administrations), for own use, shared use, or provision to third parties, subject to fair conditions of access, and the lifting of restrictions on use and interconnection where they exist."⁶

⁵ Green Paper, Chapter VI, Section 4.2.3

⁶ COM(88)48, Section IV, Part 1, (ii)

Moreover, this document also stresses that the definition of details for Open Network Provision (ONP) has been recognised generally as central to the future functioning of a competitive market.

Subsequently, the Council of Ministers adopted in the Council Resolution of 30 June 1988 the following major policy goal :

*"Creating progressively an open, common market for telecommunications services, particularly for value-added services. Due account must be taken of the competition rules of the Treaty. Rapid definition, by Council directives, of technical conditions, usage conditions and tariff principles for Open Network Provision, starting with harmonized conditions for the use of leased lines, is of crucial importance and closely linked with the creation of an open common market for non-reserved telecommunications services."*⁷

1.2 Scope

This report contains specific proposals for the application of Open Network Provision to Leased Lines. The Open Network Provision concept has been developed according to the trilogy defined in the first GAP report⁸ and will address the following :

- technical interfaces
- usage conditions
- tariff principles.

These will typically be "interlinked" and may differ from the equivalent conditions for existing offerings.

In addition, some principles for supply conditions have also been considered in order to achieve the appropriate degree of harmonisation at the Community level.

⁷ Council Resolution of 30 June 1988 on the development of the Common Market for telecommunications services and equipments up to 1992

⁸ Report by the "Analysis and Forecasting Group" (GAP) on Open Network Provision (ONP) in the Community, January 20, 1988

1.3 General Considerations

Because ONP is one of a number of proposed action lines in the Green Paper, it is essential that an efficient coordination with the other positions in the Green Paper is ensured.

Amongst the most important of these positions are :

- a general agreement in the Member States on the need to safeguard the financial viability of the Telecommunications Administrations, in order to enable them to comply with their public service mandate
- the recognition of the fact that telecommunications tariffs should follow overall cost trends and that a certain amount of rebalancing of tariffs will be inevitable, as far as compatible with public service goals
- the need to avoid cream-skimming in the period while tariffs are being rebalanced,
- the need to ensure fair competition between TAs and Private Service Operators (PSOs) in the market for non-reserved services,
- consistent with the above the need to remove unnecessary restrictions in the use of Leased Lines for the purpose of establishing an open market for the provision of non-reserved services.

1.4 Implementation and Priorities

This report presents the basic priorities (type of Leased Lines, geographical scope, etc) for the implementation of ONP for Leased Lines. No fixed time schedule for this implementation is proposed at this stage. However, the present situation in the Member States with regard to the different aspects (e.g. technical interfaces, usage conditions, tariff principles) should be taken into account.

The proposals set out in this report provide a starting point for the introduction of ONP Leased Lines. A transition period for the full implementation of ONP for Leased Lines is considered appropriate. The time plan for such a transition period requires further study.

In addition, conditions for ONP Leased Lines are likely to evolve with technological progress, the evolution of telecommunication regulations, and market demand. It should therefore be anticipated that, in the short and medium term, regular reviews of the ONP conditions should be made to ensure that they reflect the current status.

1.5 Provision of ONP Leased Lines

The ONP conditions detailed in this report are designed to represent a Community-wide guaranteed, specified set of harmonised offerings to users⁹.

These ONP conditions should, as far as possible, be common across all member states, thereby users of ONP Leased Lines throughout Europe will have a common range of basic offerings from which to construct networks.

However, ONP Leased Lines are not meant to represent the only offerings of leased lines by the Telecommunications Administrations. It is anticipated that in line with market demands and technological capability, other types of leased lines¹⁰ will be offered to users, including a continuation of the existing Leased Line offerings.

1.6 Structure of the ONP Proposals on Leased Lines

This report contains specific proposals for the application of Open Network Provision to Leased Lines.

The proposals have been grouped under 6 main headings as follows:-

- General Conditions
- Range of applicable Leased Lines
- Technical Interfaces
- Supply Conditions
- Usage Conditions
- Tariff Principles

The "General Conditions" section contains proposals that are generally applicable to ONP, detailed in the specific form in which they will apply to ONP Leased Lines. The proposals in the remaining sections are specific to ONP Leased Lines.

⁹ The term "user" refers both to providers of non-reserved services and to end-users

¹⁰ ie types with other technical interfaces, usage and supply conditions, and tariff principles

2. General Conditions

2.1 Provision of ONP Leased Lines and Boundaries of ONP Regulation

This section presents the general conditions for the provision of ONP Leased Lines.

Leased Lines are considered an integral part of the network infrastructure and as such are classified as part of the reserved area.

Taking into account that users will be allowed to provide non-reserved services via Leased Lines, specific conditions (eg regarding certain technical interconnection specifications) relating to the provision of such services via Leased Lines should be included under ONP as far as harmonisation at the Community level is appropriate and provided that these specific conditions do not impair the provision of non-reserved services and are in compliance with the EEC Treaty provisions.(Refer to figure 2.1.). Further consideration should be given to this topic.

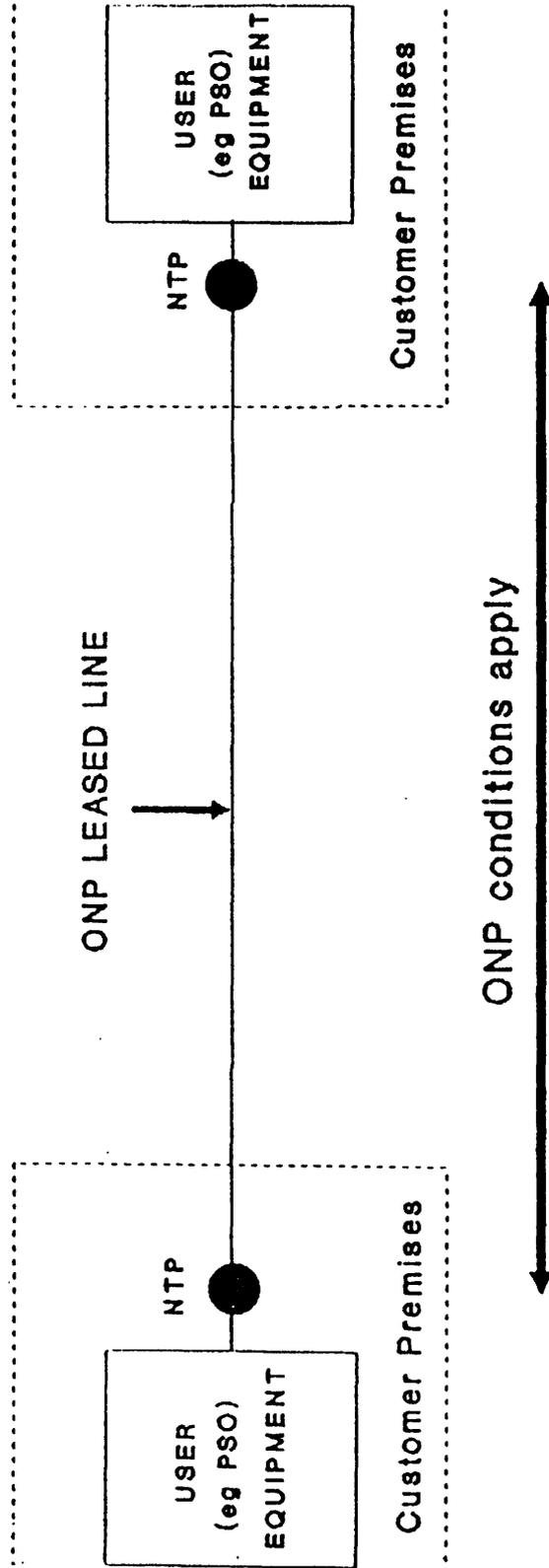
Therefore, the following position is proposed :

Proposed Position 1

The conditions that apply to ONP Leased Lines have been limited, at this stage, to those that apply between the Telecommunications Administration (as the service provider) and the User (as the service recipient). The term user refers to providers of non-reserved services and to end users.

However, Private Service Operators (PSOs) using ONP Leased Lines for the provision of non-reserved services might be requested to respect certain internationally agreed standards (regarding technical interconnection specifications and interoperability requirements where justified) in order to enhance the openness of the environment and the user's choice.

BOUNDARIES OF ONP REGULATION



Certain rules may apply to a PSO (eg compliance with certain European or International standards).
This issue should be topic of further consideration.

FIGURE 2.1

2.2 National and International scope of ONP Leased Lines

In introducing ONP, the Green Paper recognises that it must have an intra-Community dimension.

The Green Paper emphasises this point when it states that one of the (three) essential changes required for the development of a competitive common market is : ¹¹

"...Acceptance of clear interconnect and access obligations by the Telecommunications Administrations for trans-frontier service providers within the Community."

Both the Green Paper and the subsequent follow up document, ¹² identify the need for equivalent provision both of national and intra-Community services to stimulate the development of pan-European non-reserved services.

Proposed Position 2

ONP conditions for Leased Lines should apply both to :

- o international, intra-Community leased lines; and**
- o national leased lines**

The extension of the ONP concept to extra-Community leased lines should be subject to consideration in a later phase.

In order to permit PSOs to develop services that are unhindered by country boundaries, and to ensure that the presence (or absence) of such a boundary does not unnecessarily influence the technical and operational provision of a service, a target is to make all the conditions ¹³ that apply to ONP national leased lines and international intra-Community leased lines as similar as possible ¹⁴.

¹¹ Green Paper, Chapter VI, Section 6

¹² COM(88) 48, dated February 1988; entitled "Implementing the Green Paper on the development of the Common Market for Telecommunications services and equipment", Section IV, Part I, (v)

¹³ ie technical interfaces, supply and usage conditions and tariff principles

¹⁴ Note that the conditions referred to are the condition as seen by the user of the ONP Leased Line. The contractual conditions that apply between two (or more) Telecommunications Administrations involved in providing an international leased line are outside the scope of ONP, other than requiring that such conditions must not prevent the Telecommunications Administrations from meeting the ONP requirements at the customer interfaces (NTPs)

The TAs should in principle make every endeavour to give equal priority to the implementation of both national and international ONP Leased Lines. However it is recognised that in a number of cases the intra-Community ONP Leased Lines are likely to be implemented prior to the national ONP Leased Lines because more time may be needed for TAs to adapt existing national circuits, in particular with regard to technical interfaces, to ONP conditions.

2.3 Availability of ONP

In line with the Green Paper, ONP conditions are aimed primarily at the promotion of Europe-wide non-reserved services. However, ONP should not be dedicated solely to the needs of PSOs, but should be available to all users without discrimination.

Proposed Position 3

ONP Leased Lines should be offered, without discrimination, to all potential users (ie to PSOs and to end-users)

2.4 Provision of ONP Leased Lines : a guaranteed Community-wide harmonised set

ONP, in the words of the follow-up communication to the Green Paper¹⁷, is intended to provide the "clear Community-wide definition of general requirements imposed by TAs on providers of competitive services for use of the network."

Proposed Position 4

ONP conditions for leased lines represent a guaranteed, specified and harmonised set which will be available to users Community-wide, in response to a reasonable demand.

¹⁷ COM(88)48, dated February 1988, entitled "Implementing the Green Paper on the development of the Common Market for Telecommunications services and equipment"

2.5 Supply of ONP Leased Lines and non-ONP Leased Lines

Recognising that there are a considerable number of Leased Lines in existence within the Community at present,¹⁵ and that new types of leased lines may appear, ONP and non-ONP Leased Lines may be expected to coexist.

Proposed Position 5

Leased Lines may also be offered to users under other conditions compatible with competition rules, in addition to the provision of ONP Leased Lines.

This will mean that ONP Leased Lines will be offered under a new set of conditions whilst non-ONP Leased Lines may continue to be offered under other conditions compatible with competition rules. However it should be recognised that some of these conditions may be similar or, in some cases, identical.

In the longer term, assuming that ONP achieves its basic aim of more "open" access to the network infrastructure of the Telecommunications Administrations, it is likely that there will be a gradual convergence of ONP and non-ONP conditions for Leased Lines.

¹⁵ A recently produced GAP document (GAP 309) shows in excess of 1.6 million national Leased Lines and 13,000 international, intra-Community, Leased Lines

2.6 Applicability of ONP conditions to Telecommunications Administrations when they are providing non-reserved services

Under the terms of the Green Paper,¹⁶ both Telecommunications Administrations and PSOs are allowed to provide all non-reserved services. Generally these services will use the transport capability of the network or will be built "on top of the reserved services". TAs may offer non-reserved services either via joint ventures or subsidiaries, or directly in competition with PSOs.

Proposed Position 6

In order to ensure fair competition, when TAs are providing non-reserved services via joint ventures or subsidiaries over ONP Leased Lines, the same ONP conditions should apply equally to TAs as to other users. When the TAs are providing non-reserved services directly it will be necessary to maintain fair competition and ensure that no undue advantages are created for these operations.

¹⁶ Green Paper Proposals, Position C

3. The application of ONP to a range of Leased Lines

3.1 ONP Leased Line Category

Proposed Position 7

ONP conditions apply initially only to the following category of Leased Lines :-

Point to Point, permanent¹⁸ fixed destination leased lines ie lines that start and end at Network Termination Points (NTPs)¹⁹ on customer premises and which have no on-demand switching (i.e. no call processing)²⁰.

Recognising that the bulk of Leased Lines that currently exist in the Community are of the point to point type, it is proposed that in order to limit the scope of ONP for the introductory phase, only this type is included.

For completeness, the following list identifies the major categories of Leased Lines that are not included in the initial phase of introduction of ONP:-

- leased lines which are provided for a period of less than the agreed minimum contractual period (temporary circuits)
- leased lines which are provided for periods less than 24 hours/day (part-time circuits)
- leased lines which have more than two NTPs (eg multidrop circuits, multipoint circuits)

¹⁸ The word "permanent" will be defined in terms of the contractual period. It refers to Leased Line which are available to the user on a 24 hours daily basis

¹⁹ Network Termination Point is defined as the boundary point on the customers premises at which the customer equipment is connected to the network

²⁰ The term "on-demand switching" refers to a customer's ability to route a connection, on a demand basis, through a public switched network. The reference to "on-demand switching" is to differentiate switched connections from leased lines in which the destination and capacity (of the leased line) are fixed.

- leased lines which only provide direct access to public networks (eg "remote" or "distant" exchange connections) ²¹
- (permanent) virtual circuits ²².

Some or all of these (and other ²³) categories of Leased Lines may be included under ONP in a later phase of introduction.

²¹ These types of lines are considered to be service specific and thus it is proposed that they be dealt with under future phases of ONP when the specific services are addressed.

²² Virtual circuits are also service specific, ie different technical, operational and tariffing conditions apply to virtual circuits provided by the packet switched service and by the ISDN. They will, therefore, be dealt with under future phases of ONP.

²³ An example is the provision of Leased Lines with enhanced features, which are made possible by the use of new technology (eg Digital Cross Connect System-DCS)

TYPE OF LEASED LINE FOR OPEN NETWORK PROVISION

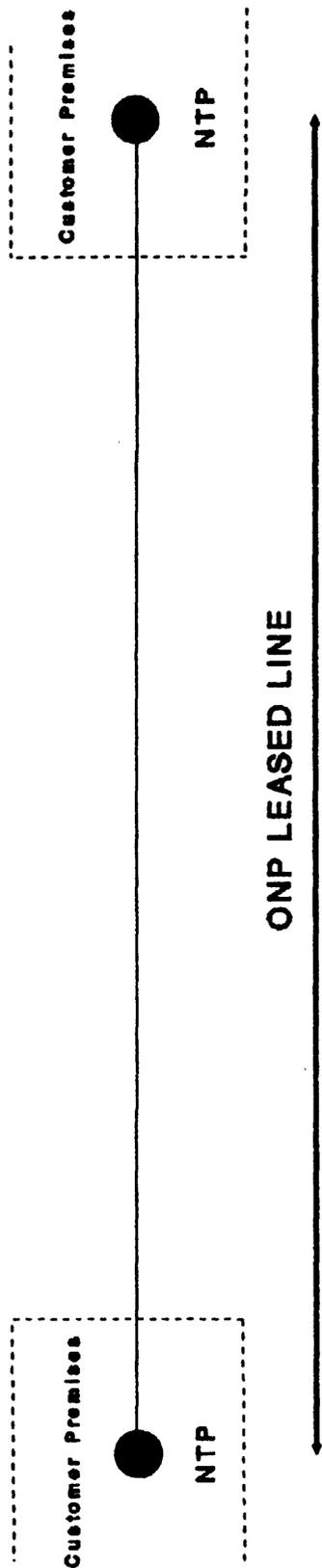


FIGURE 3.1 a

EXAMPLES OF TYPES OF LEASED LINES NOT INCLUDED UNDER THE
INITIAL PHASE OF ONP

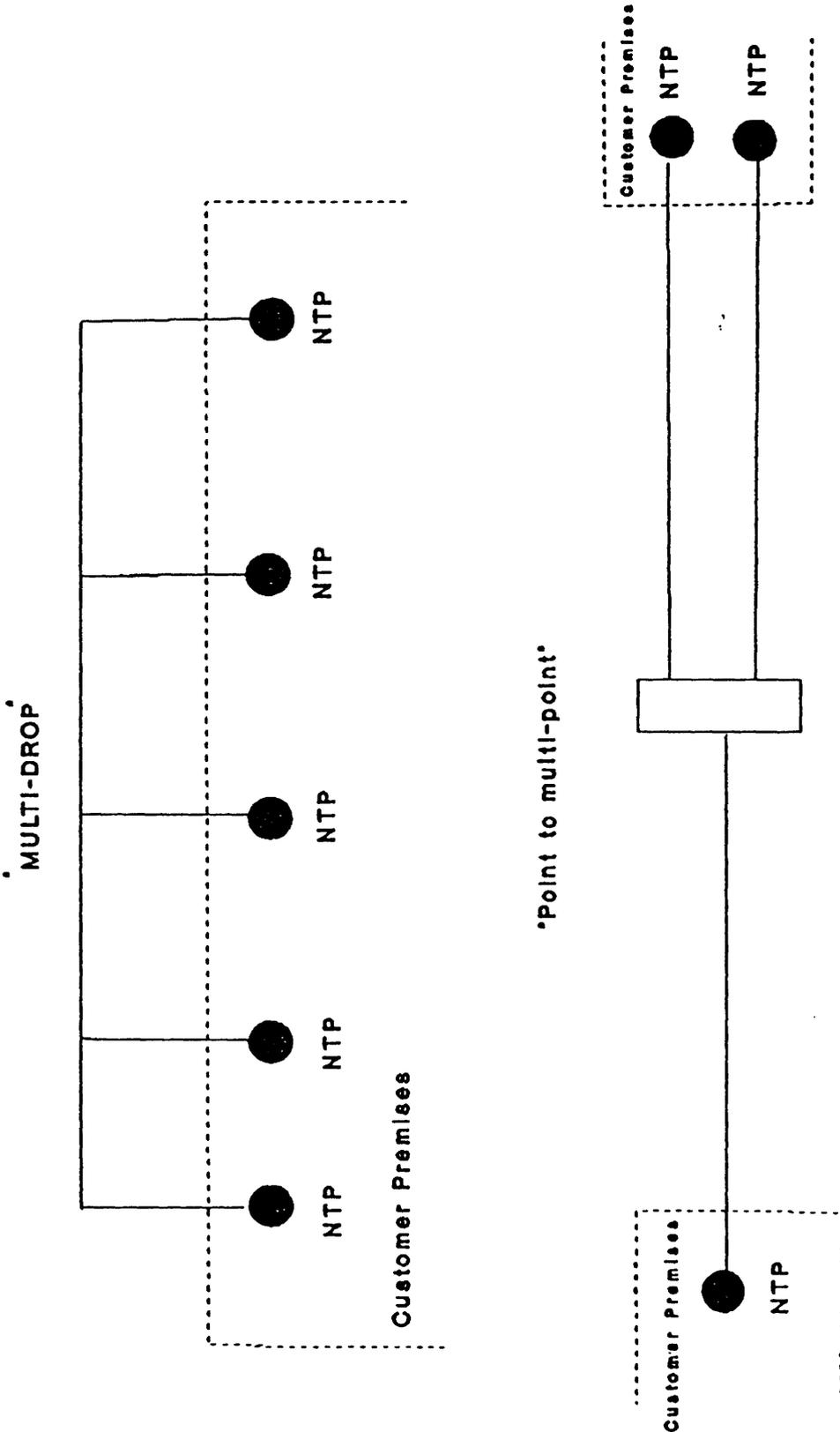


FIGURE 3.1.b

3.2 Types of ONP Leased Lines

Proposed Position 8

ONP conditions are mandatory²⁴ for the following four types of Leased Lines ("Mandatory types") :

- (a) Ordinary quality, voice bandwidth leased lines²⁵**
- (b) Special quality, voice bandwidth leased lines²⁵**
- (c) 64 kbit/s (nominal bit rate²⁶) digital leased lines²⁵**
- (d) 2 Mbit/s (nominal bit rate²⁷) digital leased lines²⁵**

This list is designed to include types of Leased Line which are most commonly in use within the Community at present, along with those types that are likely to emerge as the most common when the widespread introduction of digital networks is achieved. (According to a recent GAP survey reported in document GAP 309, telephony type leased lines represent about 80 % of all national leased lines and about 70 % of all international leased lines).

For the provision of these lines different media and different types of equipment (e.g. terrestrial, satellite, optical fibre,...) can be used.

It is recognised that not all Telecommunications Administrations currently provide all the types of Leased Lines in the above list on a national basis, nor that all types are available between all countries internationally. Therefore it will be necessary in the introductory period of ONP to allow a phased introduction of some types (in particular 64 kbit/s and 2 Mbit/s).

²⁴ "Mandatory" provision of these types of ONP Leased Lines means that Telecommunication Administrations must make reasonable provisions to meet the reasonable demand from users, nationally and internationally, and ensure that (as far as possible) provision targets are met

²⁵ Refer to figure 4.1

²⁶ "Nominal" bit rate includes circuits where the Telecommunications Administration utilises a small proportion of the available bandwidth for network supervision/signalling (ie in this instance it includes 48kbit/s, 56 kbit/s and 64 kbit/s where these are the maximum bit rates available for use by the user.)

²⁷ Refer to draft CEPT Rec.T/TE 04-12 where 2Mbit/s signals with 3 different frame structures are identified. The Administrations may choose to offer any of the data formats defined in accordance with customer demand.

Proposed Position 9

Should there be a proven commercial demand within the Community for digital leased lines (as per Proposed Position 7) at bit rates extending up to 565 Mbit/s, other than those which are required to be offered on a mandatory basis (64kbit/s and 2Mbit/s as per Proposed Position 8) then a review of the existing ONP range should be undertaken to extend the mandatory types of Leased Lines offered under ONP conditions. In the long term a wide range of ONP leased lines should become available to users across all of the Community Member States.

It is recognised that TAs who are providing digital leased circuits at bit rates up to 565 Mbit/s other than those which are required to be offered on a mandatory basis should endeavour to offer these circuits with similar conditions to ONP if there proves to be a genuine commercial demand.

The availability of these leased lines with similar conditions to ONP Leased Lines apply separately at national and international level (i.e. types that are only available nationally need only have national ONP equivalents and those available internationally need only have international ONP equivalents). Thereby, Telecommunications Administrations are not forced to implement new network capabilities, but in the longer term a wide range of ONP Leased Lines should become available to users across all of the Community member states.

In the light of technological progress and market demand, future ONP conditions may incorporate changes to the list of mandatory types.

4. ONP Leased Line Technical Interfaces and Performance Characteristics

4.1 Use of national and international standards

Proposed Position 10

Wherever possible, ONP Leased Lines should adopt existing technical standards. Where appropriate, NETs or internationally agreed standards should be used. Where international standards are not available or are not adequate, and where a significant demand arises for such a standard, then ETSI should be requested to develop a common technical standard. In the interim period national standards may be used provisionally. In the case of national standards or when options chosen from international standards may create incompatibility problems then ETSI may be requested to carry out further work to ensure full compatibility of the user/network technical interface standards.

4.1.1 ONP Leased Line Technical Interfaces

Recognising the above, interfaces for ONP Leased Lines should where possible be identical to non-ONP leased lines.

For the Mandatory types of ONP Leased Lines, the following interface standards at the NTP should be adopted:-

- (a) Ordinary quality, voice bandwidth leased lines :
 - 2 or 4 wire analogue presentation, as described in CCITT Recommendation M1040
- (b) Special quality, voice bandwidth leased lines :
 - 2 or 4 wire analogue presentation, as described in CCITT Recommendation M1020 and CCITT Recommendation M1025

- (c) 64 kbit/s (nominal bit rate) digital leased lines :
 - CCITT Recommendation G.703/X.21/X.21(bis)²⁸
- (d) 2 Mbit/s (nominal bit rate) digital leased lines :
 - CCITT Recommendation G.703/X.21/X.21(bis)²⁸

It is recognized that in certain Member States other standards (e.g. V.24, V.35) are used for the time being.

4.1.2 ONP Leased Line Technical Performance

For the Mandatory types of ONP Leased Lines, the following performance standards at the NTP should be adopted:-

- (a) Ordinary quality, voice bandwidth leased lines :
 - for national circuits :
 - analogue circuits - existing national standards apply
 - digital circuits - CCITT Recommendation G.712 (4 wire interface), G.713 (2 wire interface) modified in each case by local line characteristics
 - for international (ie intra Community) circuits :
 - analogue circuits - CCITT Recommendation M.1040
 - digital circuits - CCITT Recommendation G.712 (4 wire interface), G.713 (2 wire interface) modified in each case by local line characteristics
- (b) Special quality, voice bandwidth leased lines :
 - for national circuits - existing national standards apply
 - for international (intra Community) circuits - either CCITT Recommendation M.1020 or CCITT Recommendation M.1025 shall apply

²⁸ At present Administrations offer interfaces based on X.21/ X.21 (bis) and/or G703 interfaces to their leased line customers. These interfaces should continue to be offered by the Administrations. ETSI may be requested to develop harmonised technical standards in accordance with G703 and X.21 and should consider the implications of migrating to one particular interface in the context of ONP.

- (c) 64 kbit/s (nominal bit rate) digital leased lines :
 - Relevant CCITT G.800 series Recommendations (e.g.G.821) shall apply
- (d) 2 Mbit/s (nominal bit rate) unstructured digital leased lines :
 - Relevant CCITT G.800 series Recommendations (e.g.G.821) shall apply

The interface and performance specifications for mandatory ONP Leased Lines are summarised in figure 4.1, which should be read in conjunction with figure 4.2. Ideally and for clear arrangements, the technical interface standards and the performance standards must apply at the NTP.

ONP LEASED LINE TYPE	INTERFACE SPECIFICATION	PERFORMANCE SPECIFICATION
Ordinary quality voice bandwidth	2 or 4 wire analogue	National standards or M.1040(analogue),G.712 or G.713(digital)modified by local line characteristics
Special quality voice bandwidth	2 or 4 wire analogue	National standards or M.1020/M.1025
64 kbit/s digital	G.703/X.21/X.21(bis)/V.36	Relevant G.800 series recommendations
2 Mbit/s digital	G.703/X.21/X.21(bis)	Relevant G.800 series recommendations

INTERFACE & PERFORMANCE SPECIFICATIONS FOR MANDATORY ONP LEASED LINES

FIGURE 4.1

EXAMPLE OF AN ONP LEASED LINE CONFIGURATION

(showing a range of possible interface and performance standards)

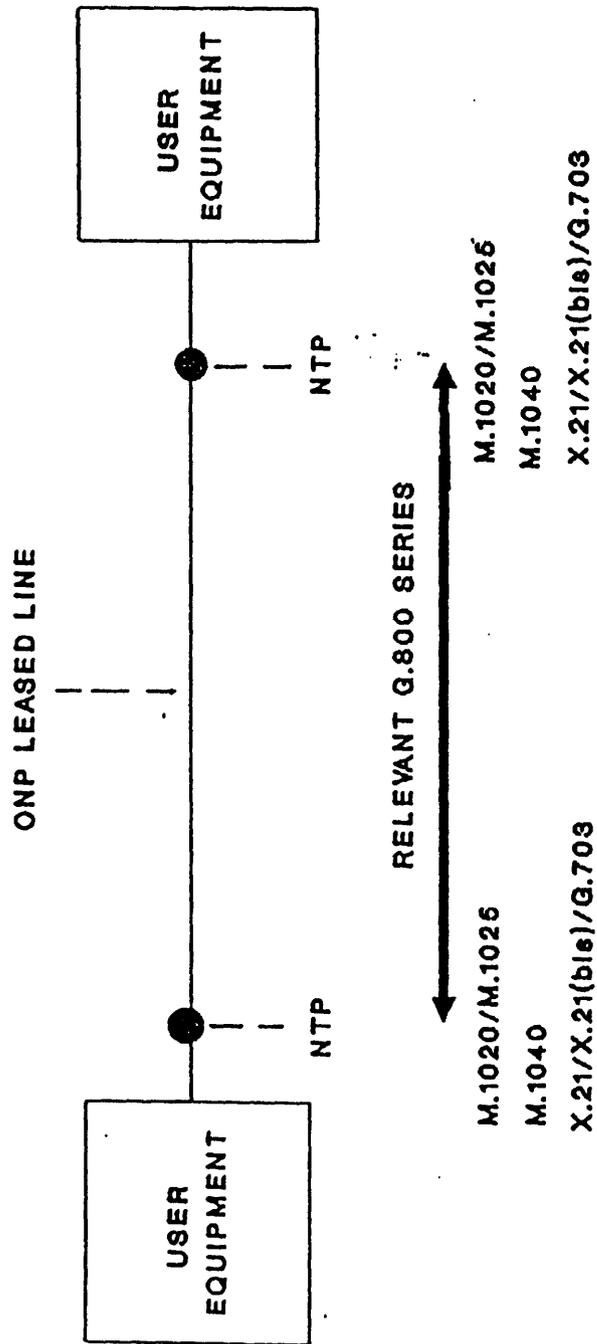


FIGURE 4.2

4.2 Publication of ONP Leased Line Technical Standards

In order to ensure that users and potential users are fully aware of the technical characteristics of ONP Leased Lines :

Proposed Position 11

Technical interface and performance criteria of all ONP Leased Lines should be fully defined and published by the Telecommunications Administrations.

4.3 Technical Responsibility

Proposed Position 12

The TAs are responsible for the performance criteria that applies to the individual ONP Leased Line from NTP to NTP (both in customers premises).

The user is responsible for the end-to-end service performance of his network which may comprise one or more ONP Leased Lines.

Where services are offered using a combination of ONP Leased Lines and Switched Public Services users should endeavour to ensure that satisfactory end-to-end performance objectives (eg internationally agreed standards) are met.

5. ONP Leased Line Supply Conditions

5.1 Ordering Procedure

At present, potential users are faced with the need to order leased lines in a different manner from each of the Telecommunications Administrations in the Community.

In order that unnecessary differences between the ordering procedures of different Telecommunications Administrations be reduced, it is proposed that :-

Proposed Position 13

The Telecommunications Administrations should endeavour to formulate, in consultation with users, and adopt a common ordering procedure for ONP Leased Lines throughout the Community.

This ordering procedure should ensure that, as far as possible, there is commonality across the Telecommunications Administrations for the following :-

- the information that has to be supplied by both the user and the TA
- the format in which this information is to be presented

At present, users wishing to order an international leased line between one member country and another usually have to place separate orders with the two Telecommunications Administrations involved. Similarly, tariff payments have to be made separately to each Telecommunications Administrations.

Proposed Position 14

The Telecommunications Administrations should endeavour to formulate a ONE STOP SHOPPING procedure (to include ONE STOP BILLING if requested by the customer) for the supply of intra Community ONP Leased Lines.

It is suggested that as a minimum such a procedure would cover:-

- pre ordering information supply
- ordering procedure
- implementation information
- payment and refund arrangements
- operations procedures
- maintenance procedures

The precise definition of a ONE STOP SHOPPING procedure is currently under investigation by CEPT.

5.2 Circuit Provision

It is anticipated that implementation of ONP will improve the general standard of provision and maintenance of leased lines within the Community.

Proposed Position 15

Telecommunications Administrations should endeavour to expedite the delivery of Leased Lines through the implementation of the ONP concept.

5.3 Publication and Harmonisation of Supply Conditions

Recognising that :

- for the purposes of planning and implementation of their networks, users need to be aware of the conditions under which ONP Leased Lines are to be offered by the Telecommunications Administrations;
- at present the supply conditions for existing leased lines vary considerably throughout the Community; and
- the provision of pan-European value added services are likely to benefit from harmonisation of these conditions where such harmonisation is possible and appropriate;

then it is proposed that for ONP Leased Lines, the Telecommunications Administrations should

- publish the appropriate supply conditions

and

- endeavour, inter alia through CEPT, to develop a set of minimum, harmonised conditions.

This requirement should cover the following items for ONP Leased Lines :

- delivery periods
- contractual periods
- repair times
- refund policies.

Proposed Position 16

Telecommunications Administrations should fully define and publish the supply conditions for ONP Leased Lines. For each type of ONP Leased Line this should include information on target delivery periods, contractual periods, target repair times and the refund policy.

Proposed Position 17

Telecommunications Administrations should endeavour, inter alia through CEPT, to agree a harmonised set of supply conditions for ONP Leased Lines, within a given time frame.

With reference to such conditions, the following provisional proposals are suggested :

a. Target Maximum Delivery Period

In order to permit users to undertake network planning activities for their networks, it may be necessary for users to be advised of the expected delivery times for individual ONP Leased Lines.

Upon receipt of a written request from a potential user, the relevant²⁹ Telecommunications Administration should, within a stated maximum time, endeavour to submit a firm delivery period for an ONP Leased Line.

The duration of the validity of this delivery period should be specified.

In a variety of cases the potential user may wish to request commencement of service of an ONP Leased Line on a specific date.

Therefore:-

The Telecommunications Administration and the potential user may mutually agree on the delivery date, in which case, target maximum delivery periods do not apply.

Target maximum delivery periods apply for ONP Leased Lines. They can vary for different types of leased line and depend on geographical conditions.

The delivery period starts on the day that the contract is signed.

For international Leased Lines, the number of working days mentioned may be more difficult to achieve than for national Leased Lines.

²⁹ The relevant administration, in this context, will normally be one of the administrations who provides one or more of the NTPs.

It is anticipated that in certain circumstances, and on a case by case basis, Telecommunications Administrations may not be able to achieve the proposed target figures, typically for reasons outside of their direct control.

b. ONP Leased Line Minimum Contractual Period

TAs should publish the minimum contractual periods that apply to each type of ONP Leased Line.

c. ONP Leased Line Target Repair Time

In order to ensure a guarantee of service availability, the target repair time should be specified for an ONP Leased Line. The target repair time should incorporate both the "call-out time" and the time to restore the circuit to normal operation.

TAs should endeavour to reduce the leased line repair times through the implementation of ONP.

The following definitions apply:-

- A "Fault" is defined as a circuit failing to meet its stated performance characteristics.
- "Repair Time" is the period of time from the fault being first observed by the TA or reported by the user to the nominated contact point of the TA to the time when the circuit is restored to normal operation.

Proposed Position 18

For ONP Leased Lines, the target repair times which are published should specify the number of hours which may depend on the day of the week and the time of day. Other repair times may be mutually agreed between the Telecommunications Administration and the user, in accordance with the maintenance contract.

It is anticipated that in certain circumstances, and on a case by case basis, Telecommunications Administrations will not be able to achieve the proposed target figures, typically for reasons outside of their direct control.

d. Rental Charge Refunds

In the event that an ONP Leased Line develops a fault, and is therefore unavailable for use, the user should be offered a refund of part of his Periodic Rental.

This refund should not be considered as the Telecommunications Administration accepting "liability", and therefore should not reflect the "value" of the circuit to the user. Instead it should relate directly to the rental for the period of time for which the ONP Leased Line is unavailable for service by the user.

The CCITT D1 Recommendation may provide adequate guidelines until CEPT has developed a refund scheme which achieves the appropriate degree of harmonisation at the Community level.

5.4 Availability of Statistics

In order to ensure that best endeavours are employed by the TAs to meet the target figures, it is considered appropriate to request the TAs to make available, on an annual basis, statistics regarding the supply and maintenance of ONP Leased Lines.

Proposed Position 19

On an annual basis, TAs should make available upon request statistics regarding :

- the delivery period of each type of ONP Leased Line over the last 12 months including the average delivery period and the percentages which have been delivered within the Target Maximum Delivery Period or by the agreed delivery date;**
- the percentage of faults that have been repaired on each type of ONP Leased Line within the specified target times over the last 12 months.**

5.5 Operations and Maintenance

In order to expedite the repair of faults on ONP Leased Lines, and in order for users to be aware of the fault clearing procedures being adopted by a Telecommunications Administration, users should be given a single point of contact within a Telecommunications Administration for fault reporting and for fault clearance. In addition, Telecommunications Administrations are encouraged to adopt an appropriate fault progressing system.

In the longer term, Telecommunications Administrations should, where possible and where appropriate, offer users additional on-line access to network maintenance and diagnostic (network management) facilities to allow users to interrogate network facilities in order to assess the status of an ONP Leased Line.

6. Usage Conditions

6.1 General Considerations

For many years the supply and usage conditions that have applied to leased lines have been based on the assumption that the subscriber is the end user i.e. is not himself offering services to third parties. The result is that at present in certain Member States the existing usage conditions generally do not envisage the usage by the customer of the Leased Lines for the offering of non-reserved service.

In order to promote the development of the competitive provision of non-reserved services via leased lines, in particular value added services, it is required that unnecessary restrictions on usage conditions are removed. However, recognising the need to safeguard the financial viability of the TAs in order to comply with their public service mandate, it is proposed that a minimum defined set of conditions continue to apply to PSOs and end users (as developed from the Green Paper), i.e. :

- PSOs and end users are not allowed to provide or operate network infrastructure
- PSOs can offer all services to their users except those that are reserved³⁰.

It is recognised that some Member States may apply more liberal conditions than is stated above.

6.2 Network Configurations

In line with the Green Paper, recognising the need to safeguard the financial viability of the TAs in order to comply with their public service mandate, it may be necessary to adopt certain restrictions, on the conveyance of certain services over particular network configurations.³¹ Such restrictions are dealt with in Paragraph 6.3.

Hitherto these restrictions have largely been enforced by technical restrictions, imposed by the Telecommunications Administrations, for example on interconnection between customer equipment and public services. These technical restrictions differ greatly from country to country.

These restrictions would be inappropriate for PSOs who are providing non-reserved services to third parties.

³⁰ What constitutes a reserved service is not yet established.

³¹ For example a prohibition of the provision of voice telephony service to the general public

Proposed Position 20

The usage conditions for ONP Leased Lines should not be imposed via technical restrictions but via regulatory means.

6.3 Usage Restrictions

Proposed Position 21

No usage restrictions should be applied when ONP Leased Lines are used for the provision of non-reserved services.

The only regulatory restrictions which could be applied to ONP Leased Lines are :

- **Sub-leasing³² to other parties of part or the whole of the transmission capacity of an ONP Leased Line is not allowed. This does not exclude the possibility of the offering by Telecommunications Administrations of shared use³² between customers who are party to the contract with the TA for the ONP Leased Line**
- **No ONP Leased Line may be used to convey reserved services, except where Member States allow the provisions of these services under certain conditions.**

³² "Sub-leasing" is (CEPT definition) :

- Where an Administration's customer sublets his leased circuit to other parties without modification
- Where an Administration's customer sublets multiplexed or residual transmission capacity to other parties.

"Shared use" is (CEPT definition) :

- The collective use by different users of telecommunications transmission facilities, whether by physical sharing, in particular by the multiplexing of channels, or by dynamic allocation of capacity according to the needs of the users.

Proposed Position 22

Any ONP Leased Line can be connected to other leased lines or to public switched networks, in any configuration for the provision of non-reserved services and subject to ONP conditions.

6.4 Type Approval of Terminal Equipment

Proposed Position 23

TAs may require that the terminal equipment connected to an ONP Leased Line be type approved, in accordance with the relevant national and Community legislation.

7. ONP Leased Line Tariff Principles

7.1 Principles of Tariff Setting

The tariff principles for ONP Leased Lines should be based on a number of guidelines. The tariff principles dealt with in this chapter are not intended to harmonise the absolute level of tariffs for ONP Leased Lines. The guidelines are as follows:-

- the tariffs should be cost oriented; that is they should reflect the costs incurred by the Telecommunications Administrations in providing (and maintaining) the service. The public service obligations of the Telecommunications Administrations is a factor for consideration in determining costs. Different methods for the allocation of costs may be applied at the national level.
- the implementation of cost-oriented tariffs in the Community will be a gradual process. The present imbalance of tariffs in the public switched telephone network do not allow for an abrupt introduction of cost-oriented tariffing for leased lines without seriously endangering the financial viability of some of the TAs. While such imbalances remain it may be appropriate to permit access charges when an ONP Leased Line is connected to the public switched network. Such access charges will need to remain in line with the general competition rules of the EEC. They will need to be reviewed in the light of progress in achieving overall cost-orientation by 1992³³
- in order to have a tariff structure which is readily understandable by users, tariffs should be based on common principles which apply to all types of ONP Leased Lines
- the tariffs should be independent of the type of service application for the same type of leased line
- tariffs should be applied to all customers in a non discriminatory manner
- as far as possible, the same tariff principles should apply for national and international ONP Leased Lines
- tariffs should be published.

³³ COM(88)48, Section IV, Part I (iv)

7.2. Tariff Elements

Proposed Position 24

The tariffs for ONP Leased Lines should be cost oriented. Tariffs may contain the following elements:-

- o Initial Connection Charge (optional)**
- o Periodic Rental Charge**
- o Access Charge (optional)**

Periodic rental charges may depend on the duration of the contract agreed with the users.

The possibility of the application of other tariff elements (such as usage sensitive tariffs) for ONP Leased Lines as well as for part-time circuits and leased lines with enhanced features made possible by new technologies like DCS³⁴ requires further study.

The Initial Connection Charge and the Periodic Rental Charge should both be based on :

- the type of ONP Leased Line (ie its technical interface, performance characteristics and transmission capacity); and
- the "length" of the ONP Leased Line. The length measurement may not be a single distance, but may include a number of elements corresponding to the lengths of individual parts of the overall ONP Leased Line (ie local and trunk sections)

Specific requirements of the customer (e.g. special maintenance requirements) may involve additional tariffs.

For national lines the tariff applies from NTP to NTP (both on customer premises) for each individual ONP Leased Line.

³⁴ DCS : Digital Cross Connect System

For international circuits, half circuit tariffs (i.e. measured from an NTP to a hypothetical mid-circuit point) may be applied

7.3 Initial Connection Charge

The Initial Connection Charge is required to cover the one off costs incurred by the Telecommunications Administration in providing an ONP Leased Line.

These cost elements should generally cover only the cost of making the connections to provide the ONP Leased Line; that is the averaged administrative and technical costs required to provide the type of ONP Leased Line requested. Costs incurred by the Telecommunications Administration for infrastructure should not be included in the Initial Connection Charge³⁵ since these latter costs should not be the responsibility of any one single customer, but should be shared by all customers, including the users of ONP Leased Lines.³⁶

Therefore, in order to avoid unacceptable discrepancies in the initial connection charges of the Member States :

³⁵ An appropriate analogy is as follows : Assume that a user currently has a leased line, but that he decides that he no longer requires it and it is disconnected by the Telecommunications Administration. However, the following day the user requests that it be restored and therefore the Telecommunications Administration incurs costs in reconnecting the circuit (but does not incur costs for the infrastructure (cables, equipment, etc.) since that must already be present) Thus it is possible to identify two costs, a connection cost and an investment cost. For ONP Leased Lines, the initial Connection Charge should, generally, only reflect the Connection Cost

³⁶ A position of the Green Paper (see Chapter VI, Section 4.3.3.) is the acceptance of the retention of the Telecommunications Administrations monopolies for network infrastructure and reserved services on the need to protect the "... massive investment in network infrastructure...". A corollary to this is that most of the Telecommunications Administrations have a responsibility to offer universal service and as part of this responsibility is the need to invest in infrastructure per se, and therefore the cost of this investment should not be passed to an individual customer.

In specific instances when extra cost for equipment is incurred which cannot be shared amongst customers, some of this additional cost may be passed on to the individual customer.

Proposed Position 25

The Initial Connection Charge should be generally based on the average cost incurred by the Telecommunications Administration in making the Leased Line connection. The harmonisation at the European level of the principles for determining initial connection charges should be subject to further study.

7.4 Periodic Rental Charge

As it is recognised that :

- the infrastructure on which ONP Leased Lines are constructed is largely the infrastructure dedicated to the provision of the telephony service; and
- in general charges for the telephony service should be cost oriented³⁷
- leased lines can, in a number of instances, be considered as an "alternative" to a public switched network

it may be appropriate to establish some link between the Periodic Rental charges for ONP Leased Lines and tariffs for the telephony service.

Therefore:-

Proposed Position 26

ONP Leased Line Periodic Rental Charges should :

- as far as possible be cost-oriented.
- be related to bandwidth relative to telephony equivalent of 3.1 kHz for voice bandwidth circuits or 64 kbit/s for digital circuits.

Furthermore they might correspond to a value chosen within a suggested range of equivalent minutes of usage of the telephone network if this is compatible with cost-orientation.

³⁷ Recognising that the telephony service accounts for 80-90 % of the revenues for Telecommunications Administrations and therefore the overall COSTS of the Telecommunications Administrations must largely be recovered through the revenues from the telephony service

7.5 Access Charges

In view of the fact that in a number of Member States tariffs require a further degree of rebalancing in order to be cost-oriented, access charges may be required. In the future, when PSTN tariffs have become closer to cost-orientation, access charges may no longer be required.

Recognising that

- users will have unrestricted access to network subscribers through public switched networks such access charges would be related to the cost of providing the public network as a whole, to which the ONP leased line provides access
- the contribution that should be made by a user of an ONP Leased Line to the development and operating costs relating to the provision of the public network when interconnection is permitted
- the balance of traffic on a switched network may be significantly altered by individual large users (for example a PSO) shifting traffic from leased lines to a switched network

then:-

Proposed Position 27

For permitting interconnection with the public switched network access charges may be applied where they are related to cost, and they may also be applied while tariff imbalances remain in the public switched network. Any access charges to be applied will be limited to a maximum.

When an access charge is being applied it should be related to the degree of imbalance between the local and long distance tariffs in the public switched network of the Member States involved. Such an access charge could be based on a flat rate or on the volume of traffic going into or coming from the public switched network.

When a Member State wishes to offer, in addition, ONP Leased Lines for the provision of services which are currently reserved, an access charge (possibly based on usage) may be applied, which depends on the infrastructure cost involved.

7.6 Bulk Provision Charges

Where there are savings in provision costs to the Telecommunications Administrations for bulk provision of ONP Leased Lines to a single customer,³⁸ then discounts reflecting this element of cost reduction should be introduced in the tariffs applied to this customer.

³⁸ Typically this would also have to be on a single site

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