



REFERENCE

UNBUNDLING OFFERING

From

GIBTELECOM Limited
(`*GIBTELECOM*`)

This is not a legal document. *GIBTELECOM* is not bound by this document and may amend it from time to time. This document is without prejudice to the legal position or the rights and duties of *GIBTELECOM*.

1. Preface

1.1 The Reference Unbundling Offer, which is presented in the form of a standard contract, deals with local loop unbundling services which *GIBTELECOM* offers to Operators, authorised under Section 32 of the Communications Act 2006. The charges being made available in this Reference Local Loop Unbundling Offer will be applied to all Operators on a non-discriminatory basis. In the event that agreement is reached with any single Operator on new rates for any service covered by this Reference Unbundling Offer, then those rates will be made available to all licensed Operators.

1.2 The Reference Local Loop Unbundling Offer only applies to;

- (a) Organizations who are authorised to provide services in Gibraltar pursuant to the provisions of Section 32 of the Communications Act 2006.

GIBTELECOM will not be responsible for the content of traffic and services conveyed through its Local Loop Unbundling Services.

1.3 *GIBTELECOM* reserves the right to review and to revise this Reference Local Loop Unbundling Offer on a regular basis but in any event, not more frequently than quarterly per annum. Further, *GIBTELECOM* shall review and revise this Reference Local Loop Unbundling Offer when required to do so by the Authority acting in exercise of the powers conferred on it by the Communications Act 2006.

**STANDARD
LOCAL LOOP UNBUNDLING
AGREEMENT**

DATED

Between

Operator Name

and

GIBTELECOM

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Annex I	Access Network Frequency Plan
Annex J	Charges
Annex K	List of MDF Sites
Annex L	Non Disclosure Agreement
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THIS AGREEMENT is made

Between

[Operator Name]

having its registered office at the [Operator Address] (hereinafter

referred to as "*the Operator*" or "*Operator*")

and

GIBTELECOM Limited

having its registered office at 15/21 John Mackintosh Square, Gibraltar

(hereinafter "*GIBTELECOM*")

1 Introduction

Whereas

A. The Operator is authorised to provide telecommunications services pursuant to the provisions of Section 32 of the Communications Act 2006.

B. *GIBTELECOM*, having been designated by the Authority as having Significant Market Power in the Markets specified below, shall comply with the relevant conditions outlined in the Communications Act 2006 as amended from time to time.

(1) Wholesale Fixed telephony

- i.) Call origination on the public telephone network at a fixed location in Gibraltar
- ii.) Call termination on the public telephone network at a fixed location in Gibraltar
- iii.) Wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location in Gibraltar
- iv.) Wholesale broadband access
- v.) Wholesale terminating segments of leased lines, irrespective of the technology used to provide leased or dedicated capacity

(2) Wholesale Mobile telephony

- i.) Voice call termination market
- ii.) SMS termination market

(3) Retail Fixed telephony

- i.) Access to the public telephone network at a fixed location
- ii.) National publicly available telephony services at a fixed location
- iii.) International publicly available telephony services at a fixed location

C. The Operator warrants, represents and undertakes that it:

- (a) has obtained, all consents, licenses, authorisations, approvals and permissions necessary to enter into this Agreement, receive the Service(s) and to carry out its obligations under this Agreement; and
- (b) will comply with all applicable Gibraltar laws and regulations relating to its business, instructions or guidelines issued from time to time by regulatory authorities, relevant licences and any other codes of practice which apply to the Operator in Gibraltar.

1.1 In consideration of the mutual covenant and obligations contained in this Agreement, the Parties HEREBY AGREE AS FOLLOWS:

2 Definitions and Interpretation

2.1 In this Local Loop Unbundling Agreement, except if the context requires otherwise, words and expressions are as defined in Annex A.

2.2 References to Acts, Regulations and other legislation including European Union legislation are to such legislation as amended from time to time, any legislation of which it is a re-enactment and also includes any sub-ordinate legislation made from time to time under that legislation.

2.3 References to Acts, Regulations and other legislation including European Union legislation are to such legislation as amended from time to time, any legislation of which it is a re-enactment and also includes any sub-ordinate legislation made from time to time under that legislation.

2.4 Terms defined in relevant European Union legislation on the liberalisation of the telecommunications services market or in consequent transposition into Gibraltar legislation (which, for the avoidance of doubt includes directions and/or decisions published by the Authority) shall, where used in this Agreement, have the meanings ascribed to them in such legislation.

2.5 The following documents form part of this Local Loop Unbundling Agreement and, in the event of any inconsistencies between them, the order of precedence shall (unless expressly stated to the contrary) be as follows:

Main Body Agreement

Annex A	Definitions
Annex B	Billing and Payments
Annex C	Service Schedules
Annex D	Technical Manuals
Annex E	Operations and Maintenance (O&M) Manuals
Annex F	Service Level Agreement
Annex H	Metallic Path Facility (MPF) Technical Description
Annex I	Access Network Frequency Plan
Annex J	Charges
Annex K	List of MDF Sites
Annex L	Non Disclosure Agreement
Annex M	Co-Location Services General Health and Safety Requirements

3 Commencement and Duration

3.1 This Reference Local Loop Unbundling Offer takes effect from []. In respect of the services offered under Annex C, the start date shall be the date from which the service has been or shall be provided, as set out in the relevant Service Schedule(s) and shall continue in effect until superseded by a revised Reference Local Loop Unbundling Offer or terminated pursuant to this Agreement.

4 Local Loop Unbundling

4.1 Local loop unbundling enables the Operator to provide services to its customers through the direct access to *GIBTELECOM's* local loop facilities. Local loop unbundling consists of a series of individual services and service components, each Local Loop Unbundling Service offered as part of the Agreement is described in Annex C to this Agreement and these shall be referred to collectively in this Agreement as Services.

5 Services

5.1 The service descriptions attached to this document at Annex C detail the Services which *GIBTELECOM provide* under this Agreement.

5.2 The Service Level Agreement attached to this document at Annex F provides details on the level of service which *GIBTELECOM provides* under this Agreement.

6 Charging for Services

6.1 The charges payable for local loop unbundling fall into two categories; these are explained in Annex B to this Agreement.

6.2 The local loop unbundling set-up charge reflects the risk incurred by *GIBTELECOM* in establishing local loop unbundling facilities including billing and administration processes.

- The local loop unbundling set-up charge is payable upon the initial request for a Service under this Agreement.
- No action will be undertaken by *GIBTELECOM* to commence the delivery or preparation of a Service until the local loop unbundling set-up charges has been received by *GIBTELECOM*.

6.3 The local loop unbundling operator-specific charge reflects the costs associated with setting up the agreement(s), together with establishing and testing the various billing, routing and order entry systems for a particular operator.

6.4 The charging structure for each Service is set out in the Services Schedules attached at Annex C. The specific charges for each Service are set out clearly in Annex J.

6.5 The Operator agrees to pay the charges as set out in this Agreement and is liable for payment of charges relevant to all services ordered or used by the Operator.

6.6 The Operator shall commit to purchase a minimum of one hundred unbundled lines at each site from which the Operator wishes to be supplied with unbundled lines. For the avoidance of doubt, a site includes any physical, distant, or co-mingling colocation site. The charges associated with the provision of the

minimum number of unbundled lines (for instance, connection, rental charges) are the same as those relevant to individual unbundled lines.

6.7 Charges paid under this agreement are non-refundable.

6.8 The process for reviewing and amending charges for Services covered by this Agreement is described in clause 19 of this Agreement.

7 Billing and Payment

7.1 *GIBTELECOM* shall issue invoices for Services taken by the Operator under this Agreement. Such invoices shall be provided in a timely manner and accurately reflect the charges set out in Annex J of this Agreement.

7.2 The Operator shall be liable for all charges levied by *GIBTELECOM* in relation to provision of Services pursuant to this Agreement.

7.3 Details of billing and payment obligations are set out in Annex B.

8 Provision of Information

8.1 *GIBTELECOM* will provide to the Operator as soon as reasonably practicable, data regarding the *GIBTELECOM* exchange area. The data is provided for the sole purpose of enabling the Operator to consider whether to request Services from *GIBTELECOM* pursuant to this Agreement.

8.2 The *GIBTELECOM* exchange area data shall comprise the following information:

- the location of MDF Sites;
- a representation of the area served by each MDF Site;
- where available, information on the availability of co-location, including:
- a list of MDF Sites where co-location facilities are:
 - likely to be provided,
 - may be provided subject to further detailed survey, and
 - cannot be provided;

8.3 *GIBTELECOM* shall ensure that such information is kept up to date and as accurate as reasonably possible and shall provide the Operator with reasonable notice of any significant changes to the information.

8.4 Operator shall maintain an audit trail of personnel who have access to such information. The audit trail information shall be made available to *GIBTELECOM* on request.

8.5 Upon termination of this Agreement the Operator shall destroy any copies of the data in the Operator's possession and shall certify to *GIBTELECOM* that this has been done.

8.6 Except as otherwise agreed, each Party shall provide free of charge one copy of the information reasonably required from time to time by the other Party for the provision of Service pursuant to this Agreement.

8.7 Notwithstanding any provision of this Agreement a Party shall not be obliged to provide information which is subject to a confidentiality obligation to a Third Party unless such Third Party consents to such disclosure.

8.8 The Disclosing Party will use reasonable endeavours to ensure that information disclosed is correct to the best of its knowledge at the time of provision of such information.

8.9 If a Disclosing Party provides information to a Receiving Party, the Disclosing Party shall have obtained all appropriate Third Party consents.

8.10 The Receiving Party shall indemnify the Disclosing Party and keep it indemnified against all liabilities, claims, demands, damages, costs and expenses arising as a consequence of any failure by the Receiving Party to comply with the conditions reasonably imposed and identified at the time when the information was provided.

8.11 Nothing in this Agreement shall require a Party to do anything in breach of any statutory or regulatory obligation of confidentiality, including without prejudice to the generality of the foregoing, any obligation pursuant to the applicable data protection legislation or any code of practice on the confidentiality of customer information issued by the data protection commissioner.

9 Compliance

9.1 The Operator shall ensure that the Operator's Compliant Equipment to be connected to the MPF is tested, using the Access Network Frequency Plan test specification for compliance with the Access Network Frequency Plan.

9.2 The Operator shall not connect or knowingly permit the connection to the MPF of anything which is not Compliant Equipment or which is not necessary for the provision of telecommunications services to Customers by means of the relevant local loop or MPF terminating at the relevant MDF Site. The Operator shall ensure that such Compliant Equipment remains compliant with the Access Network Frequency Plan and any other relevant standards including, without limitation, EMC

requirements and electrical safety. The Operator shall comply with *GIBTELECOM*'s reasonable instructions on floor loading, heat output, health and safety procedures as set out at Annex M and security before and during installation of any Compliant Equipment at an MDF Site.

9.3 *GIBTELECOM* shall not be obliged to provide to the Operator a MPF before the Operator has confirmed to *GIBTELECOM* in writing that the equipment that the Operator proposes to attach to the MPF is and will remain Compliant Equipment and will operate within the limits of the Access Network Frequency Plan and within the limits of the power feeding voltages and currents specified in the MPF specification.

9.4 If the Operator wishes to:

- (a) install equipment in Co-location facilities provided to the Operator by *GIBTELECOM*; or
- (b) connect equipment to a MPF at a Distant Co-Location site;

the Operator shall prior to the commencement of such installation or connection demonstrate to *GIBTELECOM*

9.4.1 that such equipment is compliant with those standards for equipment to be installed in such areas as *GIBTELECOM* may publish from time to time; and

9.4.2 that the Operator and its employees and contractors are compliant with the standards published by *GIBTELECOM* from time to time in relation to access requirements and working practices to be employed. Such standards are included in Annex E to this Agreement.

9.5 *GIBTELECOM* shall accept, reject or request additional information in response to the Operator's communication within 5 Working Days of receipt.

9.6 *GIBTELECOM* shall ensure that any *GIBTELECOM* equipment installed at MDF Sites shall be and shall continue to be compliant and will operate within the limits of the Access Network Frequency Plan and any other relevant standards.

10 Interference with Others' Services

10.1 When *GIBTELECOM* has reasonable grounds to believe that the Operator is using equipment or is permitting the use by its Customers of equipment which is not Compliant Equipment or is otherwise causing interference to other services (including Third Party Operators' services) *GIBTELECOM* may:

10.1.1 notify the Operator of its reasonable grounds for believing that there is use of equipment which is not Compliant Equipment or interference taking place; and

10.1.2 give the Operator a reasonable opportunity to demonstrate that this is not the case or to remedy the situation; and

10.1.3 if the Operator fails to do so within a reasonable period suspend or cease service to the MPF concerned or if it is not possible to identify the MPF which is causing interference, service to the smallest number of MPFs that can reasonably be identified as being necessary to suspend in order to cease or prevent the interference.

10.2 The Operator may request *GIBTELECOM* to suspend or cease service where the Operator gives notice to *GIBTELECOM* that it reasonably believes that *GIBTELECOM* is using equipment or permitting the use by any Customer of equipment that is causing interference outside the limits set out in the Access Network Frequency Plan, except where such suspension or cessation of service would result in *GIBTELECOM* being in breach of this Agreement or *GIBTELECOM*'s obligations under the Communications Act 2006. The Operator shall provide to *GIBTELECOM* such information as reasonably required to substantiate its claim that interference taking place.

10.3 If the Operator's equipment adversely affects the normal operation of *GIBTELECOM*'s or any Third Party Operators' services, or is a threat to any person's safety, in an emergency *GIBTELECOM* may suspend, to the extent necessary, such of its obligations hereunder, and for such period as may be reasonable, to ensure the normal operation of the *GIBTELECOM* System or any Third Party Operator's system or reduce the threat to safety.

10.4 If *GIBTELECOM* reasonably considers the equipment used by the Operator is not Compliant Equipment, the Operator shall on request from *GIBTELECOM* disconnect all necessary equipment in order to permit *GIBTELECOM* to test the characteristics of that MPF.

10.5 The relevant equipment or MPF shall be reconnected as soon as practicable when the situation has been remedied.

11 Network Safety and Protection

11.1 Save as otherwise provided in this Agreement, each Party is responsible for the safe operation of its Network and shall take all reasonable and necessary steps in its operation and implementation of this Agreement and use and provision of Services to ensure that it does not:

- Endanger the safety or health of employees, contractors, agents or customers of the other Party; or
- Damage, interfere with or cause the deterioration of the other Party's Network.

12 Service Levels

12.1 The Parties will both observe the service levels set out in Annex F to this Agreement and as changed by mutual agreement from time to time.

13 Network Alteration and Modifications

13.1 *GIBTELECOM* shall give the Operator reasonable notice of any anticipated Network Alteration and Network Modifications. *GIBTELECOM* shall provide to the Operator such information as the Operator may reasonably request including, to the extent reasonably practicable, the potential impact of the change on the service provided by the Operator to its Customers.

14 Provisioning, Operation and Maintenance

14.1 The procedures for the installation and testing of any equipment in respect of a Service as well as for the operation and maintenance thereof shall be governed by the provisions of the Technical Manual (Annexes D) and the Operations and Maintenance Manual (Annexes E).

15 Resolution of Disputes

15.1 Each Party shall use its best endeavours to resolve any Disputes between them concerning the implementation, application or interpretation of this Local Loop Unbundling Agreement, in the first instance through negotiation between the parties through the normal contacts, hereinafter referred to as Level 1.

15.2 Disputes relative to billing and payment of charges under this Agreement shall be covered by the provisions of this Clause 15 and in addition, the following provisions will apply:

- 15.2.1 If, the Operator shall have notified *GIBTELECOM* of a dispute relating to an invoice issued pursuant to this Agreement and such dispute shall not have been resolved before the Due Date, and if the amount in dispute represents:

15.2.1.1 less than 5 per cent of the total amount of the relevant invoice, the total amount invoiced shall be due and payable on the Due Date; or

15.2.1.2 5 per cent or more of the total amount of the relevant invoice, the amount in dispute may be withheld until the dispute is resolved and the balance shall be due and payable on the Due Date.

15.3 Notwithstanding notification of a dispute, if the Operator fails to pay on the Due Date any amount due under this Agreement the Operator shall pay interest from the due date at the Default Interest Rate, in respect of any such amount outstanding.

15.4 In the event of the Parties failing to resolve the dispute at level 1 negotiation within two (2) weeks either Party shall have a right to invoke the Dispute procedures specified herein on the service of notice to that effect upon the other Party. The Party serving the notice (the Disputing Party) shall include with such notice all relevant details including the nature and extent of the Dispute.

15.5 Upon service of such notice the Dispute shall be escalated to Level 2. The Parties shall consult at Level 2 in good faith to endeavour to resolve the Dispute. The points of contact for Level 2 escalation for each Party are listed in paragraph 24.2 of this Agreement.

15.6 If the endeavours of the Parties to resolve the Dispute at Level 2 are not successful within two (2) weeks of escalation of the Dispute to Level 2, either Party may upon service of notice to the other escalate the Dispute for determination by the Authority, hereinafter referred to as Level 3. All relevant details with regard to the nature and extent of the Dispute shall be furnished to the Authority together with a record of matters which have been agreed or not agreed at Levels 1 and 2.

15.7 The name of each Party's liaison contact and representative at each level of consultation shall be as specified in clause 24 of this Agreement. No change to a liaison contact or representative shall be effective until it has been notified to the other Party.

15.8 The time limits specified at paragraphs 15.4 and 15.6 above may be extended by mutual agreement between the Parties.

15.9 The above procedures are without prejudice to any rights and remedies that may be available to the Parties in respect of any breach of any provision of this Local Loop Unbundling Agreement.

15.10 Nothing herein contained shall prevent a Party from:

15.10.1 seeking (including obtaining or implementing) interlocutory or other immediate or equivalent relief; or

15.10.2 automatically referring the dispute to the Authority without recourse to Level 1 or Level 2 Negotiation in accordance with any right (if any) either Party may have to request a determination or other appropriate steps for its resolution. Without prejudice to the foregoing each Party undertakes to avail of the Level 1 and Level 2 procedures set out herein, prior to referring the dispute to the Authority save in exceptional circumstances.

16 Breach, Suspension and Termination

16.1 In the event that either Party's licence to provide all or a material part of its Network is suspended by the Authority, the Party whose entitlement is not so suspended may terminate the Agreement (or such part thereof as may be reasonable in the circumstances) without advance notice.

16.2 A Party may terminate this Agreement by giving at any time to the other not less than 24 months' written notice to terminate.

16.3 After a notice has been given pursuant to paragraph 16.2 a Party may request the other Party to carry on good faith negotiations with a view to entering into a new agreement.

16.4 Following a request pursuant to paragraph 16.3, if, on termination of this Agreement either Party would be obliged under a condition to enter into a new agreement with the other Party then the Parties shall carry on good faith negotiations with a view to entering into a new agreement within a reasonable period.

16.5 If one Party's Network adversely affects the normal operation of the other Party's Network, or is a threat to any person's safety, the other Party may suspend, to the extent necessary, such of its obligations hereunder, and for such period as it may consider reasonable to ensure the normal operation of its Network or to reduce the threat to safety.

16.6 If a Party is in material breach of this Local Loop Unbundling Agreement (including failure to pay an undisputed sum due hereunder), the other Party may serve a written notice (the "breach notice") on the Party in breach specifying the breach and requiring it to be remedied within:

16.6.1 thirty (30) calendar days from the date of receipt of such breach notice; or

16.6.2 in case of emergency (excluding financial obligations) within such shorter period as the Party not in breach may reasonably specify.

16.7 If the Party in breach fails to remedy the breach within such period as may be specified by the Party not in breach pursuant to clause 16.8 the Party not in breach may, until such breach is remedied, suspend performance of such of its obligations under this Local Loop Unbundling Agreement as is reasonable in the circumstances.

16.8 If the Party in breach fails to remedy the breach within the period stated in the breach notice, the Party not in breach may terminate this Local Loop Unbundling Agreement on three (3) months' written notice provided always that if the Party in breach remedies the breach within such three (3) months' notice period, this Local Loop Unbundling Agreement shall not terminate as a result of such notice.

16.9 *GIBTELECOM* may immediately, without prior notice to the Operator, but without prejudice to any subsisting right of action of *GIBTELECOM* under this Agreement:

16.9.1 restrict, suspend or terminate all or any part its obligations under this Agreement or;

16.9.2 terminate this Agreement

if any one or more of the instances listed under sub-clause 16.10 should occur.

16.10 *GIBTELECOM* may take the action set out in sub-clause 16.9 in any one or more of the following instances:

16.10.1 if the Operator is in persistent breach of this Agreement, particularly, but without prejudice to the generality of the foregoing, if the Operator is in persistent late and or non payment of any charges payable under this Agreement. For the avoidance of doubt, persistent late and or non payment is defined as the Operator not having settled four out of the twelve preceding invoices (as measured against the issue date of the most current invoice) issued under this Agreement by their respective Due Dates.

16.10.2 if *GIBTELECOM* has evidence of fraud or misconduct by the Operator in connection with the services being provided under this Agreement;

16.10.3 if *GIBTELECOM* has evidence of fraud or misconduct in connection with the services being provided under this Agreement with or without the Operator's knowledge or approval, by any third party whatsoever;

16.10.4 if the Operator negligently or knowingly and with intent to deceive provides *GIBTELECOM* with any false, inaccurate or misleading information;

16.10.5 if a judgement or conviction is made against the Operator, with reference to the business conducted under this Agreement;

16.11 This Local Loop Unbundling Agreement may be terminated by either Party by written notice forthwith (or on the termination of such other period as such notice may specify) if the other Party:

16.11.1 is unable to pay its debts within the meaning of the Companies Act; or

16.11.2 has a Receiver or Examiner appointed or has been subject to an application for the appointment of a receiver or an examiner in relation to all or any of its assets or an encumbrancer has taken possession of all or a material part of its assets; or

16.12 has an order made or a resolution passed for its winding up (other than for the purpose of amalgamation or reconstruction); or

16.13 enters into a voluntary arrangement with creditors under the Companies Act or

16.14 ceases to carry on business.

17 Confidentiality

17.1 The Parties agree to treat all confidential information defined as such in Annex L hereof as confidential in accordance with the terms and conditions outlined in Annex L hereof.

17.2 The contents of this Local Loop Unbundling Agreement, either in one or more parts or in its entirety, may not be divulged to any Third Party, with the exception of the Authority, without the written consent of both Parties.

18 Intellectual property rights

18.1 Except as expressly otherwise provided in this Local Loop Unbundling Agreement, intellectual property rights shall remain the property of the Party creating or owning the same and nothing in this Local Loop Unbundling Agreement shall be deemed to confer any assignment or right or title whatsoever or licence of the intellectual property rights of one Party to the other Party, and nothing in this Agreement shall be deemed to restrict the rights of any Party to own, use, enjoy, licence, assign or transfer its own Intellectual Property.

19 Review

19.1 A Party may seek to amend this Local Loop Unbundling Agreement by serving on the other a review notice if:

19.1.1 either Party's licence is materially modified (whether by amendment or replacement); or

19.1.2 a material change occurs in the law or regulations (including codes of practice whether or not having the force of law, but issued by a regulatory authority or an equivalent body) governing telecommunications in Gibraltar or the EU; or

19.1.3 *GIBTELECOM*'s Reference Unbundling Offer is changed.

19.2 this Local Loop Unbundling Agreement makes express provision for a review or the Parties agree in writing that there shall be a review; or

19.2.1 a material change occurs, including enforcement action by any regulatory authority, which affects or reasonably could be expected to affect the commercial or technical basis of this Local Loop Unbundling Agreement; or

19.2.2 this Local Loop Unbundling Agreement is assigned or transferred by the other Party except if prior written consent to the assignment or transfer is not required under clause 23 hereof; or

19.2.3 there is a general review pursuant to clause 19.4 hereof.

19.3 A review notice shall set out in reasonable detail the issues to be discussed between the Parties.

19.4 Either Party may initiate a general review of this Local Loop Unbundling Agreement by serving a review notice during the period of three (3) months commencing on 1st [] in any year.

19.5 The charges for local loop unbundling Services set out in the attached Services Schedules at Annex C and the charges contained in Annex J shall, in any case, be reviewed on an annual basis.

19.6 On service of a review notice, the Parties shall forthwith negotiate in good faith the matters to be resolved with a view to agreeing the relevant amendments to this Local Loop Unbundling Agreement.

19.7 For the avoidance of doubt, the Parties agree that notwithstanding service of a review notice this Local Loop Unbundling Agreement shall remain in full force and effect.

19.7 If the Parties fail to reach agreement on the subject matter of a review notice within three (3) calendar months (the relevant period) in each case from the date of service of such review notice, either Party may, not later than one calendar month after the expiration of the relevant period, request in writing for the Authority to determine:

- i. the matters upon which the Parties have failed to agree;
- ii. whether this Local Loop Unbundling Agreement should be modified to take account of such matters; and, if so

iii. the amendment or amendments to be made.

19.8 The Parties shall enter into an agreement to modify or replace this Local Loop Unbundling Agreement in accordance with what is agreed between the Parties to conform to the Authority's determination.

19.9 The Parties may, at any time, agree in writing a variation to the time periods specified above in relation to a particular review notice.

20 Force Majeure

20.1 Neither Party shall be liable for any breach of this Local Loop Unbundling Agreement caused by acts of God, insurrection or civil disorder, war or military operations, national or local emergency, acts or omissions of government, highway authority or other competent authority, compliance with any statutory, regulatory or legal obligation, industrial disputes of any kind (other than a strike or lockout induced by the party so incapacitated), fire, lightning, explosion, flood, subsidence, weather of exceptional severity, acts or omissions of persons for whom neither Party is responsible or any other cause whether similar or dissimilar outside its reasonable control and any such event or circumstance is a force majeure.

20.2 The Party initially affected by a force majeure shall promptly notify the other of the estimated extent and duration of its inability to perform or delay in performing its obligations ("force majeure notification").

20.3 Upon cessation of the service effects of the force majeure the Party initially affected by a force majeure shall promptly notify the other of such cessation.

20.4 If as a result of a force majeure, the performance by the Party, initially affected, of its obligations under this Local Loop Unbundling Agreement is affected, such Party shall, subject to the provisions of clause 20.6, perform those of its obligations not affected by a force majeure. In performing those of its obligations not affected by a force majeure, the Party initially affected by a force majeure shall deploy its resources such that (when taken together with other obligations to its customers and Third Parties) there is no undue discrimination against the other Party.

20.5 To the extent that a Party is prevented as a result of a force majeure from providing all of the services or facilities to be provided under this Local Loop Unbundling Agreement, the other Party shall be released to the equivalent extent from its obligations to make payment for such services or facilities or complying with its obligations in relation thereto.

20.6 Following a force majeure notification and if the effects of such force majeure continue for:

20.6.1 a continuous period of not more than six (6) months from the date of the force majeure notification (whether or not notice of cessation has been given pursuant to clause 20.3) any obligation outstanding shall be fulfilled by the Party initially affected by the force majeure as soon as reasonably possible after the effects of the force majeure have

ended, save to the extent that such fulfilment is no longer possible or is not required by the other Party;

- 20.6.2 a continuous period of six (6) months or more from the date of the force majeure notification (and notice of cessation has not been given pursuant to clause 23.3), the Party receiving the force majeure notification shall be entitled (but not obliged) to terminate this Local Loop Unbundling Agreement by giving not less than thirty (30) working days written notice to the other Party, provided that such notice shall be deemed not to have been given if notice of cessation is received by the Party receiving the force majeure notification prior to the expiry of the thirty (30) working days notice. If this Local Loop Unbundling Agreement is not terminated in accordance with the provisions of this clause 20.6.2, any obligations outstanding shall be fulfilled by the Party initially affected by the force majeure as soon as reasonably possible after the effects of the force majeure have ended, save to the extent that such fulfilment is no longer possible or is not required by the other Party.

21 Credit Assessment and Credit Risk Management

21.1 It is a condition precedent to this agreement that the operator shall provide to GIBTELECOM such guarantees as in Gibtelecom's reasonable and fair opinion demonstrates that the operator is in good financial standing. The operator shall also provide to GIBTELECOM such financial security (whether by way of deposit, guarantee or otherwise) as *GIBTELECOM* in its reasonable and fair opinion considers appropriate as proportionate security against the Operator's non-compliance with or non-observance of any of the provisions hereof (including without limitation the failure to pay charges), unless otherwise agreed by *GIBTELECOM* in writing.

21.2 *GIBTELECOM* may, at any time, require the Operator to enter into bank or other guarantees or to provide some other form of financial security, (for example a deposit) which in the reasonable and fair opinion of *GIBTELECOM* is/are appropriate as proportionate security against Operator's non-compliance with or non-observance of any of the provisions hereof (including failure to pay charges due). *GIBTELECOM* reserves the right to treat refusal to provide such security or failure to provide such security within thirty (30) days (or such longer period as *GIBTELECOM* may reasonably allow) of the date of *GIBTELECOM*'s request for the security as a breach of this Agreement by Operator.

22 Limitation of Liability

22.1 Neither Party has an obligation of any kind to the other Party beyond an obligation to exercise the reasonable skill and care of a competent telecommunications operator in performing its obligations under this Local Loop Unbundling Agreement.

22.2 Subject to clause 22.3, if a Party is in breach of any of its obligations under this Local Loop Unbundling Agreement to the other Party (excluding obligations arising under this Local Loop Unbundling Agreement to pay moneys in the ordinary

If to *GIBTELECOM* :

Dwayne Lara
Regulatory Manager
Telephone +350 20052278
Fax +350 20071673
15/21 John Mackintosh Square

or to such other addresses as the Parties may notify from time to time pursuant to this clause 24.

24.2 The Level 2 escalation points within the Parties in relation to resolution of Disputes shall be as follows;

If to the Operator:

[]
Telephone
Fax
Address []

If to *GIBTELECOM* :

Francis Lopez
Business Director
Telephone +350 20052200
Fax +350 20071673
15/21 John Mackintosh Square

25 Entire Agreement

25.1 This Local Loop Unbundling Agreement represents the entire understanding of and agreement between the Parties in relation to the subject matter of this Local Loop Unbundling Agreement, and, unless otherwise agreed in writing, supersedes all previous understandings, commitments, agreements relative to local loop unbundling or representations whatsoever, whether oral or written.

26 Waiver

26.1 The waiver of any breach of, or failure to enforce, any term or condition of this Local Loop Unbundling Agreement shall not be construed as a waiver of any other term or condition of this Local Loop Unbundling Agreement. No waiver shall be valid unless it is in writing and signed on behalf of the Party making the waiver.

27 Severability

27.1 The invalidity, unenforceability of any provision of this Local Loop Unbundling Agreement shall not affect the validity or enforceability of the remaining provisions of this Local Loop Unbundling Agreement.

28 Amendments

28.1 Amendments and supplements to this Local Loop Unbundling Agreement, including its Annexes and Service Schedules shall in order for them to be valid, have been drawn up in writing, dated and signed by both Parties. Such amendment and supplements shall not affect the validity or enforceability of any of the remaining provisions of this Local Loop Unbundling Agreement.

29 Relationship of Parties

29.1 The relationship between the Parties is that of independent contractors. Nothing in this Local Loop Unbundling Agreement shall be construed to make either Party hereto an agent, joint venturer or partner of or with the other. Neither Party is granted any right of authority or agency, expressly or implicitly, on behalf of, or in the name, of the other nor any right to legally bind the other in any manner whatsoever. Neither Party shall become liable through any representation, act or omission of the other which is contrary to or unauthorised by the provisions of this Local Loop Unbundling Agreement.

30 Governing Law

30.1 The interpretation, validity and performance of this Local Loop Unbundling Agreement shall be governed in all respects by the laws of Gibraltar and the Parties submit to the exclusive jurisdiction of the courts of Gibraltar.

IN WITNESS WHEREOF THIS AGREEMENT WAS ENTERED INTO THE DAY AND YEAR FIRST ABOVE WRITTEN.

SIGNED for and on behalf of

the Operator: _____

[SIGNATURE]

[NAME (BLOCK CAPITALS)]

[POSITION]

SIGNED for and on behalf of

GIBTELECOM:

[SIGNATURE]

[NAME (BLOCK CAPITALS)]

[POSITION].

GIBTELECOM

Reference Unbundling Offer

Annex A

Definitions

In this Agreement, words and expressions have the following meanings:

"Access Network Frequency Plan": a plan intended to prevent or minimise interference from the use of any equipment or apparatus connected or intended to be connected directly or indirectly to the MPF in the *GIBTELECOM* System.

"Access Node": means equipment by which Gibtelecom or, as the context may define, the Operator offers electronic communications services to Customers over the MPF.

"Agreement": this agreement, including all Annexes and Schedules thereto.

"Annex": An Annex to this Agreement. In relation to the different services provided under Annex C, these are also known as Service Schedules

"Associated Company" Is a Subsidiary and Holding Company of such Party, the terms Subsidiary and Holding Company having the meanings described thereto in

"Authority": The Gibraltar Regulatory Authority ('the G.R.A.') or such person or agency as the Minister for Telecommunications may appoint pursuant to the Communications Act.

"Billing Information": That information which must be provided in support of invoices issued under this Agreement to enable the validation of an invoice.

"Central Earth Point": A point provided in all *GIBTELECOM* MDF Sites where the electrical earth of all equipment is terminated.

"Co-Location Service(s)": means a facility by which the Operator can connect its Access Node to *GIBTELECOM's* MPF either at the MDF or the PCP.

"Co-Mingling Co-Location Service": The Service described in Annex C9 to this Agreement

"Commencement Date": The date of this Agreement.

"Compliant Equipment": apparatus directly or indirectly connected to the MPF which is operated consistently with the Access Network Frequency Plan and which is reasonably required for the use by the operator of the local loop or MPF for the purposes of providing a telecommunications service.

"Contractor": an authorised person (corporate or individual) undertaking works for which he has been contracted by either *GIBTELECOM* or the Operator as the context may require.

"CPE": Customer Premises equipment

"Customer": as the context requires:

- a person having a contract with either or both Parties for the provision of telecommunications services by means of that Party's System; or
- a user of telecommunications apparatus directly connected to the *GIBTELECOM* System or the Operator System; or
- a person having a contract with a reseller of telecommunications services to be provided by the means of either the *GIBTELECOM* System or the operator System or a user of telecommunications apparatus authorised by that person.

"Default Interest Rate": LIBOR + 2%.

"Disclosing Party": A Party disclosing information covered by this Agreement.

"Dispute": Any disagreement between the Parties under this Agreement.

"Distant Co-Location": The Service described in Annex C3 to this agreement

"Due Date": A date which is thirty (30) calendar days after the date of an invoice.

"Escorted Access": the direct physical supervision by a person nominated for that purpose by *GIBTELECOM* of another person entering property owned by Gibtelecom.

"ETSI": European Telecommunications Standards Institute.

"External Tie Cable": a link by means of an external cable that connects the Operator's HDF at its Distant Co-Location site to an HDF at a *GIBTELECOM* MDF Site.

"Footprint": The floor space required for *GIBTELECOM* equipment or for Operator equipment.

"GIBTELECOM Licence": The Licence to operate a fixed telecommunications network and offer fixed telecommunications services as held by *GIBTELECOM*.

"GIBTELECOM Network": The total infrastructure operated by *GIBTELECOM* to provide telecommunications services.

"Gibtelecom System": the Network provided by *GIBTELECOM* for connection to the Operator System pursuant to this Agreement.

"HDF": Handover Distribution Frame – a point in a *GIBTELECOM* or Operator site where cables are cross-connected.

"Holding Company": A Company that holds shares either directly or through a nominee in a subsidiary Company or in two or more Subsidiary Companies as per the Companies Ordinance

"Internal Tie Cable": a link by means of a MPF contained within an MDF Site that connects a MPF to a HDF in a Specified Floor Area.

“Intellectual Property”: Any patent, copyright, design, trade name, trademark, service mark or other intellectual property right (whether registered or not) including without limitation ideas, concepts, know-how, techniques, designs, specifications, drawings, blueprints, tracings, diagrams, models and other information relating to any such intellectual property.

“ITU”: International Telecommunications Union.

“Line Sharing Access Service”: The Service described in Annex C1 to this agreement

“Local Loop Unbundling Agreement”: The agreement between *GIBTELECOM* and the Operator for the purposes of Local Loop Unbundling which shall include the main body of this Local Loop Unbundling Agreement, the Annexes, Schedules, and Appendices thereto.

“Local Loop Unbundling Services”: The services described in Annex C of this Agreement and collectively known as the Services.

“MDF”: Main Distribution Frame – a *GIBTELECOM* main distribution frame which is a point in a *GIBTELECOM* exchange building where cables from outside can be connected to the exchange equipment.

“MDF Site”: the site of an operational building of *GIBTELECOM* housing an MDF.

“Metallic Path Full Unbundling Service”: The Service described in Annex C7 to this agreement

“MPF”: Metallic path facility – a circuit comprising a pair of twisted metal wires which allows electrical, electromagnetic, magnetic or electrochemical signals to be conveyed, such circuit being between the customer's NTP and the Operator HDF, including:

- An internal Tie Cable or External Tie Cable connecting the MDF to the Operator HDF, and
- A jumper cable connecting the Internal Tie Cable or External Tie Cable across the MDF.

“Network”: The *GIBTELECOM* Network or the Operator Network as the case may be.

“NTE”: Network Termination Equipment – network termination equipment located at the Customer's Premises

“NTP”: Network Termination Point – the physical point in a Customer's premises at which the Customer is provided with the access to a Network. Where Gibtelecom's network finishes at a distribution point (DP) from where in-building wiring connects one or more individual Customers then the NTP for Gibtelecom's network is considered to be at the same point as the DP.

"Network Alteration": A physical change within one Party's Network which is necessitated, to ensure continued efficient operation of the Services, by a change made by the other Party to this Agreement without bi-lateral agreement.

"Network Modification": A software change within one Party's Network which is necessitated, to ensure continued efficient operation of the Services, by a change made by another Party to this Agreement without bi-lateral agreement.

"Operator": The Party entering into this Agreement with *GIBTELECOM*.

"Operator Network": The total infrastructure operated by the Operator to provide telecommunications services.

"Operator System": The Network provided by the Operator for connection to the *GIBTELECOM* System pursuant to this Agreement.

"Order": A binding request for Service from the Operator to *GIBTELECOM*, submitted in accordance with the processes documented in this Agreement and in the operations and maintenance manual.

"Party": A party to this Agreement.

"Physical Co-Location Service": The Service described in Annex C3 to this Agreement.

"Primary Cross-connection Point (PCP)": The first cross connection point from the exchange is called the Primary Cross-connection Point (PCP) or the cabinet.

"PSTN": Public Switched Telecommunications Network

"Ready for Service Date": The date by which an ordered Service or other activity requested by the Operator is requested to be available.

"Receiving Party": A Party who received any information from the other Party in relation to this Agreement.

"Service(s)": the services described in the Service Schedules at Annex C to this Agreement as amended from time to time.

"Service Schedules": The Schedules attached at Annex C which describe the Services.

"Specification": any of the specifications in this Agreement together with any other relevant specifications for the provision of local loop unbundling services.

"Specified Floor Area": a floor area or areas within an MDF Site occupied by the Operator where the Operator's Compliant Equipment is installed, specified against the MDF Site

"Splitter Unit": an electronic device that enables the splitting and/or combining of the frequency bands to support the provision of xDSL and voice services via the same MPF.

"Sub-loop Connection Point": a *GIBTELECOM* PCP on which a Tie Cable connection to the Operator can be terminated.

"Sub-loop Unbundling Service": The Service described in Annex C8 to this Agreement.

"Subsidiary": a Company in the case of which the conditions ascribed to it in the Companies Ordinance are met.

"System Alteration": a change to the *GIBTELECOM* System, not including a change to an interface, which may materially affect service(s) provided by Operator to a Customer by means of an MPF.

"System": The *GIBTELECOM* System or, as the context requires, the Operator System.

"Technical Manual": A document describing technical aspects of the Services provided under this Agreement

"Tie Circuit": A pair of copper wires provided within either an External Tie Cable or an Internal Tie Cable.

"Third Party": Any Party other than the Parties to this Agreement.

"Working Day": Any day other than Saturdays, Sundays, public or bank holidays in Gibraltar.

"xDSL": a generic abbreviation of different forms of digital subscriber technology.

GIBTELECOM

Reference Unbundling Offer

ANNEX B

BILLING AND PAYMENT

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This Annex B is effective from the date of signature of this Agreement and shall remain in effect until amended following agreement of the Parties to such amendment.

1 Definitions

In this Annex, a reference to a clause or Appendix unless stated otherwise, is to a clause or Appendix of this Annex. Words and expressions have the meaning given in Annex A.

2 Billing and Payment Conditions

1. The Operator shall be liable to pay *GIBTELECOM* for the charges set out in the Price List ("the Charges") in Annex J of this Agreement.
2. The Charges payable under this Agreement fall into two categories
 1. Set-up charges (per line and for co-location)
 2. Monthly charges
3. Where possible, the Charges payable under this Agreement have been determined in advance and are based on the costs incurred in preparing, delivering and maintaining the Services. In some instances, charges will vary on a case-by-case basis and in these instances charges will be quoted on a case by case basis.
4. Invoices will be issued under two scenarios:
 1. One-off (set-up) charges – for these charges, invoices will be issued in response to specific requests for Services from the Operator
 2. Monthly charges – for these charges, invoices will be issued monthly in advance.
5. All Invoices will be issued in electronic and paper format. Date of Invoice will be date of despatch of the invoice
6. All invoices will be payable within 30 days of invoice date. Payments not received within the due date will be subject to interest at LIBOR + 2% calculated on a daily basis.
7. Set-up charges must be received by *GIBTELECOM* before the relevant activities will be commenced by *GIBTELECOM*
8. *GIBTELECOM* will provide information within the invoices to enable the Operator to process the invoice.
9. Any Disputes which arise pursuant to invoices issued in relation to the charges, shall be subject to the provisions of clause 15 of this Agreement

GIBTELECOM

Reference Unbundling Offer

Annex C1

Line Sharing Access Service

Service Description

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1. Introduction

This Annex defines the Line Sharing Access Service.

This Annex is effective from ~~the date of signature of this Interconnect Agreement~~ and shall remain in effect until amended following agreement of the Parties to such amendment or following determination by the Authority.

The processes and technical information to support the implementation of this service are described in the Operations & Maintenance Manual (Annex E1 of this Agreement) and Technical Manual (Annex D1 of this Agreement).

All equipment and plant that is deployed as part of the implementation of this Service shall comply with the relevant national and international standards, as appropriate and as defined within this Agreement.

All installation procedures used must comply with standard industry practices and national and international standards, where appropriate and as defined within this Agreement.

The various product elements and their relationships are described in more detail in the Technical Manual for the Line Sharing Access Service, Annex D1 of this Agreement.

2. Service Description

The Line Sharing Access Service will be provided on a dedicated point-to-point MPF that provides physical connectivity between the MDF of GIBTELECOM and a GIBTELECOM NTP at a Customer's premises.

Physical connectivity to the co-location facility will be provided by means of an Internal Tie Cable or External Tie Cable Depending on the type of co-location Service being used by the Operator.

The Line Sharing Access Service allows the Operator to gain access to the frequency spectrum above that used to carry voice services on the MPF. The frequency spectrum used to carry voice is utilised by GIBTELECOM to carry its analogue telephony service.

The Line Sharing Access Service allows the Operator to connect appropriate xDSL technologies to the copper pair so allowing the Operator to deliver xDSL services to the Customer.

The Line Sharing Access Service can only be offered on an MPF that is currently working and supplying GIBTELECOM analogue telephony service to the Customer.

The implementation of Line Sharing Access Service will allow the MPF, by means of the introduction of frequency splitters in the circuit, to support the simultaneous operations of two separate service providers:

3. Geographic Restrictions

The Line Sharing Access Service will be offered within MDF areas covered by the GIBTELECOM co-location Agreement. These MDF areas are listed in Annex K of this Agreement.

The Operator requesting the Line Sharing Access Service must have physical access to the GIBTELECOM MDF by means of a co-location Service under the terms and conditions of this Agreement.

The Line Sharing Access Service will be provided subject to the Operator agreeing to observe the operational limitations of the Access Network Frequency Plan at Annex I of this Agreement.

The implementation of the Line Sharing Access Service will be subject to physical and/or technical limitations and unforeseen costs highlighted during the implementation of this Service.

Subject to availability some MPFs might be available to allow the Operator to connect its Access Node, at a defined MDF Site, onto the Customers MPF terminated on another MDF in the GIBTELECOM network. This Out of MDF Area Line Sharing Service is described in Annex D5 to this Agreement.

4. Chargeable Service Activities

The applicable charges for the Services described in this Annex are contained in the Price List contained at Annex J.

4.1 Provision of Line Sharing Access Service

The analogue voice service will continue to be provided by GIBTELECOM whilst the xDSL service will be provided by the Operator over the shared MPF. The Operator will be responsible for the provision of the xDSL service to the Customer over the shared MPF and GIBTELECOM shall not respond to any queries from Customers.

The MPF is temporarily disconnected from the GIBTELECOM switch at the MDF and connected to a Splitter Unit via an appropriate tie circuit.

The low frequency output of the Splitter Unit will be connected to the GIBTELECOM analogue voice services switch. The process for the provisioning of a shared MPF is detailed in the Line Sharing Access Service Operations & Maintenance Manual at Annex E1 of this Agreement.

4.2 Removal of Line Sharing Access Service

Removal of Line Sharing Access Service takes place when an Operator providing a Customer with xDSL services by means of a Line Sharing Access Service on a MPF requests GIBTELECOM to cease the Line Sharing Access Service to that Customer.

The removal of the Line Sharing Access Service involves the disconnection of the MPF from the Splitter Unit and the reconnection of the MPF to the GIBTELECOM analogue voice services switch.

The xDSL services are ceased and the MPF reverts solely to GIBTELECOM for the continued provision of analogue voice services.

4.3 MPF Testing Resulting in "Fault not Found"

If a fault is reported by an Operator regarding a MPF used for Line Sharing Access Service and when that MPF is tested by GIBTELECOM the MPF is found to meet, or exceed, the MPF specifications detailed in Annex H, a "Fault Not Found" result would be deemed as the result. In that case, GIBTELECOM can charge the Operator for the MPF test as indicated under the item "Line Sharing Access Service Copper Pair Testing When Fault Not Found" in the Price List Annex at Annex J.

Where a fault condition continues to exist the Operator may request additional testing to seek to establish whether the cause is interference and/or interaction within the cable between MPF carrying xDSL services or external interference. Charges for this additional testing shall be based on the additional work performed as a result of the request. The process for tackling fault reports

attributed to interference is described in the Line Sharing Access Service Operations & Maintenance Manual at Annex E1 of this Agreement.

4.4 Cancellation of an Application for Line Sharing Access Service

If at any stage in the process to provide a Line Sharing Access Service, an Operator withdraws its application for such Service, the Operator will be charged the full installation charge for the Service originally requested and/or additionally approved by the Operator later during the provisioning process, as indicated in the Price List Annex at Annex J of this Agreement.

5. MPF

An MPF shall be deemed to be suitable for implementation of the Line Sharing Access Service when the analogue voice service is provided to the prospective Customer by GIBTELECOM and the source of the received dial tone is the GIBTELECOM equipment located in the MDF Site where the Line Sharing Access Service is requested.

The MPF to be used for the Line Sharing Access Service must be an existing GIBTELECOM MPF carrying analogue voice service to the prospective Customer. A new MPF must not be required to facilitate implementation of the Line Sharing Access Service.

6. Interference

The transmissions of the Operator xDSL equipment must not interfere with the analogue voice band transmissions of the GIBTELECOM analogue voice service.

It is the responsibility of the Operator to comply with the specifications for associated telecommunications equipment, splitters and cables that are specified in the Line Sharing Access Service – Technical Description in Annex D1 of this Agreement.

The Line Sharing Access Service enables GIBTELECOM to provide analogue voice service and an Operator to provide xDSL services on the same MPF. The Splitter Unit is required to enable the analogue voice and xDSL services to be transmitted simultaneously on the same MPF.

7. Operational Requirements

It is the responsibility of the Operator to ensure that all equipment provided by the Operator and connected to the MPF is compliant with the Access Network Frequency Plan at Annex I of this Agreement.

It is the responsibility of the Operator to provide or facilitate the provision of appropriate CPE required at the Customer's premises to deliver the xDSL Service.

The MPF boundary will be the line side termination of the GIBTELECOM MDF and a GIBTELECOM NTP at the Customer's premises. The Customer's Splitter Unit will be provided and installed on the Customer's side of the NTP by the Operator.

Processes covering provisioning and maintenance of the interfaces between GIBTELECOM and the Operator are contained in the Line Sharing Access Service Operations & Maintenance Manual at Annex E1 of this Agreement.

8. Disconnection of Analogue Voice Services on a MPF Supporting a Line Sharing Access Service

Any access to a shared MPF requires an analogue voice service being provided by GIBTELECOM. In the event of the permanent disconnection of the GIBTELECOM analogue voice service for whatever reason at any time following the Operator's

request for Line Sharing Access Service, the necessary conditions for the provision of the MPF for Line Sharing Access Service would cease to exist. In any such event, any and all GIBTELECOM obligations and any and all agreements with regards to the provisioning by GIBTELECOM of Line Sharing Access Service on the particular MPF on which the analogue voice service would have been disconnected will cease forthwith upon the said disconnection. In these circumstances GIBTELECOM will charge the Operator for the Line Sharing Access Service up to the date of the disconnection of the analogue voice service.

9. Technical Description

A technical description of the Line Sharing Access Service is contained in Annex D1 of this Agreement.

10. Billing

The billing arrangements for this Service are set out in Annex B of this Agreement.

IN WITNESS WHEREOF THIS SCHEDULE WAS ENTERED INTO THE DAY AND YEAR FIRST ABOVE WRITTEN.

SIGNED for and on behalf of _____ **SIGNED** for and on behalf of _____
the Operator: _____ **GIBTELECOM :** _____

[SIGNATURE] _____ [SIGNATURE]

[NAME (BLOCK CAPITALS)] _____ [NAME (BLOCK CAPITALS)]

[POSITION] _____ [POSITION]

GIBTELECOM

Reference Unbundling Offer

Annex C2

Physical Co-Location Service

Service Description

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1. Introduction

This Annex provides the service description for Physical Co-Location Service.

This Annex is effective from ~~the date of signature of this Interconnect Agreement~~ and shall remain in effect until amended following agreement of the Parties to such amendment or following determination by the Authority.

The processes and technical information to support the implementation of this service are described in the Co-Location Operations & Maintenance Manual (Annex E2 of this Agreement) and Technical Manual (Annex D2 of this Agreement).

All equipment and plant that is deployed as part of the implementation of this service shall comply with the relevant national and international standards, as appropriate and as defined within this Agreement.

All installation procedures used must comply with standard industry practices and national and international standards, where appropriate and as defined within this Agreement.

The various product elements and their relationships are described in more detail in the Technical Manual for Co-Location, Annex D2 of this Agreement.

2. Service Description

The Physical Co-Location Service is a Service provided by GIBTELECOM offering, where available, equipment space within a GIBTELECOM MDF Site by means of the construction of a dedicated Co-Location space.

The Physical Co-Location space will provide equipment space which has been confirmed as being suitable for hosting Access Node equipment owned by the Operator for the purpose of providing xDSL services on unbundled local loops.

The Physical Co-Location Facility will be provided in a custom built area within a GIBTELECOM MDF Site where co-location services have been requested, subject to space availability. The Physical Co-Location Facility will provide secure accommodation suitable for the installation, operation and maintenance of the Operator's Access Node equipment by the Operator's own personnel or suitably authorised contractor.

The Operator's equipment will connect to the Customer's MPF via the MDF of GIBTELECOM and Internal or External Tie Cable(s).

The Operator will connect their equipment to the GIBTELECOM MDF using tie cables as described in Annex C4 of this Agreement.

The Physical Co-Location product contains a number of product modules. These are described in more detail in section 4 of this Annex.

3. Geographic Restrictions

Physical Co-Location will be offered within MDF areas covered by GIBTELECOM's co-location offer. These MDF areas are listed in Annex K of this Agreement.

The implementation of the Physical Co-Location will be subject to physical and/or technical limitations and unforeseen costs highlighted during the Service Implementation Process and described in Annex E2 of this Agreement.

Implementation is also subject to the availability of the supporting products described in this Agreement.

4. Physical Co-Location Service – Product Modules

The Physical Co-Location is provided through a number of product modules. These product modules are described in more detail in the following sections.

Charges where applicable are included in Annex J.

4.1 MDF

Subject to availability the Operator's equipment will be connected to the Customer's MPF via GIBTELECOM's MDF.

Any requirements specified in the appropriate product descriptions will also apply.

4.2 Surveys

Physical Co-Location Service Initial Survey.

An initial desktop survey carried out by GIBTELECOM will involve the examination of paper and software records to determine whether floor space is available at the GIBTELECOM MDF Site that has the potential to house a Physical Co-Location Facility.

Physical Co-Location Service Detailed Survey

If the initial survey indicates the existence of suitable floor space in a GIBTELECOM MDF Site then a detailed physical survey will be carried out. The detailed survey will consist of two sections. The first section will be carried out by a civil engineer to establish whether the identified floor space is capable of being converted into a Physical Co-Location Facility and to produce an estimate of the work and costs involved. The second section will be carried out by GIBTELECOM resource management staff to assess the capabilities of existing building facilities such as power, climate control, fire suppression (where available), fire alarms, to support the requirements of the Operator for the Physical Co-Location Facility.

4.3 Exchange Area Cable Runways

On agreement with GIBTELECOM the Operator can utilise existing cable trays and cable baskets, where available, whether overhead or under the floor. These will be segregated for telecom/signalling and electrical power cables.

Where cable runways are not available, new cable trays will be designed and provided by GIBTELECOM under the site preparation charges.

All installation procedures must conform to industry best practice.

4.4 Equipment Footprint Size

The equipment rack footprint to be provided by GIBTELECOM has the following dimensions:

Depth:	300mm
Width:	600mm
Height:	2200mm

Where suitable space is available dual footprints might be provided by back-to-back installation of the racks i.e. the depth of the footprint will become 600mm.

4.5 AC Power

Each Operator will be provided with access to a 32 Amp fused AC electric supply. This AC power supply is provided with a meter in order to record electricity usage.

The Operator will be responsible for the provision, installation and maintenance of all power and earth cabling and ancillary equipment, excluding installation of cable trays, from the supply point to their equipment.

An isolation switch will be provided which will enable the distribution to be electrically isolated in the event of an emergency or accident.

4.6 Lighting

All lighting will conform to a minimum of 500 lux when measured at working level.

4.7 Rack Fixing

All fixing of the racks must conform to existing standards within each of the exchange buildings.

4.8 Installation of Operator equipment and associated cabling

The equipment will conform to the relevant ITU/ETSI appropriate standards and specifications.

The installation and maintenance of the installed equipment should be undertaken in accordance with industry best practice.

4.9 Air Conditioning

Adequate air conditioning is generally provided by GIBTELECOM at each of their MDF Sites.

However, the ability to provide air conditioning for a particular Operator's installation at any location will be dependent on the Operator providing details of its equipment's heat dissipation rating, as new air conditioning facilities might have to be provided.

4.10 Security

The Operator will conform to all on-site security requirements, as reasonably requested by GIBTELECOM's exchange managers and where specified in this Agreement.

4.11 Health & Safety

The Operator will conform to all health and safety aspects as directed by GIBTELECOM's health and safety policy and the general health & safety requirements.

4.12 Earthing

A Central Earth Point (CEP) is provided in all GIBTELECOM MDF Sites for telecommunications equipment. It will be the responsibility of the Operator to ensure that all of their equipment is earthed within the MDF Site and conforms to the practice deployed within the particular MDF Site.

If it is necessary to undertake changes to the Common Earth Point due to the installation of the Operator's equipment, its associated cables and any new cable runways, the Operator will be advised of this, following the detailed exchange survey.

4.13 Floor Loading

Where a false floor is provided the floor will be capable of a loading of up to a maximum of 20 kn/sq m.

The final determination of the floor loading will be subject to the specific site conditions.

4.14 Fire & Smoke Detection

Fire and smoke detection as well as fire suppression equipment will be provided, where appropriate, in accordance with current *GIBTELECOM* policy.

4.15 Heat Dissipation

The individual heat dissipation per footprint must not exceed 2 kW. Heat dissipation in excess of this may affect the operation of other exchange equipment and reduce the effect of the air conditioning plant.

The Operator's equipment racks must have their own fans to draw in cool air once heat dissipation exceeds 1kW per footprint.

The Operator must advise *GIBTELECOM* of the heat dissipation per footprint.

Physical Co-Location could be refused if the heat dissipated per footprint is considered excessive (i.e. greater than 2kW per footprint) by *GIBTELECOM* and therefore likely to affect *GIBTELECOM* or other Operator's equipment.

5. Service Availability

If this service cannot be provided on the grounds of feasibility or the need to maintain network integrity or lack of capacity because of the unavailability or unsuitability of the MDF Site floor space, the service will not be available.

At no time should this service be considered as available at all of *GIBTELECOM*'s MDF Sites. The availability of this service is dependent on the individual characteristics of each MDF Site and the availability of space.

An up to date list of MDF sites where Co-Location can be considered by *GIBTELECOM* is included in Annex K of this Agreement.

6. Service Responsibilities

The appropriate responsibilities of each party are as outlined in the Technical Manual (Annex D2) and Operations & Maintenance Manual (Annex E2).

At all times *GIBTELECOM* will be responsible for the exchange building.

The Operator will specify the relevant equipment to be installed.

The Operator will be responsible for identifying any faults that may occur on its own equipment or service and localising any faults into the *GIBTELECOM* network in line with the fault repair process as outlined in the Operations & Maintenance Manual in Annex E2 of this Agreement.

If the Operator purchases equipment that cannot be installed utilising the facilities provided by *GIBTELECOM*, the responsibility for the purchase is the Operator's.

7. Service Management

7.1 Ordering

The interface between the Operator and *GIBTELECOM* for the submission of orders is as per the Operations & Maintenance Manual (Annex E2).

7.2 Provisioning

Service provisioning will be as per the Operations & Maintenance Manual (Annex E2) and Technical Manual (Annex D2).

7.3 Network Operations and Maintenance

Network Operations and Maintenance process will be as per the Operations & Maintenance Manual (Annex E2) and Technical Manuals (Annex D2).

7.4 Fault Repair

Fault repair will be as per the Operations & Maintenance Manual (Annex E2) and Technical Manual (Annex D2).

7.5 Service Level Agreements

Service Level Agreements are included in the Service Level Agreement Annex, Annex F to this Agreement.

8. Charging

The Operator will pay GIBTELECOM a charge as calculated using the charges specified in the Price List Annex, Annex J to this Agreement.

9. Billing

The Billing arrangements for this Service are set out in Annex B of this Agreement.

IN WITNESS WHEREOF THIS SCHEDULE WAS ENTERED INTO THE DAY AND YEAR FIRST ABOVE WRITTEN.

SIGNED for and on behalf of _____ **SIGNED** for and on behalf of _____
the Operator: _____ **GIBTELECOM :** _____

[SIGNATURE] _____ [SIGNATURE]

[NAME (BLOCK CAPITALS)] _____ [NAME (BLOCK CAPITALS)]

[POSITION] _____ [POSITION]

GIBTELECOM

Reference Unbundling Offer

Annex C3

Distant Co-Location Service

Service Description

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1. Introduction

This Annex defines the Service Description for the Distant Co-Location Service.

This Annex is effective from ~~the date of signature of this Interconnect Agreement~~ and shall remain in effect until amended following agreement of the Parties to such amendment or following determination by the Authority.

The processes and technical information to support the implementation of this Service are described in the Operations & Maintenance Manual (Annex E2 of this Agreement) and Technical Manual (Annex D3 of this Agreement) for Distant Co-Location.

All equipment and plant that is deployed as part of the implementation of this Service shall comply with the relevant national and international standards, as appropriate and as defined within this Agreement.

All installation procedures used must comply with standard industry practices and national and international standards, where appropriate and as defined within this Agreement.

The various product elements and their relationships are described in more detail in the Technical Manual for Co-Location.

2. Service Description

GIBTELECOM will provide, where available, access to a GIBTELECOM MDF Site from a remote location used by the Operator for hosting Access Node equipment owned by the Operator for the purpose of providing xDSL services on unbundled local loops.

Physical connectivity from the Operator Distant Co-Location Facility to the GIBTELECOM MDF will be by use of External Tie Cables.

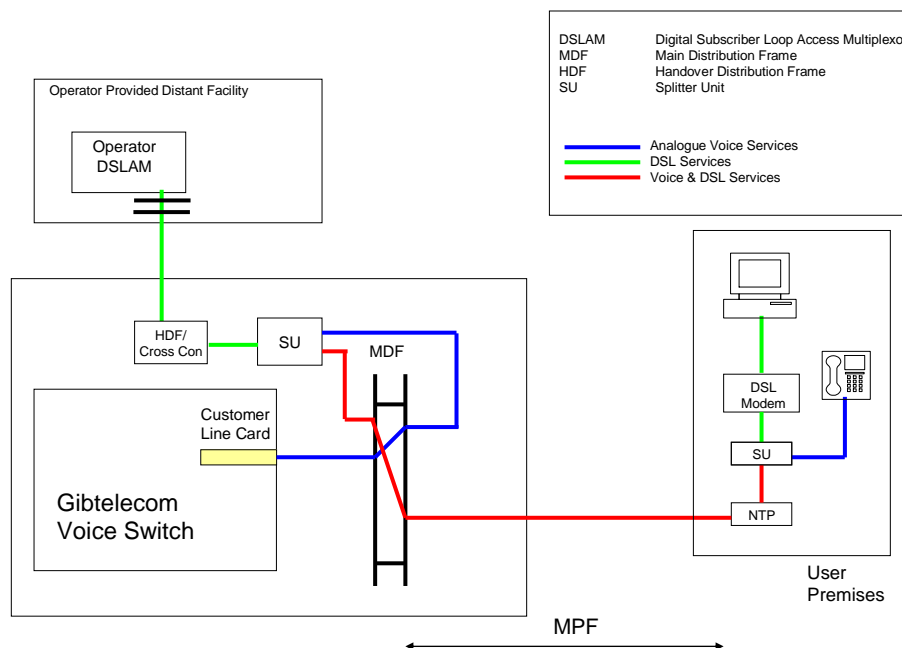
The Distant Co-Location Service will provide connectivity to a GIBTELECOM MDF Site where Co-Location Services have been requested.

The distance between the GIBTELECOM MDF Site and the Operator's Distant Co-Location Site will be limited by technical restrictions. These restrictions will be related to specific equipment and vendors and will be discussed between the Operator and GIBTELECOM during the negotiation stage of this Agreement.

GIBTELECOM will make best endeavours to provide Splitter Units at the GIBTELECOM MDF Site to allow the Operator's xDSL services to be passed with the GIBTELECOM analogue voice service onto the GIBTELECOM MPF. This will be contrained by:

- The availability of suitable Splitter Units,
- Compatibility with GIBTELECOM's network,
- Compatibility with the Operator's xDSL equipment,
- The distance between the GIBTELECOM MDF Site and the Operator's Distant Co-Location Facility.

The Operator's Distant Co-Location Facility will consist of a location remote from the GIBTELECOM MDF Site which is owned and operated by the Operator to provide space for the installation by the Operator of secure accommodation suitable for the installation, operation and maintenance of Operator Access Node equipment by the Operator's own personnel or suitably authorised contractors.



3. Geographic Restrictions

The Distant Co-Location Service will only be offered within the geographic area covered by the GIBTELECOM licence.

The Distant Co-Location Service will only be offered within MDF areas covered by GIBTELECOM's Co-Location Agreement. These MDF areas are listed in Annex K of this Agreement.

The implementation of the Distant Co-Location Service will be subject to physical and/or technical limitations and unforeseen costs highlighted during the Service Planning Process and described in Annex E2 of this Agreement.

Implementation is also subject to the availability of the supporting products described in this Agreement.

4. Physical Co-Location Service – Product Modules

As described above the Distant Co-Location Service is provided through a number of product modules. These product modules are described in more detail in the following sections.

4.1 External Tie Cables

An External Tie Cable consists of a number of metallic Tie Circuits provided in a telecommunications cable constructed for use in the underground network. The External Tie Cable will provide connectivity between a GIBTELECOM HDF and an Operator HDF housed in a Distant Co-Location Facility.

The External Tie Cable will be provided as a 100 pair, 200 pair or 400 pair cable with a nominal conductor diameter of 0.5mm. A technical description of all Tie Cables used for GIBTELECOM Local Loop Unbundling is contained in the Tie Cable Technical Description (Annex D4).

Charges for the External Tie Cable will be based upon a minimum requirement of 100 metres with additional increments of 100 metres. The charges will include

charges applicable to terminations and termination blocks. All MDF and HDF termination blocks will be supplied and maintained by *GIBTELECOM*.

The External Tie Cable will be drawn into an existing spare *GIBTELECOM* duct, where such duct exists. Where no duct exists *GIBTELECOM* will consider installing new duct and jointing chambers as required. Cable size is to be based on the Operator forecast for the full-life requirement of the Distant Co-Location Facility in order to maximise duct space. Costs will be based upon the physical survey and charges will be passed on to the Operator on a case-by-case basis.

4.2 Surveys

A detailed survey will be carried out to establish whether spare capacity exists in the *GIBTELECOM* Network that can accommodate the requirements of the Operator for a Distant Co-Location Facility.

The survey will be carried out by the *GIBTELECOM* to confirm the existence of spare capacity in the duct network and, where capacity does not exist, to produce an estimate of the works and costs in providing appropriate capacity.

A detailed survey will be carried out to establish where there is available floor space, MDF capacity and power at the *GIBTELECOM* MDF Site to locate the required Splitter Unit and HDF.

4.3 Use of the *GIBTELECOM* MDF

The charges applicable for the use of the *GIBTELECOM* MDF are laid down in the Price List (Annex J).

4.4 Use of Floorspace at a *GIBTELECOM* MDF Site

The charges applicable for the use of floorspace at the *GIBTELECOM* MDF Site are laid down in the Price List (Annex J).

4.5 Handover Distribution Frame (HDF)

The HDF will be constructed from termination blocks approved for connection with the *GIBTELECOM* MPF. For all Co-Location Facility Services *GIBTELECOM* will supply and install the HDF and the Charges will be included for Internal and External Tie Cables.

5. Operator Distant Co-Location Facility

The Operator Distant Co-Location Facility will consist of a building or space in a building owned or leased by the Operator at a location remote from a *GIBTELECOM* MDF Site. The Distant Co-Location Facility will be fitted and equipped by the Operator to be suitable for the installation by the Operator of telecommunications racks and Access Node equipment. Physical interconnection to MPF is facilitated by providing a copper External Tie Cable link from an HDF in the Distant Co-Location Facility to the HDF at the *GIBTELECOM* Site.

6. Operational Requirements

The Distant Co-Location Facility Service will only be offered from the Distant Co-Location Facility to *GIBTELECOM* MDF Sites.

All dimensions and facilities of the Distant Co-Location Facility will be specified by the Operator and will be supported by forecasts for customer demand supplied by the Operator to *GIBTELECOM*.

GIBTELECOM will reserve the right to refuse provision of the Distant Co-Location Facility to MDF Sites where there is no existing spare network duct capacity and

the work required to create spare duct capacity can be demonstrated to be practically and/or economically non-viable.

The Operator may only connect equipment installed in the Distant Co-Location Facility to the External Tie Cable when specifically required for the purpose of providing xDSL services over unbundled *GIBTELECOM* MPF. All installed equipment must comply with the relevant national and international standards including but not limited to those standards laid down by the International Telecommunications Union (ITU) and the European Telecommunications Standards Institute (ETSI).

The Operator Distant Co-Location and all associated equipment, including but not limited to the metalwork for the HDF terminal blocks, will be supplied, installed and maintained in conformance to *GIBTELECOM*'s specifications by the Operator or by authorised and suitably accredited agents of the Operator for whom the Operator will assume responsibility.

The charges relating to the Distant Co-Location Facility Service shall apply.

7. Technical Description

A technical description of the *GIBTELECOM* Distant Co-Location Service is contained in the Distant Co-Location Facility Service Technical Description Annex D3 to this Agreement.

A technical description of all Tie Cables used in the provision of the *GIBTELECOM* Distant Co-Location Service is contained in the Tie Cable Technical Description.

8. Charging

The Operator will pay *GIBTELECOM* a charge as calculated using the charges specified in the Price List Annex, Annex J to this Agreement.

9. Billing

The Billing arrangements for this Service are set out in Annex B of this Agreement.

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IN WITNESS WHEREOF THIS SCHEDULE WAS ENTERED INTO THE DAY AND YEAR FIRST ABOVE WRITTEN.

SIGNED for and on behalf of _____ **SIGNED** for and on behalf of
the Operator: _____ **GIBTELECOM :**

[SIGNATURE] _____ [SIGNATURE]

[NAME (BLOCK CAPITALS)] _____ [NAME (BLOCK CAPITALS)]

[POSITION] _____ [POSITION]

GIBTELECOM
Reference Unbundling Offer

Annex C4
Tie Cable Services
Service Description

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1. Introduction

This Annex is effective from ~~the date of signature of this Interconnect Agreement~~ and shall remain in effect until amended following agreement of the Parties to such amendment or following determination by the Authority.

For all Co-Location Services connectivity must be provided between the Operator HDF and the termination point of the MPF in the *GIBTELECOM* Network on the *GIBTELECOM* MDF.

Physical connectivity from the Physical Co-Location Service to the *GIBTELECOM* MDF will be by the use of Internal Tie Cables.

Physical connectivity from the Co-Mingling Co-Location Service to the *GIBTELECOM* MDF will be by the use of Internal Tie Cables.

Physical connectivity from the Distant Co-Location Facility to the *GIBTELECOM* MDF will be by the use of External Tie Cables.

The technical details of Tie Cables for use with Co-Location Services are provided in the Tie Cable Technical Description, Annex D4 of this Agreement.

2. Service Description

The *GIBTELECOM* Tie Cable Service will be offered within all areas covered by the *GIBTELECOM* Licence. The implementation of the Tie Cable Service will be subject to physical and/or technical limitations and unforeseen costs highlighted during the service planning. The Tie Cable Service will be provided subject to the Operator having entered into an appropriate Co-Location Agreement with *GIBTELECOM*.

2.1 External Tie Cable

The External Tie Cable consists of a number of metallic Tie Circuits provided in a telecommunications cable constructed for the use in the underground external network.

The External Tie Cable will provide connectivity between the *GIBTELECOM* HDF and an Operator HDF housed in a Distant Co-Location Facility.

The External Tie Cable will be provided as a 100 pair, 200 pair or 400 pair cable with a nominal conductor diameter of 0.5mm.

Charges will be based upon a minimum requirement of 100 metres and increments of 100 metres. Charges will include charges applicable in regard to terminations and termination blocks at the MDF and HDF.

Following the receipt of an order for an External Tie Cable, *GIBTELECOM* will inform the Operator of the approximate length of the Tie Cable to allow the Operator to estimate end-to-end combined Tie Circuit and MPF characteristics.

In the Distant Co-Location Facility, where the External Tie Cable(s) terminate it is the responsibility of the Operator, at the Operator's expense to:

- Provide adequate space for *GIBTELECOM* to install an HDF of appropriate specifications and with sufficient capacity to accommodate all requested External Tie Cables.
- Provide metalwork structure in agreement with *GIBTELECOM* specifications for the fixing of the HDF blocks supplied and installed by *GIBTELECOM*.

- Ensure that the Distant Co-Location Facility has adequate duct access to the *GIBTELECOM* Network to allow the provision of all requested External Tie Cables and any associated infrastructure.
- Ensure that there is suitable space available for any *GIBTELECOM* equipment that needs to be installed for the purpose of the Co-Location Service.
- Ensure, where appropriate, that any *GIBTELECOM* equipment installed in the Distant Co-Location Facility that requires a continuous mains power supply and connection points are supplied to the specifications provided by *GIBTELECOM*.
- Ensure that all work for which the Operator is responsible is completed within the agreed timescales.

The provision of External Tie Cable(s) may require *GIBTELECOM* to obtain mandatory consents and approvals. *GIBTELECOM* shall endeavour to obtain the required consents and approvals for the provision of the External Tie Cable(s) and associated duct work. *GIBTELECOM* reserves the right to suspend its obligations under the terms of the order process where it is unable to obtain the required consents and approvals within the timescales required to provide the External Tie Cable within the agreed delivery time period. Under these circumstances *GIBTELECOM*'s obligations will be suspended until such time as the consents and approvals are obtained.

GIBTELECOM reserves the right to adjust the agreed delivery time to make good for any delays beyond its control. In addition, *GIBTELECOM* will be entitled to recover from the Operator any costs incurred as a result of the delay.

Where a requirement for the provision of new infrastructure and other works is identified by *GIBTELECOM* as a precondition for the provision of the External Tie Cable then it is the responsibility of the Operator to ensure that all work to provide this infrastructure and other works at the Distant Co-Location site is completed before *GIBTELECOM* commences its work.

If the Operator fails to comply with this condition, and by failing to do so, prevents the timely provision of the External Tie Cable then *GIBTELECOM*'s obligations under the provision process will be suspended for the full period of the delay. *GIBTELECOM* reserves the right to adjust the expected delivery time to make good for any and all delays beyond its control. In addition, *GIBTELECOM* will be entitled to recover any costs that it incurs as a result of the delay.

It is the responsibility of the Operator to ensure that *GIBTELECOM* has access to any of its equipment and cables at the Distant Co-Location Facility on request and in order to facilitate provision and maintenance of External Tie Cables. If the provision of access requires the consent of a third party it is the responsibility of the Operator to obtain such consent.

2.2 Internal Tie Cable

Internal Tie Cables will be supplied as a minimum of 100 pairs and in increments of 100 pairs, and a minimum length of 100m and 100m increments.

Upon receipt of an order for an Internal Tie Cable, *GIBTELECOM* will provide the Operator with the approximate length of the Tie Cable, in order to allow the Operator to estimate the end-to-end combined Tie Cable and MPF characteristics. *GIBTELECOM* will route the Internal Tie Cable within the MDF Site at its own discretion.

Where the Operator has a Physical or Co-Mingling Co-Location facility within the GIBTELECOM MDF Site then the Internal Tie Cable will be terminated by GIBTELECOM on the HDF within the site. The HDF termination blocks and metalwork will be provided and installed by GIBTELECOM. The HDF will be provided for the sole use of the Operator within the floor area designated for Co-Location.

Within the designated floor area of a Co-Location facility then Operator will, at its own expense, provide appropriate accommodation for GIBTELECOM equipment associated with the provision and maintenance of Internal Tie Cables and HDF.

GIBTELECOM will retain the right of access to its equipment housed in the Operator's Co-Location facility at times to facilitate provision and maintenance of the Internal Tie Cable and its associated equipment.

Where the Internal Tie Cable is to be used to provide Shared Access Service then specific Tie Cables will be designated for use as analogue voice service return circuits. Under these conditions it is the responsibility of the Operator to provide GIBTELECOM with full details of the designation of analogue voice service circuits within the Tie Cable in order to facilitate the appropriate tie circuit termination and pre-jumpering.

3. Handover Distribution Frame

The Handover Distribution Frame (HDF) will be constructed from multiple termination blocks. For all Co-Location facilities GIBTELECOM will supply and install the HDF blocks and metalwork and the charges will be included in the charges for Internal and/or External Tie Cables as appropriate. This is with the exception of the HDF metalwork at the Distant Co-Location Facility which shall be provided by the Operator to GIBTELECOM's specifications.

4. Technical Description

A technical description of all Tie Cables is contained in the Tie Cable Technical Manual at Annex D4 of this Agreement.

5. Charging

The Operator will pay GIBTELECOM a Charge as calculated using the Charges specified in the Price List Annex, Annex J to this Agreement.

6. Billing

The Billing arrangements for this Service are set out in Annex B of this Agreement.

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IN WITNESS WHEREOF THIS SCHEDULE WAS ENTERED INTO THE DAY AND YEAR FIRST ABOVE WRITTEN.

SIGNED for and on behalf of
the Operator:

SIGNED for and on behalf of
GIBTELECOM :

[SIGNATURE]

[SIGNATURE]

[NAME (BLOCK CAPITALS)]

[NAME (BLOCK CAPITALS)]

[POSITION]

[POSITION]

GIBTELECOM

Reference Unbundling Offer

Annex C5

Temporary Service

**Out of MDF Area Line Sharing Access
Service**

Service Description

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1. Introduction

This Annex is effective from ~~the date of signature of this Interconnect Agreement~~ and shall remain in effect until amended following agreement of the Parties to such amendment or following determination by the Authority.

At the time of developing this Agreement, *GIBTELECOM* does not operate Access Nodes at all its MDF Sites.

Customers served from MDF Sites without Access Nodes are however not refused access to xDSL services. To accommodate such requests, *GIBTELECOM* re-hosts the Customer's line to the City Hall MDF Site and provides the xDSL service from there jumphering across the MDF at the remote site.

Similarly, the Operator's ability to offer DSL services across Gibraltar would be limited by the unavailability of Co-Location facilities at some MDF Sites serving parts of Gibraltar.

The Out of MDF Area Line Sharing Access Service provides the Operator the option to avail itself of this temporary means of serving Customers in areas served by MDFs without Co-Location facilities.

GIBTELECOM will provide no less than 3 (three) months' notice to the Operator of changes to the reach of this Service as Co-Location facilities may become available at the MDF Sites in question. During this notice period *GIBTELECOM* and the Operator will enter into good-faith negotiations to establish a reasonable migration plan for the Operator to establish Co-Location at that MDF Site and re-host the Customers.

2. Service Description

The Out of MDF Area Line Sharing Access Service will be provided on a dedicated point-to-point MPF that provides physical connectivity between the MDF of *GIBTELECOM*, to which the Operator has a Tie Cable terminated for the purpose of Co-Location, and a *GIBTELECOM* NTP at a Customer's premises via an intermediate *GIBTELECOM* MDF.

Physical connectivity to the Co-Location Facility will be provided by means of an Internal Tie Cable or External Tie Cable, depending on the type of Co-Location Service being used by the Operator.

Subject to availability, a *GIBTELECOM* MPF will be routed from the MDF to which the Operator has a Tie Cable terminated to the MDF in the MDF Site to which the customer is currently connected for analogue voice service.

The Out of MDF Area Line Sharing Access Service allows the Operator to gain access to the frequency spectrum above that used to carry voice services on the MPF. The frequency spectrum used to carry voice is utilised by *GIBTELECOM* to carry its analogue telephony service.

The Out of MDF Area Line Sharing Access Service allows the Operator to connect appropriate xDSL technologies to the MPF so allowing the Operator to deliver xDSL services to the Customer.

The Out of MDF Area Line Sharing Access Service can only be offered on MPFs (from the intermediate MDF) that are currently working and supplying *GIBTELECOM* analogue telephony service to the Customer.

The implementation of the Line Sharing Access Service will allow the MPF, by means of the introduction of frequency splitters in the circuit, to support the simultaneous operations of two separate service providers:

- i) *GIBTELECOM* will continue to supply the analogue telephony service, and,
- ii) The Operator will deliver xDSL based services.

3. Geographic Restrictions

The Out of MDF Area Line Sharing Access Service will only be offered within MDF areas where *GIBTELECOM* cannot offer Co-Location. These MDF Sites are listed in Annex K of this Agreement.

The Operator requesting the Out of MDF Area Line Sharing Access Service must have physical access to the City Hall *GIBTELECOM* MDF by means of a Co-Location Service under the terms and conditions of this Agreement.

The Out of MDF Area Line Sharing Access Service will be provided subject to the Operator agreeing to observe the operational limitations of the Access Network Frequency Plan at Annex I of this Agreement.

The implementation of the Out of MDF Area Line Sharing Access Service will be subject to physical and/or technical limitations and unforeseen costs highlighted during the service delivery process and described in Annex E of this Agreement.

4. Chargeable Service Activities

The applicable charges for the Services described in this are contained in the Price List Annex contained at Annex J.

4.1 Provision of Out of MDF Area Line Sharing Access Service

The analogue voice service will continue to be provided by *GIBTELECOM* whilst the xDSL service will be provided by the Operator over the shared MPF. The Operator will be responsible for the provision of the xDSL service to the Customer over the shared MPF and *GIBTELECOM* shall not respond to any queries from Customers.

In order to provide the Out of MDF Area Line Sharing Access Service *GIBTELECOM* will re-locate the *GIBTELECOM* analogue voice service termination for the Customer from the current MDF Site to the MDF Site to which the Operator is connected, subject to available switch capacity.

An existing MPF in the *GIBTELECOM* Network, currently in use to provide analogue voice service to a *GIBTELECOM* Customer, is tested for compliance with the MPF Specification given in the Technical Description at Annex H of this Agreement.

The MPF is temporarily disconnected at the intermediate MDF Site and connected to an MPF providing the inter-MDF Tie Circuit to the MDF where the Co-Location Service is being provided. The MPF is then connected to the Splitter Unit via an appropriate Tie Cable. The Customer's voice service is transferred to the *GIBTELECOM* voice switch at the MDF Site where the Operator is Co-Located.

The low frequency output of the Splitter Unit will be connected to the *GIBTELECOM* analogue voice services switch. The process for the provisioning of a shared MPF is detailed in Annex E1 of this Agreement.

4.2 Removal of Out of MDF Area Line Sharing Access Service

Removal of Out of MDF Area Line Sharing Access Service takes place when an Operator providing a Customer with xDSL services by means of an Out of MDF Area Line Sharing Access Service on a MPF requests *GIBTELECOM* to cease the Out of MDF Area Line Sharing Access Service to that Customer.

The removal of the Out of MDF Area Line Sharing Access Service involves the disconnection of the MPF from the Splitter Unit and the reconnection of the MPF to the *GIBTELECOM* analogue voice services switch.

The xDSL services are ceased and the MPF reverts solely to *GIBTELECOM* for the continued provision of analogue voice services.

4.3 MPF Testing Resulting in "Fault not Found"

If a fault is reported by an Operator regarding an MPF used for Out of MDF Area Line Sharing Access Service and when that MPF is tested by *GIBTELECOM* the MPF is found to meet, or exceed, the MPF specifications detailed in Annex H, a "fault not found" result would be deemed as the result. In that case, *GIBTELECOM* can charge the Operator for the MPF test as indicated under the item "Line Sharing Access Service MPF Testing When Fault Not Found" in the Price List Annex at Annex J.

Where a fault condition continues to exist the Operator may request additional testing to seek to establish whether the cause is interference and/or interaction within the cable between MPF carrying xDSL services or external interference. Charges for this additional testing shall be based on the additional work performed as a result of the request. The process for tackling fault reports attributed to interference is described in Annex E1 of this Agreement.

4.4 Cancellation of an Application for Out of MDF Area Line Sharing Access Service

If at any stage in the process to provide a Out of MDF Area Line Sharing Access Service, an Operator withdraws its application for such Service, the Operator will be charged the full installation charge for the Service originally requested and/or additionally approved by the Operator later during the provisioning process, as indicated in the Price List Annex at Annex J of this Agreement.

5. MPF

An MPF shall be deemed to be suitable for implementation of the Out of MDF Area Line Sharing Access Service when:

- The analogue voice service is provided to the prospective Customer by *GIBTELECOM* and the source of the received dial tone is the *GIBTELECOM* equipment located in the MDF Site where *GIBTELECOM* currently provides xDSL services to its customers by use of Out of MDF area lines; and
- The MPF has been tested by *GIBTELECOM* and the test results are within the specified line parameters detailed in the MPF Technical Description at Annex H of this Agreement.

The MPF to be used for the Out of MDF Area Line Sharing Access Service must be an existing *GIBTELECOM* MPF carrying analogue voice service to the prospective Customer. A new line must not be required to facilitate implementation of the Line Sharing Access Service.

6. Interference

The transmissions of the Operator xDSL equipment must not interfere with the analogue voice band transmissions of the *GIBTELECOM* analogue voice service.

It is the responsibility of the Operator to comply with the specifications for associated telecommunications equipment, splitters and cables that are specified in the Line Sharing Access Service – Technical Description in Annex D1 of this Agreement.

The Out of MDF Area Line Sharing Access Service enables *GIBTELECOM* to provide analogue voice service and an Operator to provide xDSL services on the same MPF. The Splitter components are required to enable the analogue voice and xDSL services to be transmitted simultaneously on the same MPF. It is the responsibility of *GIBTELECOM* to provide the splitter components that comply with the requirements of the Access Network Frequency Plan at Annex I of this Agreement.

7. Operational Requirements

It is the responsibility of the Operator to ensure that all equipment provided by the Operator and connected to the MPF is compliant with the Access Network Frequency Plan at Annex I of this Agreement.

It is the responsibility of the Operator to provide or facilitate the provision of appropriate Customer Premises Equipment required at the Customer's premises to deliver the xDSL Service.

The MPF boundary will be the line side termination of the *GIBTELECOM* MDF and a *GIBTELECOM* NTP at the Customer's premises. The Customer's splitter unit will be provided and installed on the Customer's side of the NTP by the Operator.

Processes covering provisioning and maintenance of the interfaces between *GIBTELECOM* and the Operator are contained in Annex E1 of this Agreement.

8. Disconnection of Analogue Voice Services on a MPF Supporting a Out of MDF Area Line Sharing Access Service

In the event of permanent disconnection of the *GIBTELECOM* analogue voice service for whatever reason at any time following the Operator's request for Out of MDF Area Line Sharing Access Service, the necessary conditions for the provision of the MPF for Out of MDF Area Line Sharing Access Service would cease to exist. In any such event, any and all *GIBTELECOM* obligations and any and all agreements with regard to the provisioning by *GIBTELECOM* of Out of MDF Area Line Sharing Access Service on the particular MPF on which the analogue voice service would have been disconnected will cease forthwith upon the said disconnection. In these circumstances *GIBTELECOM* will charge the Operator for the Out of MDF Area Line Sharing Access Service up to the date of the disconnection of the analogue voice service.

9 Technical Description

A technical description of the Out of MDF Area Line Sharing Access Service is contained in Annex D5 of this Agreement.

10. Charging

The Operator will pay *GIBTELECOM* a Charge as calculated using the Charges specified in the Price List Annex, Annex J to this Agreement.

11. Billing

The billing arrangements for this Service are set out in Annex B of this Agreement.

IN WITNESS WHEREOF THIS SCHEDULE WAS ENTERED INTO THE DAY AND YEAR FIRST ABOVE WRITTEN.

SIGNED for and on behalf of _____ **SIGNED** for and on behalf of
the Operator: _____ **GIBTELECOM :**

[SIGNATURE] [SIGNATURE]

[NAME (BLOCK CAPITALS)] [NAME (BLOCK CAPITALS)]

[POSITION] [POSITION]

GIBTELECOM
Reference Unbundling Offer

Annex C6
Backhaul Services
Service Description

Backhaul services are used to connect the Operator's network to other networks in order provide connectivity to the rest of the world and to the internet. Such connection could be from Co-Locations sites or from other parts of the Operator's Network.

GIBTELECOM has an existing range of connectivity services which can meet this requirement. These services are available on wholesale terms and conditions and the Operator is requested to contact its *GIBTELECOM* account manager for details of these services and the associated terms and conditions.

GIBTELECOM
Reference Unbundling Offer

Annex C7
Metallic Path
Full Unbundling Service

Service Description

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1. Introduction

This Annex defines the Metallic Path Full Unbundling Service.

This Annex is effective from ~~the date of signature of this Interconnect Agreement~~ and shall remain in effect until amended following agreement of the Parties to such amendment or following determination by the Authority.

The processes and technical information to support the implementation of this service are described in the Operations & Maintenance Manual (Annex E7 of this Agreement) and Technical Manual (Annex D7 of this Agreement).

All equipment and plant that is deployed as part of the implementation of this Service shall comply with the relevant national and international standards, as appropriate and as defined within this Agreement.

All installation procedures used must comply with standard industry practices and national and international standards, where appropriate and as defined within this Agreement.

The various product elements and their relationships are described in more detail in the Technical Manual for the Metallic Path Full Unbundling Service, Annex D7 of this Agreement.

2. Service Description

The Metallic Path Full Unbundling Service will be provided on a dedicated point-to-point MPF that provides physical connectivity between the MDF of GIBTELECOM and a GIBTELECOM NTP at a Customer's premises. The Metallic Path Full Unbundling Service will consist of an MPF and a copper pair in a Tie Cable providing physical connectivity from the GIBTELECOM MDF to the Operator.

Physical connectivity to the co-location facility will be provided by means of an Internal Tie Cable or External Tie Cable Depending on the type of Co-location Service being used by the Operator. The technical details of the Tie Cables for use in the Metallic Path Full Unbundling Service are given in the Tie Cables Technical Description at Annex D5 of this Agreement.

3. Geographic Restrictions

The Metallic Path Full Unbundling Service will be offered within MDF areas covered by the GIBTELECOM Co-location Agreement. These MDF areas are listed in Annex K of this Agreement.

The Operator requesting the Metallic Path Full Unbundling Service must have physical access to the GIBTELECOM MDF by means of a Co-location Service under the terms and conditions of this Agreement.

The Metallic Path Full Unbundling Service will be provided subject to the Operator agreeing to observe the operational limitations of the Access Network Frequency Plan at Annex I of this Agreement.

The implementation of the Metallic Path Full Unbundling Service will be subject to physical and/or technical limitations and unforeseen costs identified during the implementation of this Service.

Subject to availability some MPFs might be available to allow the Operator to connect its Access Node, at a defined MDF Site, onto the Customers MPF terminated on another MDF in the GIBTELECOM network. This Out of MDF Area Line Sharing Service is described in Annex D5 to this Agreement.

4. Chargeable Service Activities

The applicable charges for the Services described in this Annex are contained in the Price List contained at Annex J.

4.1 Provision of Metallic Path Full Unbundling Service

The Operator's request for the provision of a Metallic Path Full Unbundling Service can refer to two separate products, these being:

- A Metallic Path Full Unbundling Service to be provided on a metallic pair that is currently in service and providing service to a *GIBTELECOM* customer. In this case the provision process is termed a Line Transfer – MPF.
- A Metallic Path Full Unbundling Service to be provided on a metallic pair that is not currently in use and where the installation of a new NTP is required. In this case the provision process is termed a New Line – MPF.

4.2 Line Transfer – MPF

Line Transfer – MPF refers to an existing metallic pair in the Copper Access Network which is currently in use to provide switched analogue voice services to a *GIBTELECOM* customer.

Firstly the *GIBTELECOM* line records are checked and if the metallic pair is found to be equipped it is then rendered unequipped.

Once unequipped, the metallic pair is then tested for compliance with the MPF specifications given in the Technical Description in Annex H. The metallic pair is then provisioned for the Metallic Pair Full Unbundling Service once it meets or exceeds the MPF specification. If the MPF fails to comply with the MPF specification then provision of this service by Line Transfer will not be possible.

The MPF is disconnected from the *GIBTELECOM* switch at the MDF and then connected to the Operator's HDF via the appropriate Tie Cable. From this point forward the Operator will be solely responsible for the provision of all services to the Customer over the MPF and *GIBTELECOM* shall not respond to any queries from and/or handle any customer care issues of any such Customer in relation to the provision of such services.

4.3 New Line – MPF

4.3.1 New MPF Where Spare Capacity Exists at the DP

This service relates to a request for a MPF to a Customer's premises which requires jumpering at the MDF and possibly at any of the Primary Cross Connection Points (PCPs) as well as a new connection to the *GIBTELECOM* Distribution Point (DP) in cases where spare capacity from the MDF to the DP exists i.e. provisioning requires jumpering at cross connection (flexibility) points, the installation of a drop wire and NTP.

GIBTELECOM will install a lead-in cable as well as the NTP at the price detailed under the item "Metallic Path Full Unbundling Service Provision where infrastructure currently exists" in the Price List in Annex J.

The price will be provided to the Operator and will include charges for any infrastructure upgrades, such as the erection of poles, trenching and duct laying that may be required to connect the MPF to the Customer's premises. Any such charges shall be charged separately to the Operator on an ad hoc basis. Any required work over and above this specification will also incur additional bespoke charges and will also be charged to the Operator on an ad hoc basis.

The Operator will be given the option either to pay for the work or to withdraw the Metallic Pair Full Unbundling Service request. Where the Operator agrees to pay for the extra work, such work will be executed and the Operator will be charged for the additional expenditure on an ad hoc basis.

4.3.2 New MPF Requiring Limited Network Rearrangements

This service relates to a request for an MPF to a Customer's premises which requires a new connection to the GIBTELECOM DP where no spare capacity exists from the MDF to the DP, i.e. provisioning requires jumpering at flexibility points, the installation of the drop wire and NTP and the provisioning of capacity at the DP.

Where spare copper pairs are available along the requested MPF route GIBTELECOM will extend and terminate pairs at the appropriate point in the Network to provide the required capacity. Alternatively, GIBTELECOM will provide the required capacity through a rearrangement of spare metallic pairs at a single joint.

The Operator will be given the option either to pay for the work or to withdraw the Metallic Pair Full Unbundling Service request. Where the Operator agrees to pay for the extra work, such work will be executed and the Operator will be charged for the additional expenditure on an ad hoc basis.

4.3.3 Pair Diversion Option

Where an MPF serving a Customer proves to be incapable of supporting the transmission of xDSL services, GIBTELECOM will, where possible, carry out additional work to provide an MPF with suitable transmission characteristics.

4.4 Reversion of MPF to GIBTELECOM

Reversion of the MPF takes place when an Operator providing a Customer with services by means of a Metallic Path Full Unbundling Service on a MPF requests GIBTELECOM to cease the MPF service to that Customer.

4.4.1 Reversion of an MPF to a GIBTELECOM Usable Pair

Such a reversion takes place when an Operator providing a Customer with services by means of a Metallic Pair Full Unbundling Service on an MPF requests GIBTELECOM to cease the Metallic Path Full Unbundling Service to that Customer and such Customer does not apply to GIBTELECOM for the delivery of service over that MPF. The relative applicable charge due by the Operator is shown under the item "Metallic Pair Full Unbundling Service Disconnection" in the Price List at Annex J to this Agreement.

4.5 MPF Testing Resulting in "Fault not Found"

If a fault is reported by an Operator regarding a MPF used for Metallic Path Full Unbundling Service and when that MPF is tested by GIBTELECOM the MPF is found to meet, or exceed, the MPF specifications detailed in Annex H, a "Fault Not Found" result would be deemed as the result. In that case, GIBTELECOM can charge the Operator for the MPF test as indicated under the item "Metallic Path Full Unbundling Service Copper Pair Testing When Fault Not Found" in the Price List Annex at Annex J.

Where a fault condition continues to exist the Operator may request additional testing to seek to establish whether the cause is interference and/or interaction within the cable between MPFs carrying xDSL services or external interference. Charges for this additional testing shall be based on the additional work performed as a result of the request. The process for tackling fault reports attributed to interference is described in the Metallic Path Full Unbundling Service Operations & Maintenance Manual at Annex E7 of this Agreement.

4.6 Cancellation of an Application for Metallic Path Full Unbundling Service

If at any stage in the provisioning process of a Metallic Path Full Unbundling Service, an Operator withdraws its application for such Service, the Operator will be charged the full installation charge for the Service originally requested and/or additionally approved by the Operator later during the provisioning process, as indicated in the Price List Annex at Annex J of this Agreement.

4.7 Unequipping an Equipped Metallic Pair

An equipped metallic pair is rendered unequipped by disconnecting the active network component or by diverting the Customer service to a spare unequipped MPF. This service does not attract an additional charge. However, when it is not possible to divert the service GIBTELECOM will not remove active equipment from the metallic pair where this equipment is shared with other Customers and its removal will require significant network rearrangements and/or new network build. Where this situation arises GIBTELECOM will produce supporting evidence thereof to the Operator that the metallic pair is not suitable for supporting the Metallic Path Full Unbundling Service.

5. MPF

An MPF shall be deemed to be suitable for implementation of the Metallic Path Full Unbundling Service when the metallic pair can be unequipped and has been tested by GIBTELECOM and the test results are within the specified line parameters detailed in the Metallic Path Facility Technical Specification at Annex Hof this Agreement.

6. Interference

The transmissions of the Operator's xDSL equipment must not interfere with any transmissions carried by the Copper Access Network.

It is the responsibility of the Operator to comply with the specifications for associated telecommunications equipment that are specified in the Metallic Path Full Unbundling Service – Technical Description in Annex D7 of this Agreement and in the Frequency Management Plan in Annex I.

7. Operational Requirements

It is the responsibility of the Operator to ensure that all equipment provided by the Operator and connected to the MPF is compliant with the Access Network Frequency Plan at Annex I of this Agreement.

It is the responsibility of the Operator to provide or facilitate the provision of appropriate CPE required at the Customer's premises to deliver the xDSL Service.

The MPF boundary will be the line side termination of the GIBTELECOM MDF and a GIBTELECOM NTP at the Customer's premises.

GIBTELECOM will remove any active components connected to the MPF subject to the conditions detailed in this Agreement.

Line test facilities on the MPF used to provide the Metallic Path Full Unbundling Service will be the responsibility of GIBTELECOM and are detailed in the MPF Technical Description in Annex H of this Agreement.

Processes covering provisioning and maintenance of the interfaces between GIBTELECOM and the Operator are contained in the Metallic Path Full Unbundling Service Operations & Maintenance Manual at Annex E7 of this Agreement.

8. Technical Description

A technical description of the Metallic Path Full Unbundling Service is contained in Annex D7 of this Agreement.

9. Billing

The billing arrangements for this Service are set out in Annex B of this Agreement.

IN WITNESS WHEREOF THIS SCHEDULE WAS ENTERED INTO THE DAY AND YEAR FIRST ABOVE WRITTEN.

SIGNED for and on behalf of
the Operator:

SIGNED for and on behalf of
GIBTELECOM :

[SIGNATURE]

[SIGNATURE]

[NAME (BLOCK CAPITALS)]

[NAME (BLOCK CAPITALS)]

[POSITION]

[POSITION]

GIBTELECOM

Reference Unbundling Offer

Annex C8

**Metallic Path
Sub-loop Unbundling Service**

Service Description

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1. Introduction

This Annex defines the Metallic Path Sub-loop Unbundling Service.

This Annex is effective from ~~the date of signature of this Interconnect Agreement~~ and shall remain in effect until amended following agreement of the Parties to such amendment or following determination by the Authority.

The processes and technical information to support the implementation of this service are described in the Operations & Maintenance Manual (Annex E8 of this Agreement) and Technical Manual (Annex D8 of this Agreement).

All equipment and plant that is deployed as part of the implementation of this Service shall comply with the relevant national and international standards, as appropriate and as defined within this Agreement.

All installation procedures used must comply with standard industry practices and national and international standards, where appropriate and as defined within this Agreement.

The various product elements and their relationships are described in more detail in the Technical Manual for the Metallic Path Sub-loop Unbundling Service, Annex D8 of this Agreement.

2. Service Description

The Metallic Path Sub-loop Unbundling Service will be provided on a dedicated point-to-point MPF that provides physical connectivity between a *GIBTELECOM* Primary Cross-connection Point (PCP) and a *GIBTELECOM* NTP at a Customer's premises.

The Metallic Path Sub-loop Unbundling Service will consist of a MPF jumpered at the PCP to a copper pair in a Tie Cable that provides physical connectivity from the *GIBTELECOM* PCP to the Operators Access Node.

The Tie Cable pair will be provided by *GIBTELECOM* using an external Tie Cable provided from the *GIBTELECOM* PCP to an underground joint enclosure which is the demarcation point between *GIBTELECOM* and the Operator.

3. Geographic Restrictions

The Metallic Path Sub-loop Unbundling Service will be offered within all of *GIBTELECOM*'s MDF areas.

The Operator requesting the Metallic Path Sub-loop Unbundling Service must have physical access to the *GIBTELECOM* PCP.

The Metallic Path Sub-loop Unbundling Service will be provided subject to the Operator agreeing to observe the operational limitations of the Access Network Frequency Plan at Annex I of this Agreement.

The implementation of the Metallic Path Sub-loop Unbundling Service will be subject to physical and/or technical limitations and unforeseen costs identified during the implementation of this Service.

4. Chargeable Service Activities

The applicable charges for the Services described in this Annex are contained in the Price List contained at Annex J.

4.1 Provision of Metallic Path Sub-loop Unbundling Service

The Operator's request for the provision of a Metallic Path Sub-loop Unbundling Service can refer to two separate products, these being:

- A Metallic Path Sub-loop Unbundling Service to be provided on a metallic pair that is currently in service and providing service to a *GIBTELECOM* customer. In this case the provision process is termed a Line Transfer – MPF.
- A Metallic Path Sub-loop Unbundling Service to be provided on a metallic pair that is not currently in use and where the installation of a new NTP is required. In this case the provision process is termed a New Line – MPF.

4.2 Line Transfer – MPF

Line Transfer – MPF refers to an existing metallic pair in the Copper Access Network which is currently in use to provide switched analogue voice services to a *GIBTELECOM* customer.

Firstly the *GIBTELECOM* line records are checked and if the metallic pair is found to be equipped it is then rendered unequipped.

Once unequipped the metallic pair is then tested for compliance with the MPF specifications given in the Technical Description in Annex H. The metallic pair is then provisioned for the Metallic Pair Sub-loop Unbundling Service once it meets or exceeds the MPF specification. If the MPF fails to comply with the MPF specification then provision of this service by Line Transfer will not be possible.

From this point forward the Operator will be solely responsible for the provision of all services to the Customer over the MPF and *GIBTELECOM* shall not respond to any queries from and/or handle any customer care issues of any such Customer in relation to the provision of such services.

4.3 New Line – MPF

4.3.1 New MPF Where Spare Capacity Exists at the DP

This service relates to a request for a MPF to a Customer's premises which requires jumpering at the Primary Cross Connection Points (PCPs) as well as a new connection to the *GIBTELECOM* Distribution Point (DP) in cases where spare capacity from the PCP to the DP exists i.e. provisioning requires jumpering at cross connection (flexibility) points, the installation of a drop wire and NTP.

GIBTELECOM will install as well as the NTP at the price detailed under the item "Metallic Path Sub-loop Unbundling Service Provision where infrastructure currently exists" in the Price List in Annex J.

The price will be provided to the Operator and will include charges for any infrastructure upgrades, such as the erection of poles, trenching and duct laying that may be required to connect the MPF to the Customer's premises. Any such charges shall be charged separately to the Operator on an ad hoc basis. Any required work over and above this specification will also incur additional bespoke charges and will also be charged to the Operator on an ad hoc basis.

The Operator will be given the option either to pay for the work or to withdraw the Sub-loop Unbundling Service request. Where the Operator agrees to pay for the extra work, such work will be executed and the Operator will be charged for the additional expenditure on an ad hoc basis.

4.3.2 New MPF Requiring Limited Network Rearrangements

This service relates to a request for a MPF to a Customer's premises which requires a new connection to the *GIBTELECOM* DP and where no spare capacity

exists from the PCP to the DP i.e. provisioning requires jumpering at flexibility points, the installation of the drop wire and NTP and the provisioning of spare capacity at the DP.

Where spare copper pairs are available along the requested MPF route GIBTELECOM will extend and terminate pairs at the appropriate point in the Network to provide the required capacity. Alternatively, GIBTELECOM will provide the required capacity through a rearrangement of spare metallic pairs at a single joint.

The Operator will be given the option either to pay for the extra work or to withdrawn the Metallic Pair Sub-loop Unbundling Service request. Where the Operator agrees to pay for the extra work, such work will be executed and the Operator will be charged for the additional expenditure on an ad hoc basis

4.4 Pair Diversion Option

Where a MPF serving a Customer proves to be incapable of supporting the transmission of xDSL services, GIBTELECOM will, where possible, carry out additional work to provide a MPF with suitable transmission characteristics.

4.5 Reversion of MPF to GIBTELECOM

Reversion of the MPF takes place when an Operator providing a Customer with services by means of a Metallic Path Sub-loop Unbundling Service on a MPF requests GIBTELECOM to cease the MPF service to that Customer.

4.5.1 Reversion of an MPF to a GIBTELECOM Usable Pair

Such a reversion takes place when an Operator providing a Customer with services by means of a Metallic Pair Sub-loop Unbundling Service on an MPF requests GIBTELECOM to cease the Metallic Path Sub-loop Unbundling Service to that Customer and such Customer does not apply to GIBTELECOM for the delivery of service over that MPF. The relative applicable charge due by the Operator is shown under the item "Metallic Pair Sub-loop Unbundling Service Disconnection" in the Price List at Annex J to this Agreement.

4.8 MPF Testing Resulting in "Fault not Found"

If a fault is reported by an Operator regarding a MPF used for Metallic Path Sub-loop Unbundling Service and when that MPF is tested by GIBTELECOM the MPF is found to meet, or exceed, the MPF specifications detailed in Annex H, a "Fault Not Found" result would be deemed as the result. In that case, GIBTELECOM can charge the Operator for the MPF test as indicated under the item "Metallic Path Sub-loop Unbundling Service Copper Pair Testing When Fault Not Found" in the Price List Annex at Annex J.

Where a fault condition continues to exist the Operator may request additional testing to seek to establish whether the cause is interference and/or interaction within the cable between MPFs carrying xDSL services or external interference. Charges for this additional testing shall be based on the additional work performed as a result of the request. The process for tackling fault reports attributed to interference is described in the Metallic Path Sub-loop Unbundling Service Operations & Maintenance Manual at Annex E4 of this Agreement.

4.9 Cancellation of an Application for Metallic Path Sub-loop Unbundling Service

If at any stage in the provisioning process of a Metallic Path Sub-loop Unbundling Service, an Operator withdraws its application for such Service, the Operator will be charged the full installation charge for the Service originally requested and/or additionally approved by the Operator later during the provisioning process, as indicated in the Price List Annex at Annex J of this Agreement.

4.10 Unequipping an Equipped Metallic Pair

An equipped metallic pair is rendered unequipped by disconnecting the active network component or by diverting the Customer service to a spare unequipped MPF. This service does not attract an additional charge. However, when it is not possible to divert the service, GIBTELECOM will not remove active equipment from the metallic pair where this equipment is shared with other Customers and its removal will require significant network rearrangements and/or new network build. Where this situation arises GIBTELECOM will produce supporting evidence thereof to the Operator that the metallic pair is not suitable for supporting the Metallic Path Sub-loop Unbundling Service.

5. MPF

An MPF shall be deemed to be suitable for implementation of the Metallic Path Sub-loop Unbundling Service when the metallic pair can be unequipped and has been tested by GIBTELECOM and the test results are within the specified line parameters detailed in the Metallic Path Facility Technical Specification at Annex H of this Agreement.

6. Interference

The transmissions of the Operator's xDSL equipment must not interfere with any transmissions carried by the Copper Access Network.

It is the responsibility of the Operator to comply with the specifications for associated telecommunications equipment that are specified in the Metallic Path Sub-loop Unbundling Service – Technical Description in Annex D8 of this Agreement and in the Frequency Management Plan in Annex I.

7. Operational Requirements

It is the responsibility of the Operator to ensure that all equipment provided by the Operator and connected to the MPF is compliant with the Access Network Frequency Plan at Annex I of this Agreement.

It is the responsibility of the Operator to provide or facilitate the provision of appropriate CPE required at the Customer's premises to deliver the xDSL Service.

The MPF boundary will be the line side termination of the Joint Enclosure and a GIBTELECOM NTP at the Customer's premises.

GIBTELECOM will remove any active components connected to the MPF subject to terms detailed in this Agreement.

Processes covering provisioning and maintenance of the interfaces between GIBTELECOM and the Operator are contained in the Metallic Path Sub-loop Unbundling Service Operations & Maintenance Manual at Annex E8 of this Agreement.

8. Technical Description

A technical description of the Metallic Path Sub-loop Unbundling Service is contained in Annex D8 of this Agreement.

9. Billing

The billing arrangements for this Service are set out in Annex B of this Agreement.

IN WITNESS WHEREOF THIS SCHEDULE WAS ENTERED INTO THE DAY AND YEAR FIRST ABOVE WRITTEN.

SIGNED for and on behalf of _____ **SIGNED** for and on behalf of _____
the Operator: _____ **GIBTELECOM :** _____

[SIGNATURE] _____ [SIGNATURE] _____

[NAME (BLOCK CAPITALS)] _____ [NAME (BLOCK CAPITALS)] _____

[POSITION] _____ [POSITION] _____

GIBTELECOM

Reference Unbundling Offer

Annex C9

Co-Mingling Co-Location Service

Service Description

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1. Introduction

This Annex provides the service description for GIBTELECOM's Co-Mingling Co-Location Service.

This Annex is effective from ~~the date of signature of this Interconnect Agreement~~ and shall remain in effect until amended following agreement of the Parties to such amendment or following determination by the Authority.

The processes and technical information to support the implementation of this service are described in the Co-Mingling Co-Location Operations & Maintenance Manual (Annex E5 of this Agreement) and Technical Manual (Annex D9 of this Agreement).

All equipment and plant that is deployed as part of the implementation of this service shall comply with the relevant national and international standards, as appropriate and as defined within this Agreement.

All installation procedures used must comply with standard industry practices and national and international standards, where appropriate and as defined within this Agreement.

The various product elements and their relationships are described in more detail in the Technical Manual for Co-Mingling Co-Location, Annex D9 of this Agreement.

2. Service Description

The Co-Mingling Co-Location Service is a facility provided by GIBTELECOM offering, where available, floor space within a GIBTELECOM MDF Site.

The Operator will install its rack and equipment by occupying floor space which has been confirmed as being suitable for hosting Access Node equipment, owned by the Operator, for the purpose of providing xDSL services on unbundled local loops.

The Co-Mingling Co-Location Service will be provided in a designated area within a GIBTELECOM MDF Site where co-location services have been requested. This space may be shared by a number of operators and is subject to space availability.

The Co-Mingling Co-Location Service will provide accommodation suitable for the installation, operation and maintenance of the Operator's Access Node equipment by the Operator's own personnel or suitably authorised contractor.

The Operator's equipment will connect to the Customer's MPF via the MDF of GIBTELECOM and Internal Tie Cable(s).

The Operator will connect its equipment to the GIBTELECOM MDF using tie cables as described in Annex C4 of this Agreement.

The Co-Mingling Co-Location Service contains a number of product modules. These are described in more detail in section 4 of this Annex.

3. Geographic Restrictions

Co-Mingling Co-Location will be offered within MDF areas covered by GIBTELECOM's co-location offer. These MDF areas are listed in Annex K of this Agreement.

The implementation of the Co-Mingling Co-Location will be subject to physical and/or technical limitations and unforeseen costs highlighted during the Service Implementation Process and described in Annex E2 of this Agreement.

Implementation is also subject to the availability of the supporting products described in this Agreement.

4. Co-Mingling Co-Location Service – Product Modules

The Co-Mingling Co-Location facility is provided through a number of product modules. These product modules are described in more detail in the following sections. Charges, where applicable, are set out in Annex J.

4.1 MDF

Subject to availability, the Operator's equipment will be connected to the Customer's MPF via GIBTELECOM's MDF.

Any requirements specified in the appropriate product descriptions will also apply.

4.2 Surveys

Co-Mingling Co-Location Service Initial Survey.

An initial desktop survey carried out by GIBTELECOM will involve the examination of paper and software records to determine whether floor space is available at the GIBTELECOM MDF Site that has the potential to provide a Co-Mingling Co-Location facility.

Co-Mingling Co-Location Service Detailed Survey

If the initial survey indicates the existence of suitable floor space in a GIBTELECOM MDF Site then a detailed physical survey will be carried out. The detailed survey will consist of two sections. The first section will be carried out by a civil engineer to establish whether the identified floor space is capable of being converted into a Co-Mingling Co-Location facility and to produce an estimate of the work and costs involved. The second section will be carried out by GIBTELECOM resource management staff to assess the capabilities of existing building facilities such as power, climate control, fire suppression (where available), fire alarms, to support the requirements of the Operator for the Co-Mingling Co-Location facility.

4.3 Exchange Area Cable Runways

On agreement with GIBTELECOM, the Operator can utilise existing cable trays and cable baskets, where available, whether overhead or under the floor. These will be segregated for telecom/signalling and electrical power cables.

Where cable runways are not available, new cable trays will be designed and provided by GIBTELECOM under the site preparation charges.

All installation procedures must conform to industry best practice.

4.4 Equipment Footprint Size

The equipment rack footprint to be provided by GIBTELECOM has the following dimensions:

Depth:	300mm
Width:	600mm
Height:	2200mm

Where suitable space is available, dual footprints might be provided by back-to-back installation of the racks i.e. the depth of the footprint will become 600mm.

4.5 AC Power

Each Operator will be provided with access to a 32 Amp fused AC electric supply. This AC power supply is provided with a meter in order to record electricity usage.

The Operator will be responsible for the provision, installation and maintenance of all power and earth cabling and ancillary equipment, excluding installation of cable trays, from the supply point to their equipment.

An isolation switch will be provided which will enable the distribution to be electrically isolated in the event of an emergency or accident.

4.6 Lighting

All lighting will conform to a minimum of 500 lux when measured at working level.

4.7 Rack Fixing

All fixing of the racks must conform to existing standards within each of the exchange buildings.

4.8 Installation of Operator equipment and associated cabling

The equipment will conform to the relevant ITU/ETSI appropriate standards and specifications.

The installation and maintenance of the installed equipment should be undertaken in accordance with industry best practice.

4.9 Air Conditioning

Adequate air conditioning is generally provided by GIBTELECOM at each of their MDF Sites.

However, the ability to provide air conditioning for a particular Operator's installation at any location will be dependent on the Operator providing details of its equipment's heat dissipation rating, as new air conditioning facilities might have to be provided.

4.10 Security

The Operator will conform to all on-site security requirements, as reasonably requested by GIBTELECOM's exchange managers and where specified in this Agreement.

All personnel accessing the Co-Mingling Co-Location facility on behalf of the Operator shall require approval by GIBTELECOM prior to accessing the same and shall be escorted by GIBTELECOM personnel or GIBTELECOM's authorised agents at all times while on the premises. The Operator will be responsible for all such personnel accessing the said premises on the Operator's behalf.

4.11 Health & Safety

The Operator will conform to all health and safety aspects as directed by GIBTELECOM's health and safety policy and the general health & safety requirements.

4.12 Earthing

A Central Earth Point (CEP) is provided in all GIBTELECOM MDF Sites for telecommunications equipment. It will be the responsibility of the Operator to ensure that all of their equipment is earthed within the MDF Site and conforms to the practice deployed within the particular MDF Site.

If it is necessary to undertake changes to the Common Earth Point due to the installation of the Operator's equipment, its associated cables and any new cable runways, the Operator will be advised of this, following the detailed exchange survey.

4.13 Floor Loading

Where a false floor is provided, the floor will be capable of a loading of up to a maximum of 20 kn/sq m.

The final determination of the floor loading will be subject to the specific site conditions.

4.14 Fire & Smoke Detection

Fire and smoke detection as well as fire suppression equipment will be provided, where appropriate, in accordance with current *GIBTELECOM* policy.

4.15 Heat Dissipation

The individual heat dissipation per footprint must not exceed 2 kW. Heat dissipation in excess of this may affect the operation of other exchange equipment and reduce the effect of the air conditioning plant.

The Operator's equipment racks must have their own fans to draw in cool air once heat dissipation exceeds 1kW per footprint.

The Operator must advise *GIBTELECOM* of the heat dissipation per footprint.

Co-Mingling Co-Location could be refused if the heat dissipated per footprint is considered excessive (i.e. greater than 2kW per footprint) by *GIBTELECOM* and therefore likely to affect *GIBTELECOM* or other Operator's equipment.

5. Service Availability

At no time should this service be considered as available at all of *GIBTELECOM*'s MDF Sites. The availability of this service is dependent on the individual characteristics of each MDF Site and the availability of space.

An up to date list of MDF sites where Co-Location can be considered by *GIBTELECOM* is included in Annex K of this Agreement.

6. Service Responsibilities

The appropriate responsibilities of each party are as outlined in the Technical Manual (Annex D9) and Operations & Maintenance Manual (Annex E5).

At all times *GIBTELECOM* will be responsible for the exchange building.

The Operator will specify the relevant equipment to be installed.

The Operator will be responsible for identifying any faults that may occur on its own equipment or service and proving any faults into the *GIBTELECOM* network in line with the fault repair process as outlined in the Operations & Maintenance Manual in Annex E5 of this Agreement.

If the Operator purchases equipment that cannot be installed utilising the facilities provided by *GIBTELECOM*, the responsibility for the purchase is the Operator's.

7. Service Management

7.1 Ordering

The interface between the Operator and GIBTELECOM for the submission of orders is as per the Operations & Maintenance Manual (Annex E5).

7.2 Provisioning

Service provisioning will be as per the Operations & Maintenance Manual (Annex E5) and Technical Manual (Annex D9).

7.3 Network Operations and Maintenance

Network Operations and Maintenance process will be as per the Operations & Maintenance Manual (Annex E5) and Technical Manuals (Annex D9).

7.4 Fault Repair

Fault repair will be as per the Operations & Maintenance Manual (Annex E5) and Technical Manual (Annex D9).

7.5 Service Level Agreements

Service Level Agreements are included in the Service Level Agreement Annex, Annex F to this Agreement.

8. Charging

The Operator will pay GIBTELECOM any charges as calculated using the charges specified in the Price List Annex, Annex J to this Agreement.

9. Billing

The Billing arrangements for this Service are set out in Annex B of this Agreement.

IN WITNESS WHEREOF THIS SCHEDULE WAS ENTERED INTO THE DAY AND YEAR FIRST ABOVE WRITTEN.

SIGNED for and on behalf of _____ **SIGNED for and on behalf of**
the Operator: _____ **GIBTELECOM :**

[SIGNATURE] [SIGNATURE]

[NAME (BLOCK CAPITALS)] [NAME (BLOCK CAPITALS)]

[POSITION] [POSITION]

GIBTELECOM

Reference Unbundling Offer

Annex D1

Line Sharing Access Service

Technical Manual

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1. Introduction

This Annex describes the technical specifications of the *GIBTELECOM* Line Sharing Access Service.

The *GIBTELECOM* Line Sharing Access Service allows the Operator access to the frequency spectrum above that used to transmit the *GIBTELECOM* analogue voice services on an MPF which is used to transmit analogue services by *GIBTELECOM*. The Line Sharing Access Service allows the Operator to connect xDSL technologies to the *GIBTELECOM* MPF thus enabling the Operator to deliver xDSL services to its customers.

Splitter components are required at both ends of the MPF to enable the separation of the analogue voice and xDSL services transmitted concurrently on the same MPF.

For Physical and Co-Mingling Co-Location it is the responsibility of the Operator to provide, at its own expense, all the splitter components that comply with the requirements of the Access Network Frequency Plan at Annex I.

For Distant Co-Location it is the responsibility of the Operator to provide, at its own expense, the customer sited splitter component that comply with the requirements of the Access Network Frequency Plan at Annex I. *GIBTELECOM* will provide suitably compliant splitters at the Co-Location MDF. The *GIBTELECOM* charges for the provision and installation of this Splitter Unit is included in the Price List Annex J of this Agreement.

The MPF boundary will be the *GIBTELECOM* NTP at the customer site. The Operator shall install, at its own expense, the Splitter Units on the customer side of the NTP.

1.1 Conditions

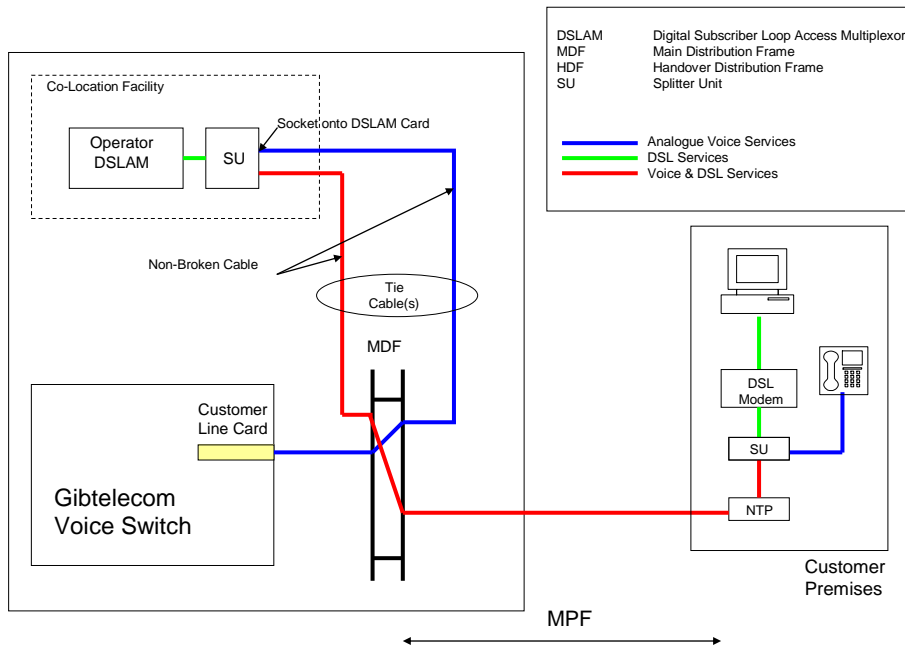
The Line Sharing Access Service will be offered within MDF areas covered by this Agreement. These MDF areas are listed in Annex K of this Agreement.

The Operator requesting the Line Sharing Access Service must have physical access to the *GIBTELECOM* MDF by means of a Co-Location Service under the terms and conditions of this Agreement.

2. Technical Descriptions

2.1 Line Sharing Access Service for Physical & Co-Mingling Co-Location

2.1.1 Network Configuration Diagram



The above diagram shows the network configuration for providing Line Sharing Access Service at a Physical & Co-Mingling Co-Location Facility. The exchange side Splitter Unit shall be installed by the Operator within the Operator's Co-Location Facility.

2.1.2 Line Sharing Access Service Requirements

The requirements for providing the Line Sharing Access Service are as follows:

2.1.2.1 Operator Metallic Pair Tie Cable

MPFs terminated on the line side of the MDF are connected to dedicated Operator termination blocks on the equipment side of the MDF by jumpers. The Operator's dedicated termination blocks are then connected to the Operator's HDF by means of metallic pair Tie Circuits in an Internal Tie Cable. Further information on the Tie Cable Technical Description can be found at Annex D5.

2.1.2.2 Analogue Voice Metallic Pair Tie Circuit

In order to provide connectivity from the analogue voice service output of the Co-Location sited Splitter Unit a metallic pair Tie Circuit is provided. Further information on this Tie Cable Technical Description can be found at Annex D5.

2.1.2.3 Metallic Pair Tie Circuit Separation

The provision of the Line Sharing Access Service is dependent upon the Tie Cables connecting the Operator Splitter Unit to the GIBTELECOM MDF being capable of operating within defined performance specifications and circuit separation rules. The characteristics of the metallic pair Tie Circuits between the GIBTELECOM MDF and the Operator Splitter Unit at the Co-Location site shall be in accordance with the specifications laid down in the Tie Cables Technical

Description at Annex D5. Where these Tie Cables are used to provide Line Sharing Access Service the analogue voice service transmissions returning from the Co-Location sited Splitter Unit must not share a cable with the broadband transmissions. PSTN metallic pair Tie Circuits between the analogue output of the Co-Location sited Splitter Unit and the MDF must be provided in separate Internal Tie Cables.

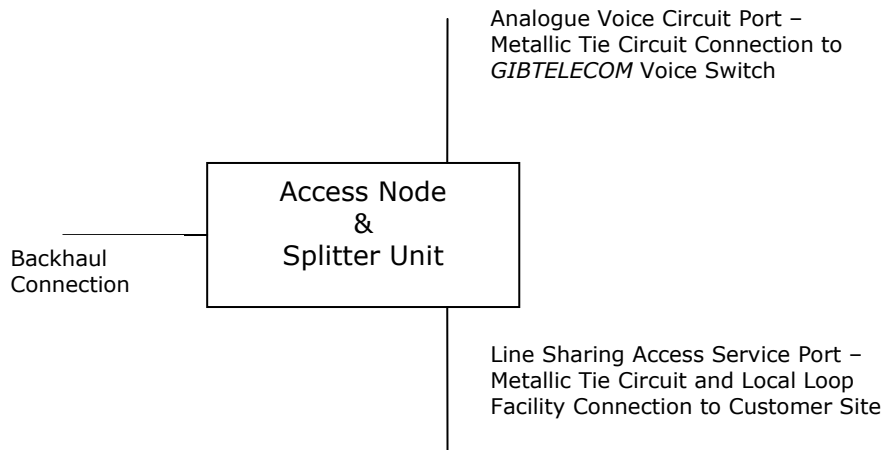
2.1.3 Co-Location Sited Splitter Unit

It is the responsibility of the Operator to supply Splitter Units in all its Co-Location sites. These Splitter Units are to be fully compliant with the performance criteria specified in this Annex.

The Co-Location sited Splitter Unit installed by the Operator at the Co-Location Facility can be an integral part of the Access Node or separate from it. The performance of the Co-Location sited Splitter Unit is defined using the low pass channel using parameters that are observable or measurable from the analogue voice service and line ports. Definition of the high pass channel performance is left to the Operator but subject to the Access Network Frequency Plan included in Annex I. This allows the Operator to optimise the Splitter Unit and Access Node design to obtain the most suitable performance characteristics.

2.1.4 Co-Location Sited Splitter Unit Template

The Co-Location sited Splitter Unit will typically be based upon the following construction template:



2.1.5 Splitter Unit Functional Requirements

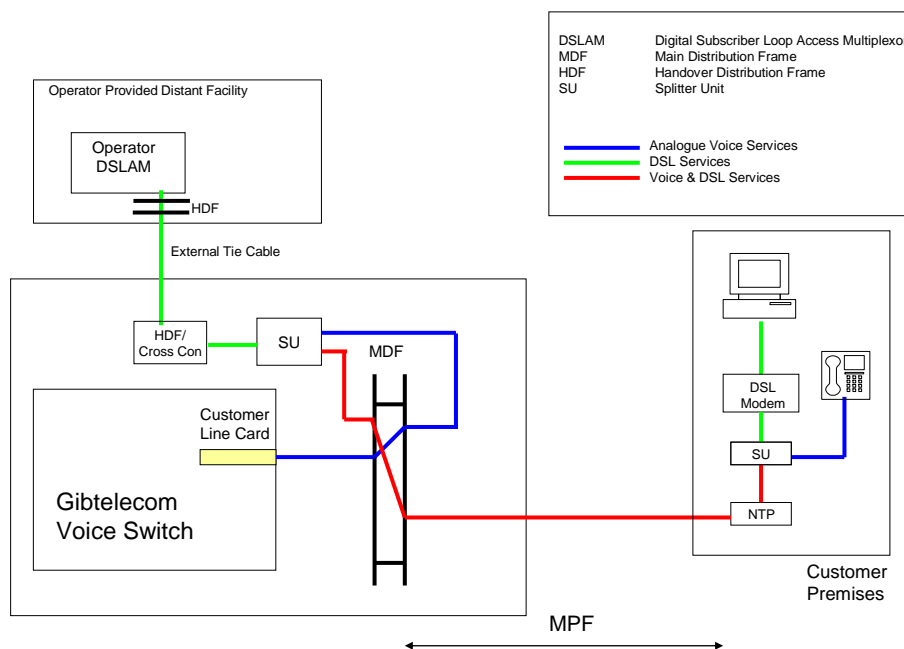
The Splitter Unit functional requirements are as follows:

- The analogue voice splitter function between the Line Sharing Access Service port and the analogue voice port will meet the requirements as detailed in the ITU Recommendation G992.1 Annex E Type 1. It is possible that in a future revision of this Annex, specific options appropriate to the GIBTELECOM MPF will be included.

- Line feed voltages of up to 100 V DC. may be passed from the analogue PSTN port to the Line Sharing Access Service port without causing any malfunction of the service.
- The removal of power from the Splitter Unit and the Access Node, whether individually or simultaneously, will not result in disruption of the DC and low frequency path from the analogue PSTN port to the Line Sharing Access Service port for a period of time no greater than 10ms.

2.2 Line Sharing Access Service for Distant Co-Location Sites

2.2.1 Network Configuration Diagram



The above diagram shows the network configuration for providing Line Sharing Access Service at a Distant Co-Location Facility. The exchange side Splitter Unit shall be installed within the GIBTELECOM MDF Facility.

2.2.2 Line Sharing Access Service Requirements

The requirements for providing the Line Sharing Access Service are as follows:

2.2.2.1 Operator Metallic Pair Tie Cable

MPFs terminated on the line side of the MDF are connected to dedicated Operator's termination blocks on the equipment side of the MDF by jumpers. The Operator's dedicated termination blocks are then connected to the Splitter Unit by means of metallic pair Tie Circuits in an Internal Tie Cable. The Operator's termination of the Splitter Unit is connected via an Internal Tie Cable to an HDF. From this HDF an External Tie Cable is used to connect to the Operator's Distant Co-Location Facility. Further information on the Tie Cable Technical Description can be found at Annex D5.

2.2.2.2 Analogue Voice Metallic Pair Tie Circuit

In order to provide connectivity from the analogue voice service output of the GIBTELECOM MDF sited Splitter Unit a metallic pair Tie Circuit is provided.

Further information on this Tie Cable Technical Description can be found at Annex D5.

2.2.2.3 Metallic Pair Tie Circuit Separation

The provision of the Line Sharing Access Service is dependent upon the Tie Cables connecting the Splitter Unit to the GIBTELECOM MDF being capable of operating within defined performance specifications and circuit separation rules. The characteristics of the metallic pair Tie Circuits between the GIBTELECOM MDF and the Splitter Unit shall be in accordance with the specifications laid down in the Tie Cables Technical Description at Annex D5. Where these Tie Cables are used to provide Line Sharing Access Service the analogue voice service transmissions returning from the Splitter Unit must not share a cable with the broadband transmissions. PSTN metallic pair Tie Circuits between the analogue output of the Splitter Unit and the MDF must be provided in separate Internal Tie Cables.

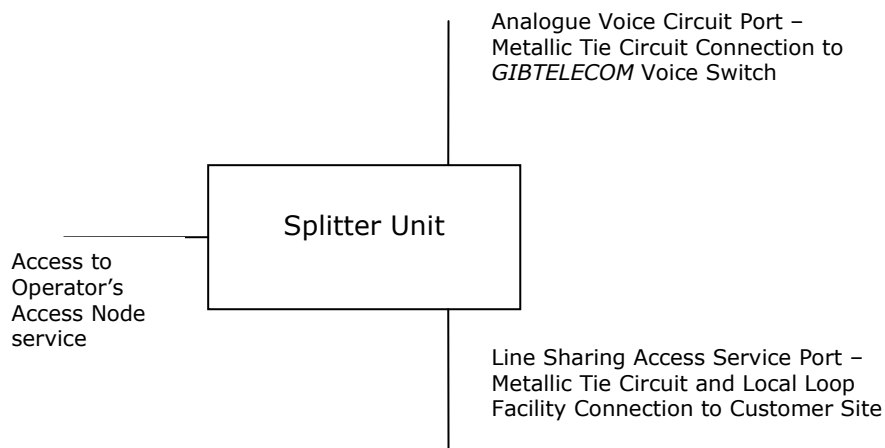
2.2.3 Gibtelcom MDF Sited Splitter Unit

It is the responsibility of GIBTELECOM to supply Splitter Units at the MDF Site being used for Distant Co-Location with the Operator. These Splitter Units are to be fully compliant with the performance criteria specified in this Annex.

The GIBTELECOM MDF sited Splitter Unit installed by GIBTELECOM is a separate Splitter Unit from any Access Node that GIBTELECOM has at this site. The performance of the sited Splitter Unit is defined using the low pass channel using parameters that are observable or measurable from the analogue voice service and line ports.

2.2.4 GIBTELECOM MDF Sited Splitter Unit Template

The GIBTELECOM MDF sited Splitter Unit will typically be based upon the following construction template:



2.2.5 Splitter Unit Functional Requirements

The Splitter Unit functional requirements are as follows:

- The analogue voice splitter function between the Line Sharing Access Service port and the analogue voice port will meet the requirements as

detailed in the ITU Recommendation G992.1 Annex E Type 1. It is possible that in a future revision of this Annex, specific options appropriate to the *GIBTELECOM* MPF will be included.

- line feed voltages of up to 100 V DC may be passed from the analogue PSTN port to the Line Sharing Access Service port without causing any malfunction of the service.
- the removal of power from the Splitter Unit will not result in disruption of the DC and low frequency path from the analogue PSTN port to the Line Sharing Access Service port for a period of time no greater than 10ms.

3 Shared Access Service MPF

The MPF used to provide the Line Sharing Access Service must be terminated on a *GIBTELECOM* NTP at the Customer site. When providing the Line Sharing Access Service it is the responsibility of the Operator to ensure the installation of Splitter Units at, both ends of the MPF for Physical & Co-Mingling Co-Location and Customer's site only for Distant Co-Location, are compliant with all the requirements of the *GIBTELECOM* Network with regards to their specific application, including but not limited to health and safety requirements. The installed Splitter Units must not impede the ability of *GIBTELECOM* to offer analogue voice service with no quality degradation.

The technical description of the *GIBTELECOM* MPF is included in the MPF Facility Technical Description included in Annex H.

4 GIBTELECOM Copper Access Network Spectrum Management Plan

The *GIBTELECOM* Access Network Frequency Plan is included in Annex I.

It is the Operator's responsibility at all times to ensure compliance with this technical specification and all respective terms and conditions.

5. Customer Sited Splitter Unit

It is the responsibility of the Operator to supply Splitter Units for use at Customer sites that are compliant with the performance criteria specified in this Annex.

The Customer sited Splitter Unit will typically be a single device installed on the Customer side of the NTP but can consist of multiple splitters in some Customer network configurations. The Customer sited Splitter Unit must provide connectivity to the shared MPFs, the Operator xDSL equipment and the Customer analogue voice internal wiring.

The installation of xDSL modems without the use of a Splitter Unit that complies with the requirements of the *GIBTELECOM* Network is not permitted.

5.1 CPE Connections

The MPF used to provide the Line Sharing Access Service must be terminated on a *GIBTELECOM* NTP. The Splitter Unit installation must include an appropriate connection socket.

The Splitter Unit installation may use a connection socket to enable wiring connectivity to equipment such as an xDSL modem used to deliver the Operator's service. There are no specific design requirements for the connection socket but it must not be identical to, or resemble, or be easily confused with the connection socket provided by *GIBTELECOM* to deliver its analogue voice service. All connection sockets must be clearly labelled to ensure that equipment and wiring is correctly connected. The connection socket providing analogue voice must be labelled with a suitable symbol such as a telephone.

5.2 Customer Sited Splitter Unit Performance

The performance of the Splitter Unit is specified in the Access Network Frequency Plan at Annex I.

As part of the standard operation of the *GIBTELECOM* analogue voice service involves abrupt changes in the line state, the changes in line state involve large transient voltage variations. Continuous operation of data circuits supplied by the xDSL port of the Splitter Units under these conditions relies upon the internal performance of the xDSL modem and may require equipment specifications which are not included in the scope of this Annex.

During the standard operation of the *GIBTELECOM* MPF the conductors of the shared MPF can be subjected to conventional line conditions, disconnection of one or both legs, short circuiting or connection of one or both legs to earth at any point in the network. In the event of one or more of these conditions occurring there must be no requirement for network intervention to restore normal operation of the analogue voice services.

GIBTELECOM

Reference Unbundling Offer

Annex D2

Physical Co-Location Service

Technical Manual

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1. Introduction

This Technical Manual contains the set of procedures to be followed for the operation of the Physical Co-Location Service.

These procedures relate to the implementation of Physical Co-Location Services in *GIBTELECOM* MDF Sites in connection with local loop unbundling.

2. Scope of Technical Manual

This Technical Manual and the techniques and procedures described herein apply to the Physical Co-Location Service, as defined by *GIBTELECOM* in this Agreement.

The scope of this document is limited to statements of best practices to be followed in relation to implementation techniques by Operator within *GIBTELECOM* exchanges and specifically excludes areas such as:

- Technical standards relating to the MPF,
- Access Network Frequency Management Plan.

This Technical Manual also includes statements on the preparation of sites to be followed by *GIBTELECOM*.

3. Description of Co-Location Service

Physical Co-Location Service is a Service provided by *GIBTELECOM* offering equipment space within a *GIBTELECOM* MDF Site by means of the construction of a custom built Physical Co-Location Facility.

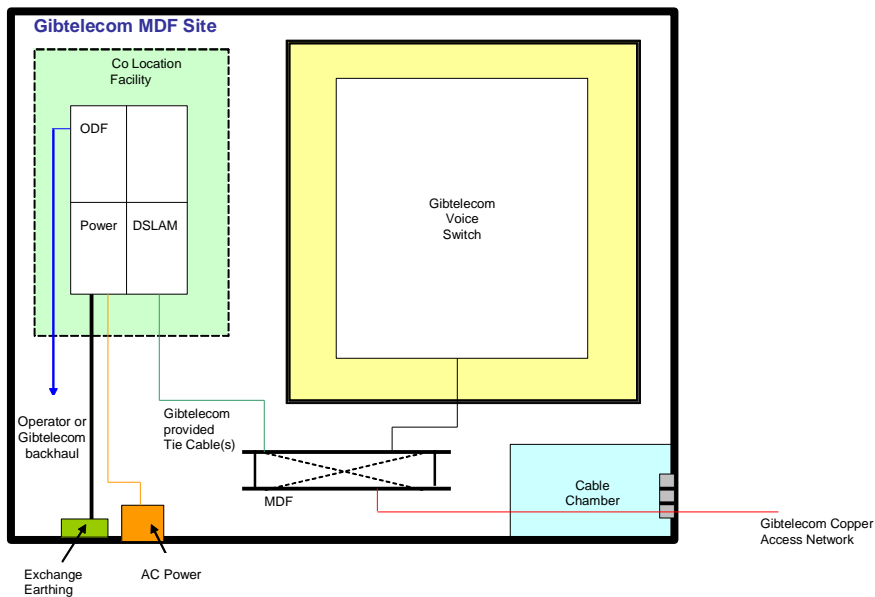
The Physical Co-Location Facility will be based upon the provision of a space in which to house the Operator's equipment in a *GIBTELECOM* MDF Site.

The size of the room will be determined by the amount of equipment required by the Operator. The maximum dimensions of the Physical Co-Location Facility will ultimately be determined by the available space and power supply at the *GIBTELECOM* MDF Site

4. Standards

All equipment and plant deployed as part of the implementation of this service shall comply with the relevant national and international standards, as appropriate.

5. Physical Co-Location Environment



The above diagram illustrates the configuration of the network that is required to facilitate access to the MPF in the *GIBTELECOM* Network terminated on an MDF from a Physical Co-Location Facility constructed in a *GIBTELECOM* building.

5.1 Physical Elements required to provide Co-Location Services

A number of discrete elements are combined to deliver a complete Physical Co-Location Service. These elements may be provided either by *GIBTELECOM* or the Operator as appropriate.

5.1.1 Operator Footprint

The methods described in this Technical Manual shall include provision for any necessary inter-working between Operator Footprints either in the same aisle or between aisles.

Any inter-working between Operator Footprints shall use dedicated cable management techniques and infrastructure at all times.

5.1.2 Service Implementation Activities

After a Co-Location offer has been agreed between *GIBTELECOM* and the Operator then the implementation of the Service can commence. The implementation of the Service consists of two primary activities, namely:

- Site preparation by *GIBTELECOM*, and
- Operator activity within the *GIBTELECOM* MDF Site.

6. Physical Co-Location Environment

In addition to the elements identified *GIBTELECOM* will carry out a number of preparatory activities on the site following agreement to proceed. The following non-exclusive and non-restrictive list shows these general activities.

6.1 Building Work

The Physical Co-Location Facility will consist of a basic space with either solid walls or walls constructed from steel mesh with Footprints marked out and numbered on the floor and with anchor points for equipment racking provided.

6.2 Handover Distribution Frame

GIBTELECOM will install the HDF in a rack located within the Operator's designated Co-Location Facility. Internal Tie Cables will be ordered from GIBTELECOM using the appropriate order process. The Internal Tie Cables will be installed, terminated and tested by GIBTELECOM.

6.3 Equipment Work

- Installation of the Operator block(s) on the MDF;
- Installation of Operator earth cable to GIBTELECOM Central Earth Point and associated Operator cable trays;
- Installation of GIBTELECOM cable tray to support Operator's AC cables from Operator Footprint to exchange AC distribution system;
- GIBTELECOM cable trays to support cable runs for Operator's Tie Cables and fibre where required;
- Extension of GIBTELECOM MDF (if feasibly possible) to support additional Operator Block(s) where required;
- Clearance of space if required (e.g. removal of redundant equipment);
- Construction work as required;
- Installation of raised flooring where required;
- Upgrading of utility electrical supply to support increase in load directly attributable to Operator's Equipment (if required);
- Upgrading of GIBTELECOM's electrical main board to support increase load directly attributable to Operator's equipment (if required);
- Provision of additional GIBTELECOM lighting as required;
- Provision of additional fire detection specifically for Operator's equipment as required;
- Provision of GIBTELECOM air-conditioning/ventilation to cater for any additional cooling load directly attributable to Operator's equipment;
- Confirmation of a "route" from a designated unpacking area to the Operator designated Footprint.

This work will be undertaken as part of the overall provision of a serviced Footprint to the Operator.

6.4 Provision of Cable Management (Cable Trays)

Cable management systems (cable trays) will be provided (if not already available) by GIBTELECOM to facilitate the running of cables by the Operator from the Footprint to the MDF, the AC power distribution cabinet and the earth system.

6.5 Provision of DC Power Distribution

The provision of an AC power supply to each Operator requesting Physical Co-Location will be carried out as follows by GIBTELECOM:

The Operator will be provided with access to a 32 amp fused AC electric supply. This AC power supply is provided with a meter in order to record electricity usage.

- *GIBTELECOM* will arrange installation and commissioning of each distribution point subject to all information requested on the order form being supplied;
- *GIBTELECOM* will be responsible for monitoring and maintenance of the AC power supply to, but not including, the distribution point;

The Operator will be responsible for the provision, installation and maintenance of all power and earth cabling and ancillary equipment, excluding installation of cable trays, from the supply point to their equipment.

An isolation switch will be provided which will enable the distribution to be electrically isolated in the event of an emergency or accident.

For the avoidance of doubt the distribution point refers to a "best fit" MCCB or fuse position as appropriate to the site at *GIBTELECOM*'s discretion.

In the case of a higher AC power consumption being required at a future date by the Operator (e.g. due to customer growth) the Operator will request additional AC power from *GIBTELECOM*. *GIBTELECOM* will revert with a price and timescale for the provision of this additional power requirement if technically feasible.

6.6 Provision of Exchange Earth

GIBTELECOM will carry out all tasks in respect of the provision of a point of connection for Operator to the exchange earth. A full site survey will identify the earth connection and survey the earth cable run to the Operator's Footprint. *GIBTELECOM* will provide an earth bar with suitable connection points in the general area of the Operator's Footprint and shall bond this earth bar to the exchange earth using a properly dimensioned unbroken earth cable. This work may include any earth cable and cable tray work required to provide this earth to the Operator's Footprint.

6.7 Allocation of MDF blocks and Jumpering

Operator MDF block termination positions will be identified on the MDF. The MDF blocks will be supplied and installed by *GIBTELECOM*.

Blocks are available in 100 pairs (for cable/line/UG side) or 100 pair for exchange side. Contacts are insulation displacement contact (IDC) wires to be used are solid with 0.32mm to 0.63mm diameters. The Operator MDF blocks must support protector modules.

As well as installing the Operator block(s) on the MDF, *GIBTELECOM* will also be responsible for all jumpering on the MDF.

7. Operator Activities in the GIBTELECOM provided Co-Location Facility

7.1 Basic Principles

As a general principle, the person or entity representing the Operator in the implementation of the Service should be notified to *GIBTELECOM* within a reasonable period prior to their arrival on site to carry out the activities that are listed below.

Excluding the necessary order processing activities associated with the Service a number of activities need to be undertaken by the Operator and *GIBTELECOM* in order to physically deploy the components necessary to implement the Service.

These activities are shown sequentially in the flowchart below and show the activities carried out from when the Operator first arrives at the GIBTELECOM Co-Location Facility.

7.2 Inspection by Operator

In association with the GIBTELECOM representative the initial inspection of the site will be used by the Operator to complete the following tasks:

1. General inspection and familiarisation with the site layout and features, as advised by GIBTELECOM;
2. Identification of delivery and unpacking locations;
3. Confirmation of cable runs and any special features (for example, any bending radius constraints for optical fibre cable);
4. A full briefing by GIBTELECOM on all site-specific features.

The inspection may take place on the occasion of the handover of the Footprint to the Operator.

7.3 Arrange Planned Access

At the initial inspection by the Operator, and having identified the effort needed to complete this work, the Operator should book the required GIBTELECOM resources as per the designated process in order to ensure their availability on the selected dates, for example:

- Reserve an escort;
- Reserve an unpacking area;
- Reserve an access route from the unpacking area to the Operator Footprint;
- Agree how rubbish will be removed from the site.

7.4 Delivery

The Operator must be present to take delivery of his equipment. Delivery of the Operator equipment and plant will be done on the agreed date to the designated delivery area in the GIBTELECOM exchange facility. Because some time might have elapsed between the initial briefing and the delivery of the Operator equipment GIBTELECOM will repeat the briefing on site specific features.

No equipment should be delivered to the site unless the installation team are available to unpack and move the equipment to the designated Operator Footprint area.

7.5 Unpacking by the Operator and Safety Requirements

The Operator shall deploy the necessary safety signs and signals prior to commencing its work. This activity is additional to any obligation on the Operator to comply with any statutory health and safety legislation.

On the day of delivery the Operator will unpack its equipment in the designated unpacking area prior to moving the equipment to the designated Operator Footprint area. **Storage of Operator equipment at the GIBTELECOM site is not permitted.**

Unpacking activities must not be carried out in any area other than the designated unpacking area.

All rubbish must be removed on the same day. Rubbish will not be allowed to accumulate.

7.6 Verification of Items by GIBTELECOM

Immediately following the unpacking of the equipment by the Operator and prior to it being moved to the designated Operator Footprint GIBTELECOM will have the opportunity to verify that the items delivered are in conformity with the Agreement.

Should GIBTELECOM not be available then such verification will not take place and the equipment should be moved to the Operator Footprint.

7.7 Delivery of Equipment to Operator Footprint

Following the unpacking and verification the Operator should then move its equipment and/or plant from the designated unpacking area to the designated Operator Footprint. The designated and reserved access route must be used in all cases. The wheeling in of racks with pre-installed equipment is permitted and should be flagged to GIBTELECOM.

7.8 Installation of Hardware by Operator

Once the equipment has been delivered to the designated Operator Footprint then the installation of the equipment can commence.

All installation work shall be carried out using agreed methods and to agreed standards (as described in this Manual) and using tools that are fit for purpose. All work, equipment and other items required to complete the job shall be provided by the Operator from its own resources.

The Operator shall take all necessary precautions to prevent dust and any other physical or electrical interference to adjacent equipment and systems.

Electrically operated tools and test equipment will be powered from the designated mains power outlets which GIBTELECOM will provide adjacent to the Operator Footprint.

During the installation period, and at all other times when there is on-site Operator activity, the Operator shall deploy appropriate signage, containing its official logo, in all locations of activity to indicate its presence.

The Operator shall fix its rack(s) to the floor using a method appropriate to whether it is being fixed to a concrete or a false floor. Overhead fixing to the cable management system (cable trays) shall use proper bolting mechanisms of suitable dimensions with all bolts and fixings de-burred.

All rubbish must be removed on the same day. Rubbish will not be allowed to accumulate.

7.9 Connection to Services by Operator

Having installed its equipment, the Operator may then connect this equipment to the necessary services provided by GIBTELECOM, as follows:

1. to the exchange earthing system,
2. to the Operator ODF,
3. to the Operator MDF block using Tie Cables run in designated cable runways,
4. to AC power distribution.

7.10 Specification of Tie-Cables

Technical specifications for Tie Cables are included in Annex D5 to this Agreement.

7.11 Connection to AC Distribution Point

The Operator will be responsible for the provision of all power cabling from its distribution point to his equipment. The Operator shall connect his equipment to the AC distribution point using power cabling which conforms to BS6007 and to the relevant national rules for electrical installations, and ETSI standards for telecommunications installations. Cable dimensioning will be determined by the Operator and communicated to *GIBTELECOM* on the order form. *GIBTELECOM* will not permit any cable to be installed which poses a risk to its building or occupants.

All power work must be carried out by competent personnel representing the Operator.

7.12 Connection to the Exchange Earthing System

The Operator will be responsible for the earthing of its equipment. The Operator must connect its equipment and racks to the earth connection point provided by *GIBTELECOM* in the general area of the Operator Footprint. It must be recognised that this is not the mains earth.

The earthing cable from the Operator Footprint to the exchange earth shall be at least of the same current carrying capacity as the earthing cable from the Operator AC distribution point to the exchange earth, typically 70mm². This cable should be insulated throughout its length and should be terminated on the exchange earth bar at a position indicated by *GIBTELECOM*. This position should be suitably labelled by *GIBTELECOM* to indicate the Operator using it. All connections should be made to ensure a good electrical bond between the terminating cable and the brass material of the exchange earth with the appropriate cable terminating lug.

The earthing cable from the Operator Footprint should follow the designated cable run from the Operator Footprint to the Central Earthing Point. The cable should be run as straight as possible, keeping the bending radius not less than 2.5 times the cross sectional area of the cable.

The utilisation of the earth connection point by the Operator should be entered by *GIBTELECOM* on a display notice adjacent to the facility. Additionally, a second notice should also be displayed by *GIBTELECOM* warning against unapproved disconnection of any cable from this earth connection point.

All earthing work must be carried out by competent personnel representing the Operator.

7.13 Testing of Services by Operator

The Operator may then verify that all services are functioning correctly using appropriate non-invasive methods.

7.14 Localise and Resolve Fault(s)

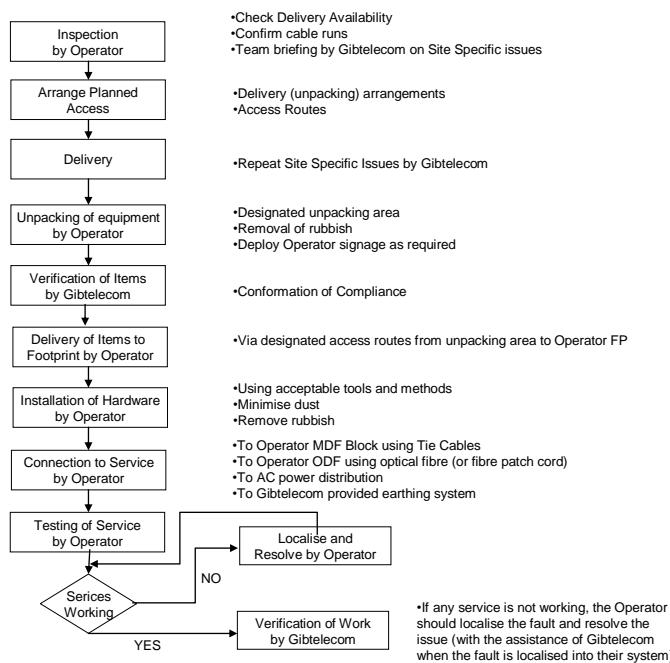
If any service is not working, then the Operator should localise the fault and resolve the issue. In the event that the fault is localised into the *GIBTELECOM* systems then *GIBTELECOM* will resolve the issue in accordance with the provisions of this Agreement.

7.15 Verification of Work by GIBTELECOM

On the conclusion of the work by the Operator GIBTELECOM will verify that the installed equipment is compliant with the project plan. Failure to comply with the project plan should be referred to the Operator's project manager in the first place for resolution, or, depending on the issue, the person nominated at the first project management meeting or identified from time to time by the Operator.

This examination will also ensure that the correct fixing techniques and practices have been used throughout the installation.

GIBTELECOM will also verify that the site has been left in a clean and safe manner.



8. Access and Security

Access to the room by Operator personnel will be through a separate door and the room should have no physical access to the GIBTELECOM building.

Access by Operator personnel through the GIBTELECOM building will either be by a secure route giving access to their Co-Location Facility or by escorted access.

Staff escorting Operator personnel will be GIBTELECOM direct labour staff. Charges for escorted access are detailed in the Price List Annex, Annex J to this Agreement.

GIBTELECOM will reserve the right to enter the Physical Co-Location Facility at any time to comply with emergency, maintenance and operational requirements for the building and the equipment in the facility installed and owned by GIBTELECOM.

GIBTELECOM

Reference Unbundling Offer

Annex D3

Distant Co-Location Service

Technical Manual

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1. Introduction

This Technical Manual contains the set of procedures to be followed for the operation of the Distant Co-Location Service.

These procedures relate to the implementation of Distant Co-Location Services in *GIBTELECOM* exchanges in connection with this Agreement.

2. Scope of Technical Manual

This Technical Manual and the techniques and procedures described herein apply to the Distant Co-Location Service, as defined by *GIBTELECOM* in this Agreement.

The scope of this document is limited to statements of best practices to be followed in relation to implementation techniques by the Operator within *GIBTELECOM* exchanges and specifically excludes areas such as:

- Technical standards relating to the MPF,
- Access Network Frequency Plan.

This Technical Manual also includes statements on the preparation of sites to be followed by *GIBTELECOM*.

3. Description of Distant Co-Location Service

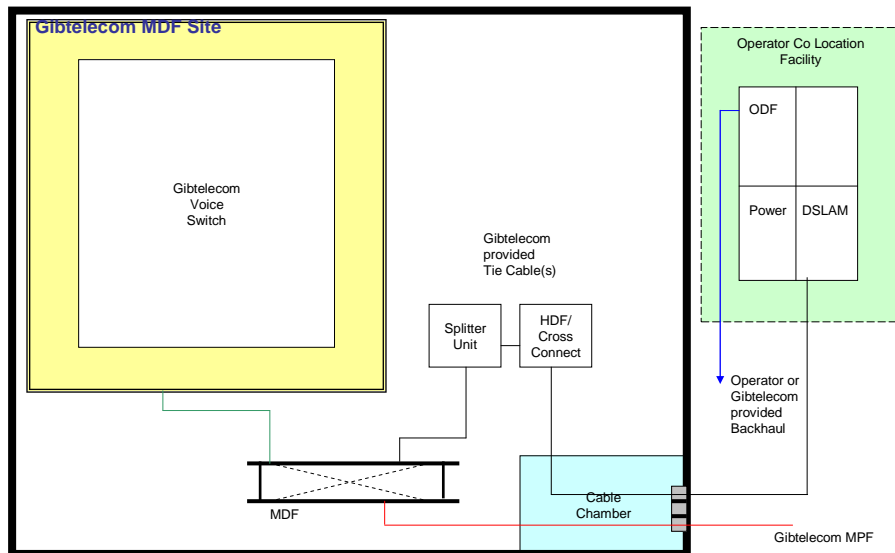
The *GIBTELECOM* Distant Co-Location Service will provide connectivity to a *GIBTELECOM* MDF Site where Co-Location Services have been requested.

Physical connectivity from the Distant Co-Location Facility to the *GIBTELECOM* MDF will be by the use of External Tie Cables.

4. Standards

All equipment and plant deployed as part of the implementation of this service shall comply with the relevant national and international standards, as appropriate.

5. Network Configuration



6. Technical Description

6.1 Overview

The Distant Co-Location Facility will consist of a location, not owned by GIBTELECOM and remote from the GIBTELECOM MDF Site. The Distant Co-Location Facility will be operated by the Operator and will provide secure space for the installation, operation and maintenance of the Operator's Access Node and GIBTELECOM's staff for the installation, operation and maintenance of the Tie Cable facilities.

6.2 Distant Co-Location Facility Specification

The Operator is to ensure that the Operator's duct route (including all joint chambers connecting the Distant Co-Location Facility to the GIBTELECOM duct route) is in full compliance with GIBTELECOM's planning rules. To this effect the Operator shall, before carrying out any civil engineering works which may have an effect on GIBTELECOM's Tie Cable provisioning and operation, submit the planned works for GIBTELECOM's endorsement and agreement. The Operator shall satisfy, free of charge, any reasonable requests submitted by GIBTELECOM, in relation to the provision of the Distant Co-Location Service.

The Operator shall provide, free of charge, adequate secure storage space for GIBTELECOM's tools, materials and test equipment required by GIBTELECOM to comply with the Agreements obligations particularly those related to the Distant Co-Location Service.

6.2.1 Operational Environment

It will be the responsibility of the Operator to ensure that the operational environment of the Distant Co-Location Facility and the duct route and jointing chambers housing GIBTELECOM's assets are installed and maintained to meet the operational requirements of the Operator's equipment and GIBTELECOM's assets.

Moreover, the Operator shall be liable for any damages sustained by GIBTELECOM's assets installed within the Operator's infrastructure.

6.2.2 Handover Distribution Frame

GIBTELECOM will install the HDF within the Operator's Co-Location Facility. Copper External Tie Cables will be ordered from GIBTELECOM using the appropriate order process. The External Tie Cables will be installed, terminated and tested by GIBTELECOM. It will be the responsibility of the Operator to ensure that the installed capacity of the HDF and associated External Tie Cables are sufficient to allow for the provision and maintenance of the Distant Co-Location Facilities.

GIBTELECOM will install an HDF within the GIBTELECOM MDF Site in order to allow the broadband services from the Operator to be combined with GIBTELECOM's analogue voice service within the boundaries of the GIBTELECOM MDF Site.

6.2.3 Co-Location Services

It is the responsibility of the Operator to ensure that essential services such as:

- Power,
- Earthing,
- Air-Conditioning

are installed at the Distant Co-Location facility and maintained to meet the requirements of the Operator's equipment.

6.2.4 Access and Security

It will be the responsibility of the Operator to provide for the access and security of the Distant Co-Location Facility. The Operator shall provide escorted access to the Operator Distant Co-Location facility to GIBTELECOM staff requiring access to the Distant Co-Location Facility. The escorted access shall be provided at no cost to GIBTELECOM staff, for the requested durations and within the pre-agreed time periods. Failure of the Operator to provide access for the requested periods will subject the Operator to a fee reflecting consequent GIBTELECOM costs.

GIBTELECOM

Reference Unbundling Offer

Annex D4

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Annex D5

Tie Cable Services

Technical Description

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1. Introduction

This technical specification gives detailed definitions of the electrical parameters of Tie Circuits contained in the Tie Cables to be connected to the *GIBTELECOM* MPF provided by *GIBTELECOM* to enable the provision, to the Operator, of Line Sharing Access Service, Metallic Path Sub-loop Unbundling Services or Metallic Path Full Unbundling Services.

Defined parameters apply to the technical performance of the Tie Circuits contained in:

- Internal or External Tie Cables from a termination point on the *GIBTELECOM* Main Distribution Frame (MDF) to a termination point on a Handover Distribution Frame (HDF) located either in the Physical or Co-Mingling Co-Location Facility at the *GIBTELECOM* MDF Site or at the Distant Co-Location Facility.
- An External Tie Cable from a termination point on a *GIBTELECOM* Sub-loop Connection Point to the Joint Enclosure (in the case of the Metallic Path Sub-loop Unbundling Service).

In the case of Physical & Co-Mingling Co-Location Service Internal Tie Cables will be provided.

In the case of Distant Co-Location Service External Tie Cables will be provided.

In the case of Metallic Path Sub-loop Unbundling connectivity to the Operator's Access Node will be provided by External Tie Cables.

2. Technical Specifications

2.1 Internal Tie Cable

2.1.1 Description

The Internal Tie Cable product is the provision, including testing, termination and maintenance of metallic tie pairs, in twisted pair cables of 100 pair capacity and a nominal conductor diameter of 0.5mm gauge. Each cable will connect the Operator's dedicated termination blocks on the exchange side of the MDF to the HDF in the Operator's Physical or Co-Mingling Co-Location Facility.

The Internal Tie Cable product will include termination blocks at the MDF and HDF and the required metalwork for the installation of the termination blocks. The Internal Tie Cable, metal work, cable tray, jumper wire and terminal blocks will be supplied and installed by *GIBTELECOM* and will remain the property of *GIBTELECOM* at all times.

2.1.2 Performance Specification

All Tie Cables shall meet the performance parameters stated in this Annex.

2.1.3 Analogue Voice Return Tie Cable Circuits - Description

The Line Sharing Access Service requires that the *GIBTELECOM* analogue voice service shares the unbundled MPF with an Operator's broadband service signal. The Splitter Unit is located remotely from the MDF, (in Distant Co-Location as a separate Splitter Unit at *GIBTELECOM*'s MDF Site and for Physical & Co-Mingling Co-Location as part of the Operator's Access Node installation), and separate Tie Circuits will be required to connect the analogue service to the MDF.

These analogue voice Tie Circuits will be provided in separate Tie Cables where one end of the Tie Cable is included with a factory fitted plug to connect to the

Splitter Unit and the other end will be terminated onto an MDF or HDF within the GIBTELECOM MDF Site.

The Operator and GIBTELECOM will agree on a pre-jumpering scheme of the Splitter Units to enable the provision of Line Sharing Access Service to the Operator with minimum disruption of the analogue voice service and minimum site intervention by the Operator.

2.2 External Tie Cable

2.2.1 Description – Full Loop Unbundling & Shared Access

The GIBTELECOM External Tie Cable product is the provision, including testing, termination and maintenance, of metallic tie pairs, in a twisted pair cable connecting a termination block on the line side of the MDF with a HDF at an Operator’s Distant Co-Location Facility. The Operator shall provide the metal framework for GIBTELECOM to install the HDF termination blocks in accordance with GIBTELECOM specifications.

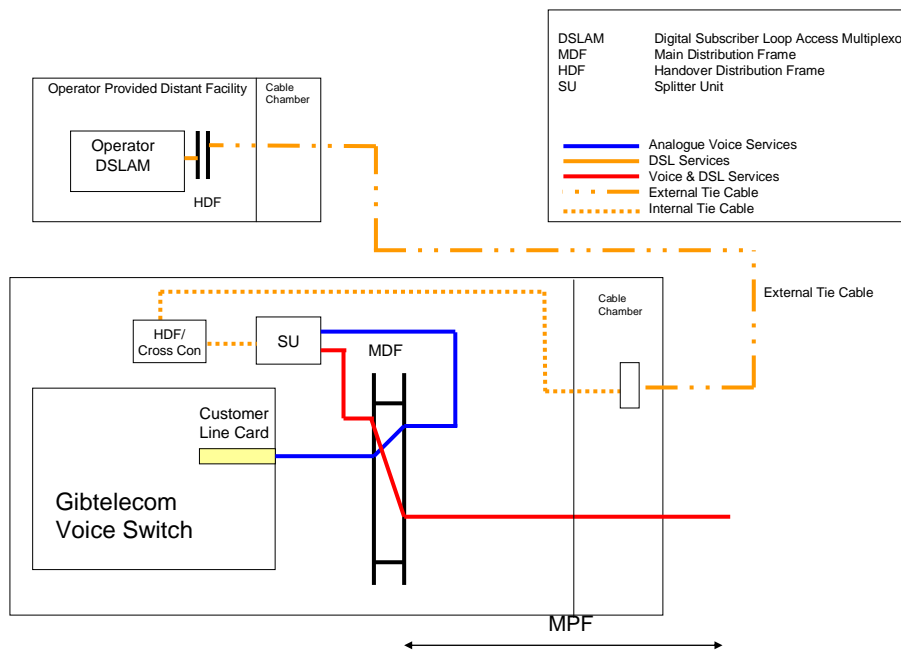


Figure 1. External and Internal Cable Terminations for Line Sharing Access Service for Distant Co-Location

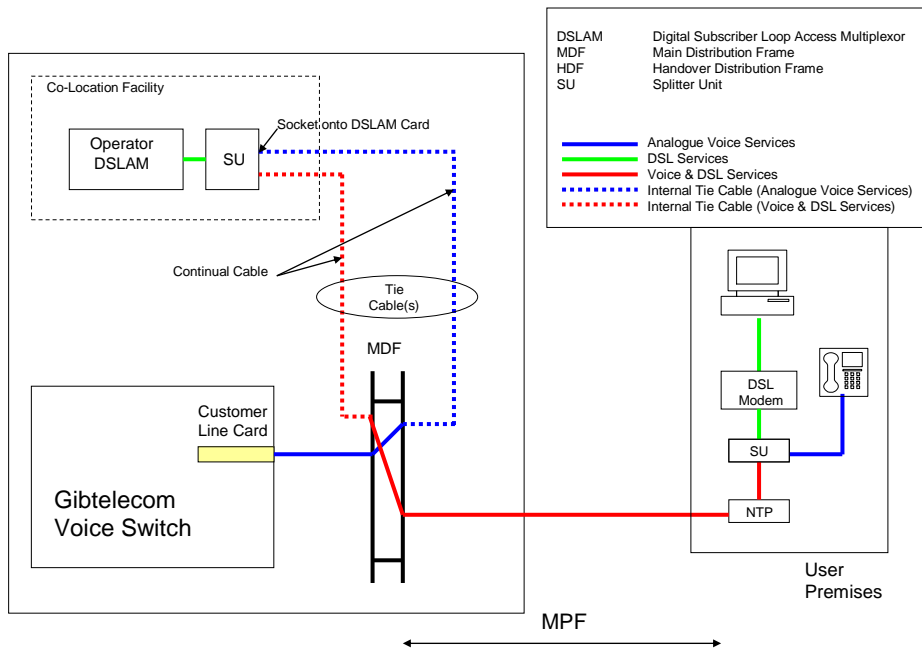


Figure 2. Internal Cable Terminations for Line Sharing Access Service for Physical & Co-Mingling Co-Location

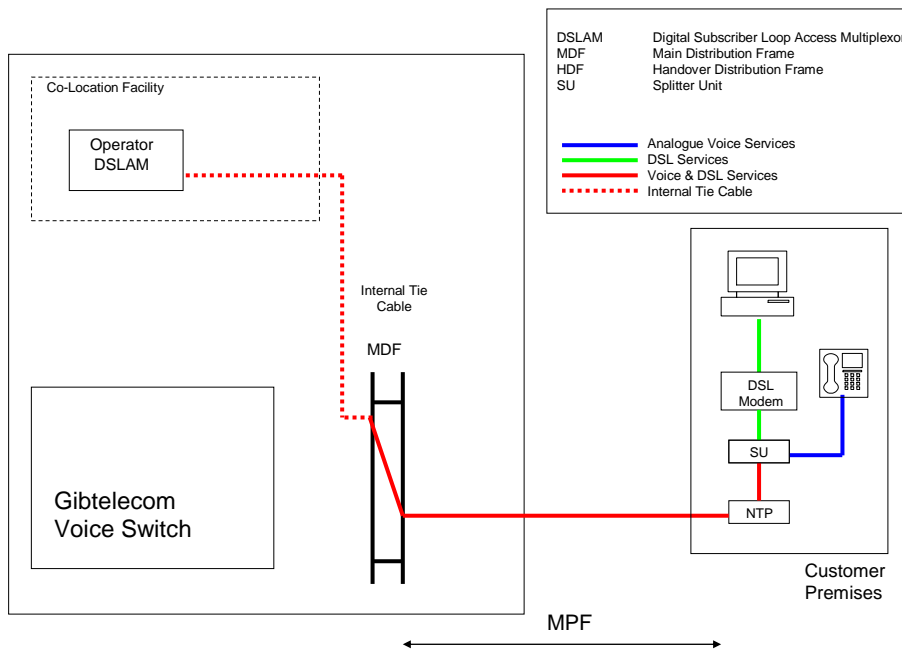


Figure 3. Internal Cable Terminations for Full Unbundling Service for Physical & Co-Mingling Co-Location

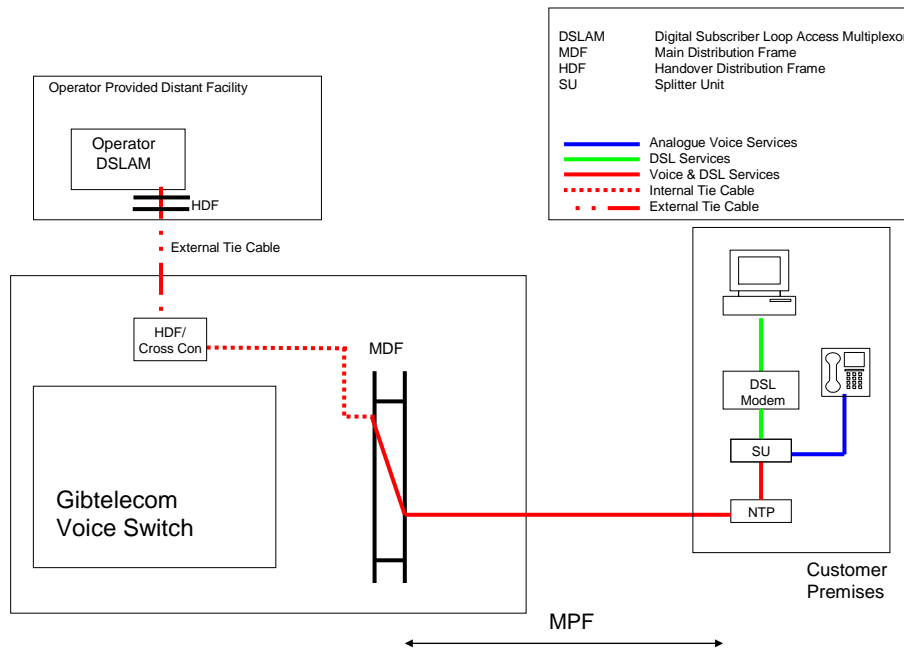


Figure 4. External Cable Terminations for Full Unbundling Service for Distant Co-Location

2.2.1 Description – Sub-loop Unbundling

The GIBTELECOM External Tie Cable product for the Sub-loop Unbundling Service is the provision and termination at the Sub-loop Connection Point, jointing and closing of the Joint Enclosure and the maintenance of metallic tie pairs in a twisted pair cable connecting a termination block in the GIBTELECOM Sub-loop Connection Point with the Operator's Tie Cable at the Joint Enclosure. Figure 5 shows the External Tie Cable Terminations for Sub-loop Unbundling Services

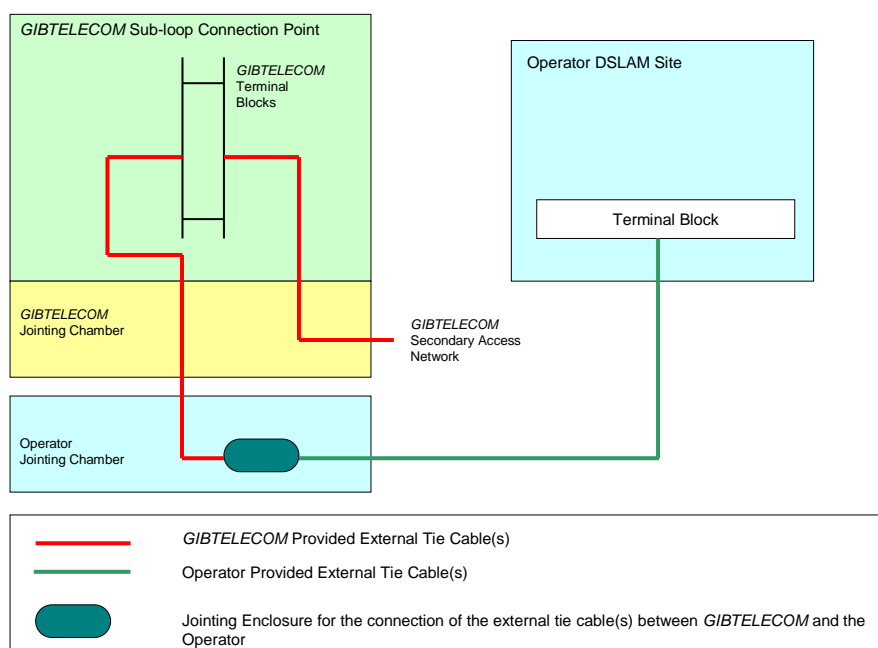


Figure 5. External Tie Cable Terminations for Sub-loop Unbundling Service

2.3 Construction Specification

The GIBTELECOM External Tie Cable will be a primary network cable of 100, 200 or 400 pair capacity. The conductors will be 0.5mm nominal diameter and the cable will be "jelly filled" with a synthetic compound.

2.4 Performance Specification

All Tie Circuits must at all times comply with the following performance specification for Tie Circuits within the Internal and External Tie Cables connecting a GIBTELECOM MDF or HDF to the Operator HDF. Under normal operational circumstances compliance will not be an issue but problems may be experienced in cases of Distant Co-Locations requiring long External Tie Cables to connect to the MDF Site.

The insertion of Tie Circuits into transmission paths introduces factors that increase signal loss, impedance and crosstalk affecting transmissions from the service source to the Customer. Compliance with the following specifications will minimise the detrimental effects of Tie Circuits on the performance of the MPF. The following specifications represent the definitive limits of Tie Circuit signal performance and will apply to any discrete Tie Circuit transmission path regardless of the direction of transmission:

- A Tie Cable will be constructed from multiple insulated copper conductors twisted to form pairs.
- The maximum DC loop resistance will be 85 Ohms.
- The maximum loop mutual capacitance will be 27.5nF.
- The acceptable range of the ratio of capacitance to DC resistance will be 0.2 to 0.45 nF/Ohm.
- The maximum insertion loss measured between 600 Ohms loads at 1600 Hz will be 0.7 dB.

-
- The maximum insertion loss measured between 135 Ohms loads at 100 Hz will be 4.0dB
 - The minimum return loss of the characteristic impedance of the cable to 135 Ohms will be 13 dB @ 100 kHz.
 - For cables containing more than 50 pairs the maximum near-end crosstalk power sum for the nearest 49 adjacent pairs of the Tie Cable received at any single isolated pair will be 55 dB below the near end generated signal level at 100 kHz. For cables containing less than 50 pairs this specification will apply to one less than the total number of pairs.

GIBTELECOM

Reference Unbundling Offer

Annex D6

Temporary Service

**Out of MDF Area Line Sharing Access
Service**

Technical Manual

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2.2.3	Metallic Pair Tie Circuit Separation	4
2.2.4	Inter MDF Tie Circuit	5

1. Service Description

This Annex describes the technical specifications of the *GIBTELECOM* Out of MDF Area Line Sharing Access Service.

The *GIBTELECOM* Out of MDF Area Line Sharing Access Service allows the Operator access to the frequency spectrum above that used to transmit the *GIBTELECOM* analogue voice services on a MPF which is used to transmit analogue services by *GIBTELECOM*. The Out of MDF Area Line Sharing Access Service allows the Operator to connect xDSL technologies to the *GIBTELECOM* MPF thus enabling the Operator to deliver xDSL services to their customers.

The Out of MDF Area Line Sharing Service will be provided on a dedicated point-to-point MPF that provides physical connectivity between the MDF of *GIBTELECOM*, to which the Operator has a Tie Cable Terminated for the purpose of Physical Co-Location and a *GIBTELECOM* NTP at a Customer's premises via an intermediate *GIBTELECOM* MDF.

Splitter components are required at both ends of the MPF to enable the separation of the analogue voice and xDSL services transmitted concurrently on the same MDF.

It is the responsibility of the Operator to provide, at its own expense, all the splitter components that comply with the requirements of the Access Network Frequency Plan at Annex I.

The MPF boundary will be the *GIBTELECOM* NTP at the customer site. The Operator shall install, at its own expense, the Splitter Units on the customer side of the NTP.

1.1 Conditions

The Out of MDF Area Line Sharing Access Service will only be offered within MDF areas where *GIBTELECOM* cannot offer Co-Location. These MDF Sites are listed in Annex K of this Agreement.

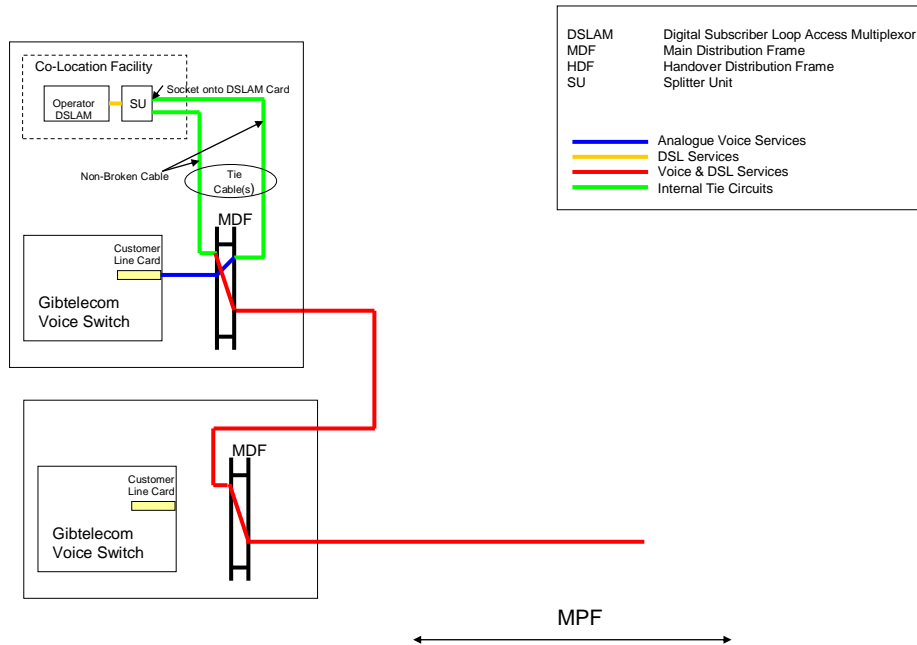
The Operator requesting the Line Sharing Access Service must have physical access to the *GIBTELECOM* MDF by means of a Co-Location Service under the terms and conditions of this Agreement.

The Out of MDF Area Line Sharing Access Service is provided on a case by case basis and is dependent on there being:

- Capacity to move the customer's voice service ,
- MDF space available at both MDFs,
- A suitable MPF to connect both MDFs.

2. Technical Descriptions

2.1 Network Configuration Diagram



The above diagram shows the network configuration for providing Out of MDF Area Line Sharing Access Service at a Co-Location Facility. The exchange side Splitter Unit shall be installed within the Operator's Co-Location Facility.

2.2 Out of MDF Area Line Sharing Access Service Requirements

The requirements for providing the Line Sharing Access Service are as follows:

2.2.1 Operator Metallic Pair Tie Cable

MPFs terminated on the line side of the MDF are connected to dedicated Operator termination blocks on the equipment side of the MDF by jumpers. The Operator dedicated termination blocks are then connected to the Operator Splitter Unit by means of metallic pair Tie Circuits in an internal Tie Cables. Further information on the Tie Cable Technical Description can be found at Annex D5.

2.2.2 Analogue Voice Metallic Pair Tie Circuit

In order to provide connectivity from the analogue voice service output of the Co-Location sited Splitter Unit a metallic pair Tie Circuit is provided. Further information on the Tie Cable Technical Descriptions can be found at Annex D5.

2.2.3 Metallic Pair Tie Circuit Separation

The provision of the Out of MDF Area Line Sharing Access Service is dependent upon the Tie Cables connecting the Operator Splitter Unit to the GIBTELECOM MDF being capable of operating within defined performance specifications and circuit separation rules. The characteristics of the metallic pair Tie Circuits between the GIBTELECOM MDF and the Operator Splitter Unit at the Operator Co-Location site shall be in accordance with the specifications laid down in the Tie Cables Technical Description at Annex D5. Where these Tie Cables are used to

provide Line Sharing Access Service the analogue voice service transmissions returning from the Co-Location sited Splitter Unit must not share a cable with the broadband transmissions. PSTN metallic pair Tie Circuits between the analogue output of the Co-Location sited Splitter Unit and the MDF must be provided in separate Internal Tie Cables.

2.2.4 Inter MDF Tie Circuit

The provision of the Out of MDF Area Line Sharing Access Service is dependent upon the availability of Inter MDF Tie Circuits connecting the *GIBTELECOM* MDF to which the Operator has Co-Location Space provided and the *GIBTELECOM* MDF nearest to the customer being served.

GIBTELECOM
Reference Unbundling Offer

Annex D7

**Metallic Path
Full Unbundling Service**

Technical Manual

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1. Introduction

This Annex describes the technical specifications of the *GIBTELECOM* Metallic Path Full Unbundling Service.

The *GIBTELECOM* Metallic Path Full Unbundling Service allows the Operator access to a discrete MPF in the *GIBTELECOM* Copper Access Network. The MPF will be provided on a copper pair that will be isolated from the *GIBTELECOM* RCU/exchange equipment. The Metallic Path Full Unbundling Service allows the Operator to connect xDSL technologies to the *GIBTELECOM* MPF thus enabling the Operator to deliver services to the Customer.

The Metallic Path Full Unbundling Service will be provided on a dedicated point to point MPF providing physical connectivity between a *GIBTELECOM* MDF and a *GIBTELECOM* NTP termination at the Customer's premises.

The MPF boundary will be the line side termination of the *GIBTELECOM* MDF and a *GIBTELECOM* NTP at the Customer site.

The Metallic Path Full Unbundling Service will consist of an MPF and a tie circuit provided on a twisted copper pair in a Tie Cable providing the physical connectivity from the *GIBTELECOM* MDF to the Operator's Co-location facility. The metallic pair tie circuit will be provided using an Internal Tie Cable in the case of a Physical & Co-Mingling Co-location facility and an External Tie Cable in the case of a Distant Co-location facility. The Tie Cable shall be compliant with the technical specifications in the Tie Cable Technical Description at Annex D5.

1.1 Conditions

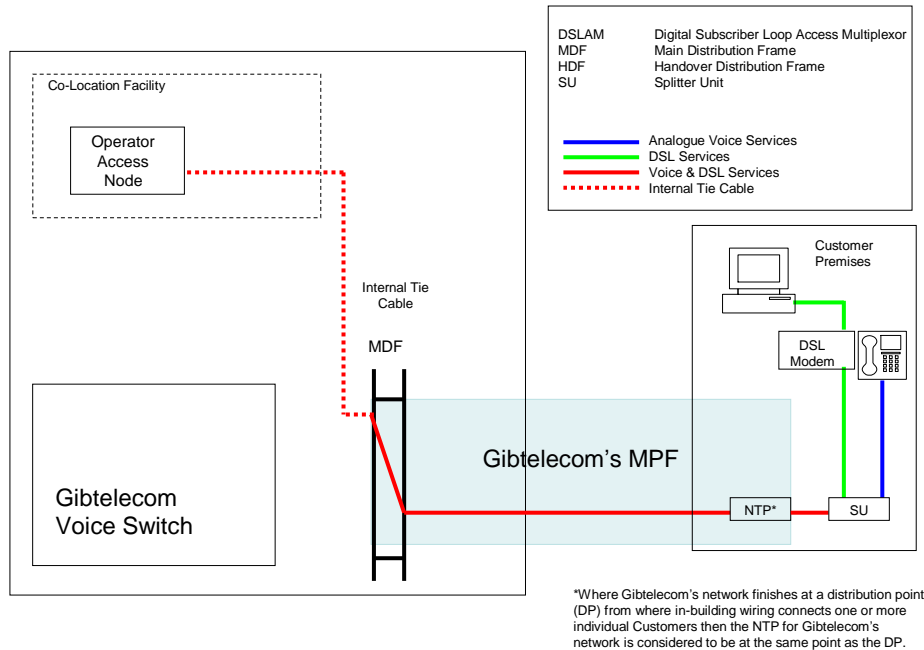
The Metallic Path Full Unbundling Service will be offered within MDF areas covered by this Agreement. These MDF areas are listed in Annex K of this Agreement.

The Operator requesting the Metallic Path Full Unbundling Service must have physical access to the *GIBTELECOM* MDF by means of a Co-Location Service under the terms and conditions of this Agreement.

2. Technical Descriptions

2.1 Metallic Path Full Unbundling Service for Physical & Co-Mingling Co-Location

2.1.1 Network Configuration Diagram



The above diagram shows the network configuration for providing Metallic Path Full Unbundling Service at a Physical & Co-Mingling Co-Location Facility.

2.1.2 Metallic Path Full Unbundling Service Requirements

The requirements for providing the Metallic Path Full Unbundling Service are as follows:

2.1.2.1 Metallic Path Facility

A full technical description of the MPF is given in the Metallic Path Facility Technical Description at Annex H.

2.1.2.2 Operator Metallic Pair Tie Circuit

Full Unbundled MPF pairs terminated on the line side of the MDF are connected to dedicated Operator termination blocks on the equipment side of the MDF by jumpers. The Operator dedicated termination blocks are then connected to the Operator HDF by means of metallic pair tie circuits in an Internal or External Tie Cable depending on the type of Co-Location Service provided.

2.1.3 Testing

The GIBTELECOM existing test equipment does not have the facilities to carry out line testing on MPFs that are connected to GIBTELECOM voice switches.

2.2 MPF used to Provide Full Unbundling Service

The MPF used to provide the Metallic Path Full Unbundling Service must be terminated on a GIBTELECOM NTP at a Customer's premises.

A technical description of the *GIBTELECOM* MPF is given in the Metallic Path Facility Technical Description at Annex H.

2.3 GIBTELECOM Copper Access Network Spectrum Management Specification

The *GIBTELECOM* Copper Access Network Spectrum Management Specification is included in the Spectrum Management Specification at Annex I. The Operator shall ensure compliance at all times with this technical specification and respective terms and conditions.

3 Tie Cables

A technical description of all Tie Cables used by *GIBTELECOM* in the provision of Unbundled Local Loop Services is given in the Tie Cable Technical Description at Annex D5.

GIBTELECOM

Reference Unbundling Offer

Annex D8

**Metallic Path
Sub-loop Unbundling Service**

Technical Manual

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1. Introduction

This Annex describes the technical specifications of the *GIBTELECOM* Metallic Path Sub-loop Unbundling Service that may be used to provide Full Unbundling Service.

The *GIBTELECOM* Metallic Path Sub-loop Unbundling Service allows the Operator access to a discrete MPF in the *GIBTELECOM* Copper Access Network. The MPF will be provided on a copper pair that will be isolated from the *GIBTELECOM* RCU/exchange equipment. The Metallic Path Sub-loop Unbundling Service allows the Operator to connect xDSL technologies to the *GIBTELECOM* MPF thus enabling the Operator to deliver services to the Customer.

The Metallic Path Sub-loop Unbundling Service will be provided on a dedicated point to point MPF providing physical connectivity between a *GIBTELECOM* Sub-loop Connection Point and a *GIBTELECOM* NTP termination at the Customer's premises. The Sub-loop Connection Point will be a PCP on which a Tie Cable connection to the Operator can be terminated.

The MPF boundary will be the Joint Enclosure between the Operator Access Node and the line side termination of the designated *GIBTELECOM* Sub-loop Connection Point.

The Metallic Path Sub-loop Unbundling Service will consist of a MPF and a tie circuit provided on a twisted copper pair in an External Tie Cable providing the physical connectivity from the designated *GIBTELECOM* Sub-loop Connection Point to the Operator's equipment in a Distant Co-location facility. The Tie Cable shall be compliant with the technical specifications in the Tie Cable Technical Description at Annex D5.

The technical details of the Metallic Path Facility are given in Annex H.

The provision of services over a complete local loop has many similarities to the provision of the services on a sub-loop. A service definition of the Sub-Loop Unbundling Service is given in Annex C8.

1.1 Conditions

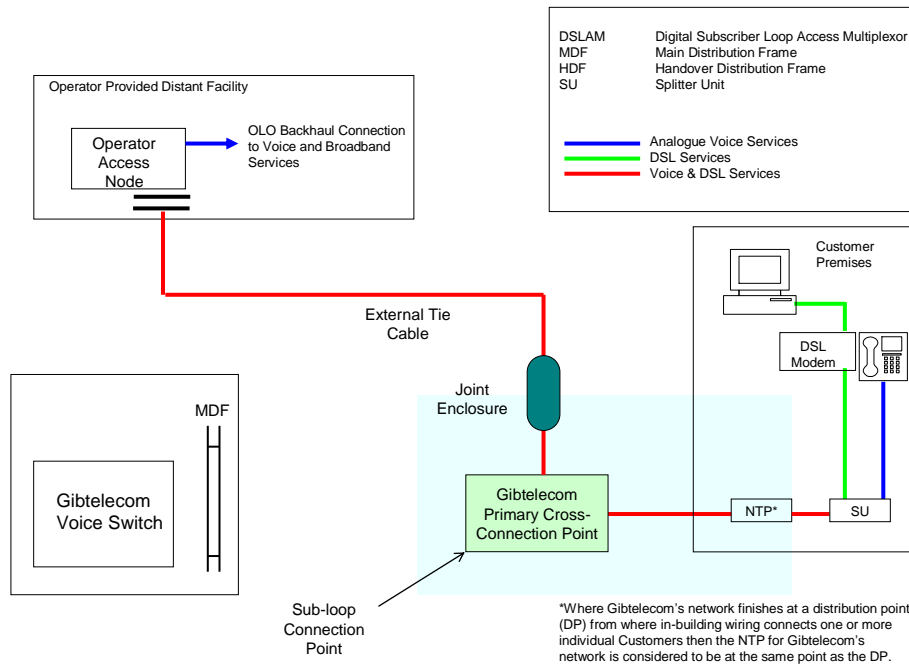
The Metallic Path Sub-loop Unbundling Service will be offered within all of *GIBTELECOM*'s MDF areas.

The Operator requesting the Metallic Path Sub-loop Unbundling Service must have physical access to the *GIBTELECOM* Sub-loop Connection Point.

2. Technical Descriptions

2.1 Metallic Path Sub-loop Unbundling Service

2.1.1 Network Configuration Diagram



The above diagram shows the network configuration for providing Metallic Path Sub-loop Unbundling Service.

2.1.2 Metallic Path Sub-loop Unbundling Service Requirements

The requirements for providing the Metallic Path Sub-loop Unbundling Service are as follows:

2.1.2.1 *Metallic Path Facility*

A full technical description of the MPF is given in the Metallic Path Facility Technical Description at Annex H.

2.1.2.2 *Operator Metallic Pair Tie Circuit*

GIBTELECOM will provide a Sub-Loop Unbundling Tie Cable for the designated Sub-loop Connection Point to an underground jointing enclosure. The jointing enclosure will provide the interface between the GIBTELECOM and Operator networks in the same way as the HDF in co-located facilities.

The Operator will provide a Tie Cable connection from the jointing enclosure to its equipment. This RUO does not specify the form of the accommodation the Operator uses for the equipment. However, the Operator is to ensure the its duct route, including any jointing chambers and connecting the Distant Co-location facility to the GIBTELECOM duct route is in full compliance with current GIBTELECOM planning rules. The Operator shall, before carrying out any civil engineering works which may have an effect on the GIBTELECOM Tie Cable provisioning and operation, submit the planned works for the endorsement of GIBTELECOM. The price for the endorsement shall be bespoke and cost based.

2.2.2 Upgrade of GIBTELECOM Sub-loop Connection Point

The upgrade of a GIBTELECOM Sub-loop Connection Point to enable the termination of a Sub-loop Unbundling Tie Cable will be required. The cost of this upgrade will be charged to the Operator requesting connection to the Sub-loop Connection Point. The price for this upgrade shall be bespoke and cost based.

2.1.3 Testing

The GIBTELECOM existing test equipment does not have the facilities to carry out line testing on MPFs that are connected to GIBTELECOM voice switches.

2.2 MPF used to Provide Sub-loop Unbundling Service

The MPF used to provide the Metallic Path Sub-loop Unbundling Service must be terminated on a GIBTELECOM NTP at a Customer's premises.

A technical description of the GIBTELECOM MPF is given in the Metallic Path Facility Technical Description at Annex H.

2.3 GIBTELECOM Copper Access Network Spectrum Management Specification

The GIBTELECOM Copper Access Network Spectrum Management Specification is included in the Spectrum Management Specification at Annex I. The Operator shall ensure compliance at all times with this technical specification and respective terms and conditions.

3 Tie Cables

A technical description of all Tie Cables used by GIBTELECOM in the provision of this service is given in the Tie Cable Technical Description at Annex D5.

4 Service on Unbundled Sub-loops

Sub-loop Unbundling Service shall only be offered to an Operator that has pre-provided connectivity to the designated Sub-loop Connection Point and has a contract with the specified Customer to provide customer service on the requested Sub-loop.

The Sub-loop Unbundling Service shall be provided on a dedicated point to point MPF from the GIBTELECOM Connection Point to the Customer's site.

In order to provide Sub-loop Unbundling Service one pair is required in the Sub-loop Tie Cable connecting the Sub-loop Connection Point to the Operator's equipment.

5 Sub-loop Unbundling Service Availability

The Sub-loop Unbundling Service will be offered at all Sub-loop Connection Points within the GIBTELECOM Copper Access Network with the following exceptions:

- Where the Sub-loop Connection Point is programmed for removal within 3 years.
- Where the Sub-loop Connection Point is programmed for major work.
- Where the demand for Sub-loop Unbundling Services has caused the Sub-loop Connection Point to be extended to the maximum practical capacity and there is insufficient space to allow another request.
- Where there is no spare capacity in the network between the Sub-loop Connection Point and the Customer site.

-
- Where it is considered that the further deployment of electronic equipment at a designated Sub-loop Connection Point would compromise network integrity.

Customer sites connected directly on to a *GIBTELECOM* MDF will not be available for Operator access using Sub-loop Unbundling.

An Operator connecting to a Sub-loop Connection Point will be able to access only those Customer sites already connected to the Sub-loop Connection Point by means of a metallic pair. It is not permissible to transfer Customers from other Sub-loop Connection Points.

GIBTELECOM

Reference Unbundling Offer

Annex D9

Co-Mingling Co-Location Service

Technical Manual

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1. Introduction

This Technical Manual contains the set of procedures to be followed for the operation of the Co-Mingling Co-Location Service.

These procedures relate to the implementation of Co-Mingling Co-Location Services in *GIBTELECOM* MDF Sites in connection with local loop unbundling.

2. Scope of Technical Manual

This Technical Manual and the techniques and procedures described herein apply to the Co-Mingling Co-Location Service, as defined by *GIBTELECOM* in this Agreement.

The scope of this document is limited to statements of best practices to be followed in relation to implementation techniques by Operator within *GIBTELECOM* exchanges and specifically excludes areas such as:

- Technical standards relating to the MPF,
- Access Network Frequency Management Plan.

This Technical Manual also includes statements on the preparation of sites to be followed by *GIBTELECOM*.

3. Description of Co-Mingling Co-Location Service

The Co-Mingling Co-Location Service is a facility provided by *GIBTELECOM* offering, where available, floor space within a *GIBTELECOM* MDF Site.

The Operator will install its rack and equipment by occupying floor space which has been confirmed as being suitable for hosting Access Node equipment, owned by the Operator, for the purpose of providing xDSL services on unbundled local loops.

The Co-Mingling Co-Location facility will be provided in a designated area within a *GIBTELECOM* MDF Site where co-location services have been requested. This space may be shared by a number of operators and is subject to space availability.

The Co-Mingling Co-Location facility will provide accommodation suitable for the installation, operation and maintenance of the Operator's Access Node equipment by the Operator's own personnel or suitably authorised contractor.

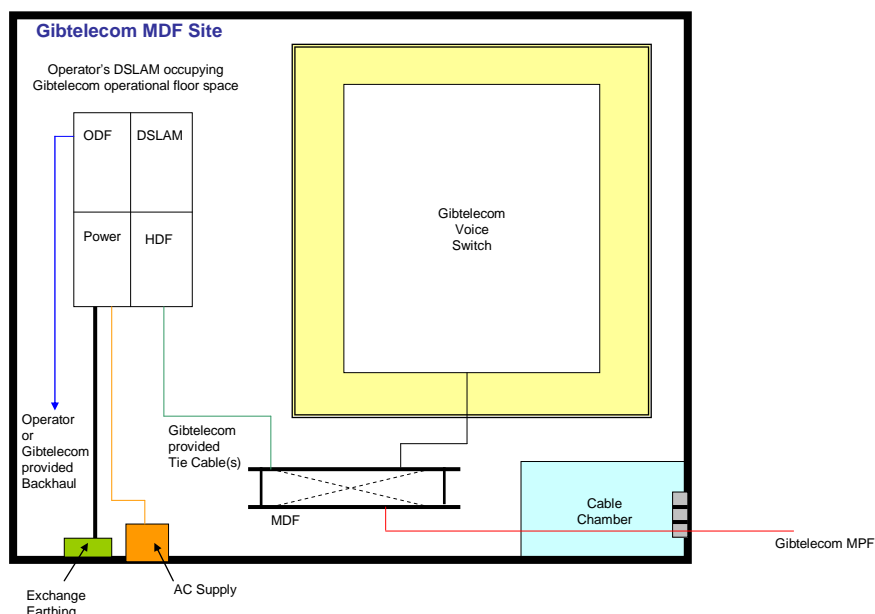
The Operator's equipment will connect to the Customer's MPF via the MDF of *GIBTELECOM* and Internal Tie Cable(s).

The Operator will connect its equipment to the *GIBTELECOM* MDF using tie cables as described in Annex C4 of this Agreement.

4. Standards

All equipment and plant deployed as part of the implementation of this service shall comply with the relevant national and international standards, as appropriate.

5. Co-Mingling Co-Location Environment



The above diagram illustrates the configuration of the network that is required to facilitate access to the MPF in the *GIBTELECOM* Network terminated on an MDF from a Co-Mingling Co-Location facility constructed in a *GIBTELECOM* building.

5.1 Physical Elements required to provide Co-Mingling Co-Location Services

A number of discrete elements are combined to deliver a complete Co-Mingling Co-Location Service. These elements may be provided either by *GIBTELECOM* or the Operator as appropriate.

5.1.1 Operator Footprint

The methods described in this Technical Manual shall include provision for any necessary inter-working between Operator footprints either in the same aisle or between aisles.

Any inter-working between Operator footprints shall use dedicated cable management techniques and infrastructure at all times.

5.1.2 Service Implementation Activities

After a Co-Mingling Co-Location offer has been agreed between *GIBTELECOM* and the Operator then the implementation of the Service can commence. The implementation of the Service consists of two primary activities, namely:

- Site preparation by *GIBTELECOM*, and
- Operator activity within the *GIBTELECOM* MDF Site.

6. Co-Mingling Co-Location Environment

In addition to the elements identified *GIBTELECOM* will carry out a number of preparatory activities on the site following agreement to proceed. The following non-exclusive and non-restrictive list shows these general activities.

6.1 Handover Distribution Frame

GIBTELECOM will install the HDF in a rack located within the Operator's designated Co-Mingling Co-Location facility. Internal Tie Cables will be ordered from GIBTELECOM using the appropriate order process. The Internal Tie Cables will be installed, terminated and tested by GIBTELECOM.

6.2 Equipment Work

- Installation of the Operator block(s) on the MDF;
- Installation of Operator earth cable to GIBTELECOM Central Earth Point and associated Operator cable trays;
- Installation of GIBTELECOM cable tray to support Operator's AC cables from Operator Footprint to exchange AC distribution system;
- GIBTELECOM cable trays to support cable runs for Operator's Tie Cables and fibre where required;
- Extension of GIBTELECOM MDF (if feasibly possible) to support additional Operator Block(s) where required;
- Clearance of space if required (e.g. removal of redundant equipment);
- Construction work as required;
- Installation of raised flooring where required;
- Upgrading of utility electrical supply to support increase in load directly attributable to Operator's Equipment (if required);
- Upgrading of GIBTELECOM's electrical main board to support increase load directly attributable to Operator's equipment (if required);
- Provision of additional GIBTELECOM lighting as required;
- Provision of additional fire detection specifically for Operator's equipment as required;
- Provision of GIBTELECOM air-conditioning/ventilation to cater for any additional cooling load directly attributable to Operator's equipment;
- Confirmation of a "route" from a designated unpacking area to the Operator designated Footprint.

This work will be undertaken as part of the overall provision of a serviced Footprint to the Operator.

6.3 Provision of Cable Management (Cable Trays)

Cable management systems (cable trays) will be provided (if not already available) by GIBTELECOM to facilitate the running of cables by the Operator from the Footprint to the MDF, the AC power distribution cabinet and the earth system.

6.4 Provision of DC Power Distribution

The provision of an AC power supply to each Operator requesting Co-Mingling Co-Location will be carried out as follows by GIBTELECOM:

The Operator will be provided with access to a 32 amp fused AC electric supply. This AC power supply is provided with a meter in order to record electricity usage.

- GIBTELECOM will arrange installation and commissioning of each distribution point subject to all information requested on the order form being supplied;

- *GIBTELECOM* will be responsible for monitoring and maintenance of the AC power supply to, but not including, the distribution point;

The Operator will be responsible for the provision, installation and maintenance of all power and earth cabling and ancillary equipment, excluding installation of cable trays, from the supply point to their equipment.

An isolation switch will be provided which will enable the distribution to be electrically isolated in the event of an emergency or accident.

For the avoidance of doubt the distribution point refers to a "best fit" MCCB or fuse position as appropriate to the site at *GIBTELECOM*'s discretion.

In the case of a higher AC power consumption being required at a future date by the Operator (e.g. due to customer growth) the Operator will request additional AC power from *GIBTELECOM*. *GIBTELECOM* will revert with a price and timescale for the provision of this additional power requirement if technically feasible.

6.5 Provision of Exchange Earth

GIBTELECOM will carry out all tasks in respect of the provision of a point of connection for Operator to the exchange earth. A full site survey will identify the earth connection and survey the earth cable run to the Operator's Footprint. *GIBTELECOM* will provide an earth bar with suitable connection points in the general area of the Operator's Footprint and shall bond this earth bar to the exchange earth using a properly dimensioned unbroken earth cable. This work may include any earth cable and cable tray work required to provide this earth to the Operator's Footprint.

6.6 Allocation of MDF blocks and Jumpering

Operator MDF block termination positions will be identified on the MDF. The MDF blocks will be supplied and installed by *GIBTELECOM*.

Blocks are available in 100 pairs (for cable/line/UG side) or 100 pair for exchange side. Contacts are insulation displacement contact (IDC) wires to be used are solid with 0.32mm to 0.63mm diameters. The Operator MDF blocks must support protector modules.

As well as installing the Operator block(s) on the MDF, *GIBTELECOM* will also be responsible for all jumpering on the MDF.

7. Operator Activities in the GIBTELECOM Co-Mingling Co-Location Facility

7.1 Basic Principles

As a general principle, the person or entity representing the Operator in the implementation of the Service should be notified to *GIBTELECOM* within a reasonable period prior to their arrival on site to carry out the activities that are listed below.

Excluding the necessary order processing activities associated with the Service a number of activities need to be undertaken by the Operator and *GIBTELECOM* in order to physically deploy the components necessary to implement the Service.

These activities are shown sequentially in the flowchart below and show the activities carried out from when the Operator first arrives at the *GIBTELECOM* Co-Mingling Co-Location facility.

7.2 Inspection by Operator

In association with the *GIBTELECOM* representative the initial inspection of the site will be used by the Operator to complete the following tasks:

1. General inspection and familiarisation with the site layout and features, as advised by *GIBTELECOM*;
2. Identification of delivery and unpacking locations;
3. Confirmation of cable runs and any special features (for example, any bending radius constraints for optical fibre cable);
4. A full briefing by *GIBTELECOM* on all site-specific features.

The inspection may take place on the occasion of the handover of the Footprint to the Operator.

7.3 Arrange Planned Access

At the initial inspection by the Operator, and having identified the effort needed to complete this work, the Operator should book the required *GIBTELECOM* resources as per the designated process in order to ensure their availability on the selected dates, for example:

- Reserve an escort;
- Reserve an unpacking area;
- Reserve an access route from the unpacking area to the Operator Footprint;
- Agree how rubbish will be removed from the site.

7.4 Delivery

The Operator must be present to take delivery of his equipment. Delivery of the Operator equipment and plant will be done on the agreed date to the designated delivery area in the *GIBTELECOM* exchange facility. Because some time might have elapsed between the initial briefing and the delivery of the Operator equipment *GIBTELECOM* will repeat the briefing on site specific features.

No equipment should be delivered to the site unless the installation team are available to unpack and move the equipment to the designated Operator Footprint area.

7.5 Unpacking by the Operator and Safety Requirements

The Operator shall deploy the necessary safety signs and signals prior to commencing its work. This activity is additional to any obligation on the Operator to comply with any statutory health and safety legislation.

On the day of delivery the Operator will unpack its equipment in the designated unpacking area prior to moving the equipment to the designated Operator Footprint area. **Storage of Operator equipment at the *GIBTELECOM* site is not permitted.**

Unpacking activities must not be carried out in any area other than the designated unpacking area.

All rubbish must be removed on the same day. Rubbish will not be allowed to accumulate.

7.6 Verification of Items by GIBTELECOM

Immediately following the unpacking of the equipment by the Operator and prior to it being moved to the designated Operator Footprint *GIBTELECOM* will have the opportunity to verify that the items delivered are in conformity with the Agreement.

Should *GIBTELECOM* not be available then such verification will not take place and the equipment should be moved to the Operator Footprint.

7.7 Delivery of Equipment to Operator Footprint

Following the unpacking and verification the Operator should then move its equipment and/or plant from the designated unpacking area to the designated Operator Footprint. The designated and reserved access route must be used in all cases. The wheeling in of racks with pre-installed equipment is permitted and should be flagged to *GIBTELECOM*.

7.8 Installation of Hardware by Operator

Once the equipment has been delivered to the designated Operator Footprint then the installation of the equipment can commence.

All installation work shall be carried out using agreed methods and to agreed standards (as described in this Manual) and using tools that are fit for purpose. All work, equipment and other items required to complete the job shall be provided by the Operator from its own resources.

The Operator shall take all necessary precautions to prevent dust and any other physical or electrical interference to adjacent equipment and systems.

Electrically operated tools and test equipment will be powered from the designated mains power outlets which *GIBTELECOM* will provide adjacent to the Operator Footprint.

During the installation period, and at all other times when there is on-site Operator activity, the Operator shall deploy appropriate signage, containing its official logo, in all locations of activity to indicate its presence.

The Operator shall fix its rack(s) to the floor using a method appropriate to whether it is being fixed to a concrete or a false floor. Overhead fixing to the cable management system (cable trays) shall use proper bolting mechanisms of suitable dimensions with all bolts and fixings de-burred.

All rubbish must be removed on the same day. Rubbish will not be allowed to accumulate.

7.9 Connection to Services by Operator

Having installed its equipment, the Operator may then connect this equipment to the necessary services provided by *GIBTELECOM*, as follows:

1. to the exchange earthing system,
2. to the Operator ODF,
3. to the Operator MDF block using Tie Cables run in designated cable runways,
4. to AC power distribution.

7.10 Specification of Tie-Cables

Technical specifications for Tie Cables are included in Annex D5 to this Agreement.

7.11 Connection to AC Distribution Point

The Operator will be responsible for the provision of all power cabling from its distribution point to his equipment. The Operator shall connect his equipment to the AC distribution point using power cabling which conforms to BS6007 and to the relevant national rules for electrical installations, and ETSI standards for telecommunications installations. Cable dimensioning will be determined by the Operator and communicated to *GIBTELECOM* on the order form. *GIBTELECOM* will not permit any cable to be installed which poses a risk to its building or occupants.

All power work must be carried out by competent personnel representing the Operator.

7.12 Connection to the Exchange Earthing System

The Operator will be responsible for the earthing of its equipment. The Operator must connect its equipment and racks to the earth connection point provided by *GIBTELECOM* in the general area of the Operator Footprint. It must be recognised that this is not the mains earth.

The earthing cable from the Operator Footprint to the exchange earth shall be at least of the same current carrying capacity as the earthing cable from the Operator AC distribution point to the exchange earth, typically 70mm². This cable should be insulated throughout its length and should be terminated on the exchange earth bar at a position indicated by *GIBTELECOM*. This position should be suitably labelled by *GIBTELECOM* to indicate the Operator using it. All connections should be made to ensure a good electrical bond between the terminating cable and the brass material of the exchange earth with the appropriate cable terminating lug.

The earthing cable from the Operator Footprint should follow the designated cable run from the Operator Footprint to the Central Earthing Point. The cable should be run as straight as possible, keeping the bending radius not less than 2.5 times the cross sectional area of the cable.

The utilisation of the earth connection point by the Operator should be entered by *GIBTELECOM* on a display notice adjacent to the facility. Additionally, a second notice should also be displayed by *GIBTELECOM* warning against unapproved disconnection of any cable from this earth connection point.

All earthing work must be carried out by competent personnel representing the Operator.

7.13 Testing of Services by Operator

The Operator may then verify that all services are functioning correctly using appropriate non-invasive methods.

7.14 Localise and Resolve Fault(s)

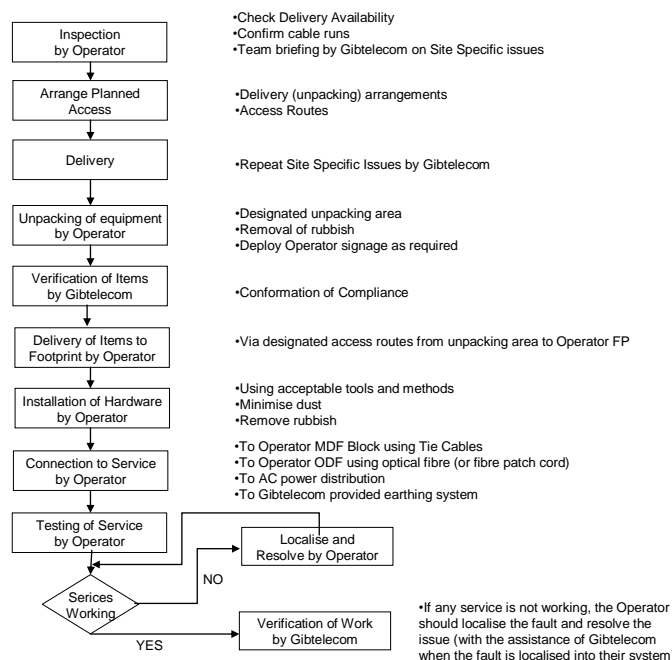
If any service is not working, then the Operator should localise the fault and resolve the issue. In the event that the fault is localised into the *GIBTELECOM* systems then *GIBTELECOM* will resolve the issue in accordance with the provisions of this Agreement.

7.15 Verification of Work by GIBTELECOM

On the conclusion of the work by the Operator GIBTELECOM will verify that the installed equipment is compliant with the project plan. Failure to comply with the project plan should be referred to the Operator's project manager in the first place for resolution, or, depending on the issue, the person nominated at the first project management meeting or identified from time to time by the Operator.

This examination will also ensure that the correct fixing techniques and practices have been used throughout the installation.

GIBTELECOM will also verify that the site has been left in a clean and safe manner.



8. Access and Security

Access by Operator's personnel through the GIBTELECOM building will be by an escorted access.

Staff escorting Operator personnel will be GIBTELECOM direct labour staff. Charges for escorted access are detailed in the Price List Annex, Annex J to this Agreement.

GIBTELECOM will reserve the right to enter the Co-Mingling Co-Location facility at any time to comply with emergency, maintenance and operational requirements for the building and the equipment in the facility installed and owned by GIBTELECOM.

GIBTELECOM

Reference Unbundling Offer

Annex E1

Line Sharing Access Service

Operations & Maintenance Manual

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1. Scope

This Annex covers the process for Line Sharing Access Service. These include:

- Order Processes
- Repair Processes

2. Line Sharing Access Service – Order Process

This service order process describes the procedures to be followed when an Operator requests a Line Sharing Access Service.

The process steps and procedures described below are subject to change from time to time as a result of amendments made to the internal operating processes of GIBTELECOM.

All communications relating to the Line Sharing Access Service order process shall be via email to the email address: llorders@gibtele.com.

2.1 Order Verification

Step 1	Operator initiates order by submitting a completed and signed Application Form to GIBTELECOM by email to the email address above. The Operator shall number the application to provide a unique reference number for the service order.
Step 2	GIBTELECOM verifies: <ul style="list-style-type: none">• That the application form has been completed.• The Operator has sufficient Tie Cable/HDF capacity necessary to provide the requested service.• That there is sufficient GIBTELECOM MDF space available.
Step 3	If the order is to be rejected the process follows the "Process Aborted" process (step 16) An order processing rejection charge can be charged as necessary in accordance with the Price List Annex (Annex J)
Step 4	If the order is accepted the order processing begins.
Step 5	When the order is accepted GIBTELECOM sends the Operator an order acknowledgement notification by email.
Step 6	GIBTELECOM establishes whether the MPF is currently being used to provide GIBTELECOM xDSL services.
Step 7	If GIBTELECOM establishes that the MPF is currently being used to provide GIBTELECOM xDSL services then the process follows the

	"Process Aborted" process (step 16) and the Operator is requested to notify the Customer of the order rejection. If the Customer wishes to continue with the order then the customer is required to contact GIBTELECOM to cease their existing xDSL service.
Step 8	GIBTELECOM technician completes jumpering activities on MDF and HDF as required.
Step 9	Operator is notified that jumpering is complete and that the MPF is ready for acceptance testing within agreed time limits (2 working days).
Step 10	If acceptance is received from the Operator within the agreed time-limit, the process continues with the Post-Provisioning Process (Step 18). If no feedback from the Operator is received within the agreed time limit then the MPF is deemed to be accepted.
Step 11	If the Operator rejects the MPF outright, then the process continues from the "Process Aborted" process (Step 16).
Step 12	If a rejection of the MPF is received from the Operator within the agreed time limit due to the line being faulty the Operator requests GIBTELECOM to repair the MPF.
Step 13	The Operator is informed that the fault repair is complete and advises that the MPF is ready for acceptance testing within the agreed time limits.
Step 14	If acceptance is received from the Operator within the agreed time-limit, the process continues with the Post-Provisioning Process (Step 18). If no feedback from the Operator is received within the agreed time limit then the MPF is deemed to be accepted.
Step 15	If the Operator rejects the MPF outright, then the process continues from the "Process Aborted" process (Step 16).

2.2 Process Aborted Process

Step 16	GIBTELECOM reviews the process to collect information about the costs incurred up to the stage when the order was aborted.
Step 17	GIBTELECOM informs the Operator that the request has been rejected, giving reasons and billing the Operator for the costs incurred.

2.3 Post-Provisioning Processes

Step 18	The completed Order is updated on GIBTELECOM's records and the actual routing is updated.
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Step 19	<i>GIBTELECOM</i> verifies whether any additional billable costs were incurred during the process and issues a bill for any such additional billable costs.
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Step 20	Rental billing for the Line Sharing Access Service commences.
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2.4 Cessation of a Line Sharing Access Service

Step 21	The Operator initiates the order by submitting a completed order form to <i>GIBTELECOM</i> .
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Step 22	<i>GIBTELECOM</i> verifies that: <ol style="list-style-type: none">1. the order form is complete2. any charges have been paid
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Step 23	If any of the pre-requisites are not satisfied then the process continues at the "Process Aborted" stage (Step 16).
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Step 24	If all the pre-requisites are satisfied then the Operator's order is accepted and the process begins.
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Step 25	A <i>GIBTELECOM</i> technician removes the jumpers on the Operator HDF (to the MDF cable side and to the LIC) and connects the LIC to the Cable side of the MDF.
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Step 26	The <i>GIBTELECOM</i> technician updates the records and informs the routing office of the actual routing to update records.
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Step 27	The Shared Access Service is disconnected and billing ceases on the date that Step 26 is completed.
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Step 28	Final rental bill shall be issued up to this completion date.
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3. Line Sharing Access Service – Repair Process

This repair process describes the procedures to be followed when an Operator requests either maintenance or repair of a MPF.

All communications related to the process shall be via email at the following email address LLUrepairs@gibtele.com.

The Operator is responsible for investigating any Customer reports relating to the high bandwidth portion of the MPF and will report a fault to GIBTELECOM only where the Operator has reasonable grounds to believe that the fault lies within the GIBTELECOM network.

All requests of assistance will be submitted to GIBTELECOM by the Operator. GIBTELECOM will not accept any fault reports from a Customer.

If during testing for any type of repair or maintenance, GIBTELECOM deems it necessary to carry out intrusive tests to localise the fault, GIBTELECOM shall do this without informing the Operator or the Customer.

GIBTELECOM shall use reasonable endeavours to detect and rectify the fault conditions on the MPF. The Operator shall co-operate with GIBTELECOM's reasonable requests in an effort to locate and if possible resolve any fault that may be present on the MPF. This may include making arrangements for a GIBTELECOM Technician to visit the Customer premises.

3.1 Request by Operator for MPF Repair Process

Step 1	Operator submits a MPF Fault Report to GIBTELECOM via email. The Operator shall supply any additional information that may assist GIBTELECOM in classifying the nature of the fault and identifying the cause. If a third party has already logged a fault report for the analogue voice service on the same MPF then the Operators report will be discarded and the Operator informed accordingly.
Step 2	GIBTELECOM carries out the line test in order to establish whether the MPF is within the Technical Specification as per Annex H.
Step 3	If the test result is within the MPF Technical Specification, a copy of the test result is forwarded to the Operator. The process continues at Step 6.
Step 4	The fault is rectified by GIBTELECOM and a copy of the final test result is forwarded to the Operator.
Step 5	If the Operator accepts the test results the process ends.
Step 6	If the Operator accepts the test results the Operator is billed for "Testing when no fault found (no field technician intervention)" as per the Charges Annex and the process ends.

Step 7	<p><i>GIBTELECOM</i> carries out additional tests with the intervention of a technician. This may require the co-operation of the Customer to provide access to the Customer's premises. If the additional test indicate that the MPF does not meet the electrical characteristics specified in the MPF Technical Specifications then the process continues at Step 5.</p>
Step 8	<p><i>GIBTELECOM</i> sends a copy of the test results to the Operator and the Operator is billed for "Testing when No Fault Found (with technician intervention)" as per the Charges Annex and the process ends. If the Operator is not fully satisfied the Operator may opt for other actions including a pair swap.</p>

GIBTELECOM
Reference Unbundling Offer

Annex E2
Co-Location

Operations & Maintenance Manual

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1. Process Definition

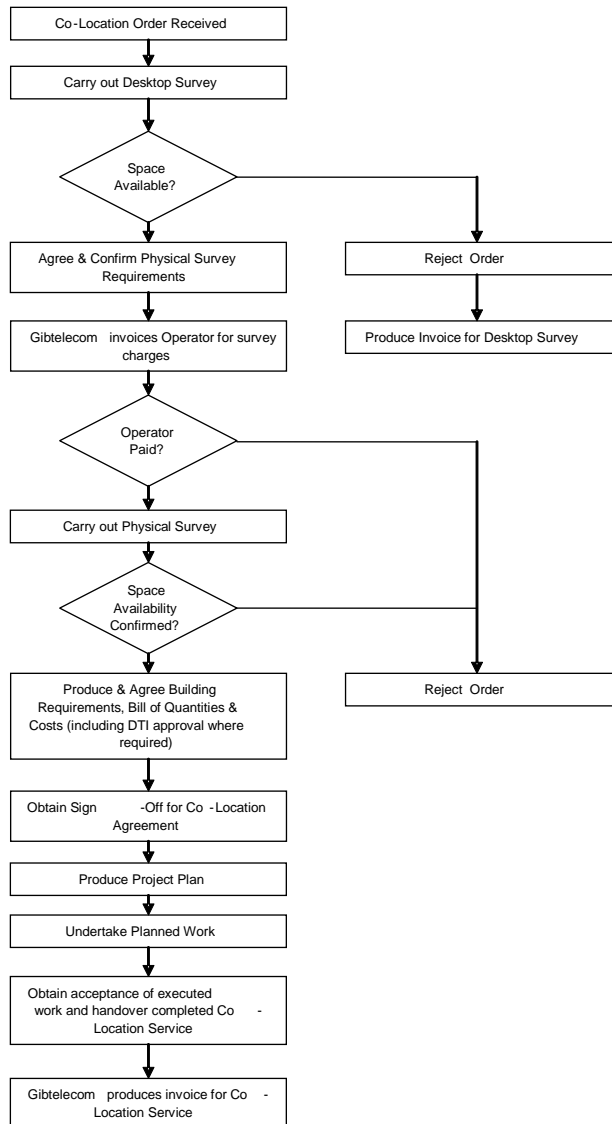
1.1 Process Description

This process document describes the *GIBTELECOM* Co-Location Service order process required to support Co-Location operations.

This process is at a high level and is generic in order to support a number of *GIBTELECOM*'s Co-Location Services. These Services are:

- Physical Co-Location Service
- Co-Mingling Co-Location Service
- Distant Co-Location Service

1.2 Order Process - Process Flowchart



1.3 Order Process - Process Description

Co-Location Order Received

An order is received from an Operator for a GIBTELECOM Co-Location Service providing space at an MDF Site. The Co-Location service can be:

- Physical Co-Location
- Co-Mingling Co-Location
- Distant Co-Location

The order is registered by GIBTELECOM and the Operator is sent the appropriate LLU request forms.

Carry Out Desktop Survey

Within 30 Working Days of receipt of the correctly completed request forms with the applicable fees, GIBTELECOM will carry out a desktop survey based upon the Operator requirements detailed in the forms and inform the Operator of the results of the desktop survey.

The desktop survey will be carried out using plans, records and strategic proposal from all relevant GIBTELECOM departments and subsidiaries.

Where necessary a site visit may be required to verify details. This initial survey will establish whether space of a suitable dimension exists in the specified GIBTELECOM MDF Site.

The fee for the desktop survey is payable by the Operator regardless of the results.

NOTE: The desktop survey returning a positive result does not guarantee that Co-Location space will ultimately be available at the specified MDF Site.

Space Available

If the desktop survey indicates that no suitable space is available the order will be rejected and the Operator informed.

Agree & Confirm Physical Survey Requirements

If the desktop survey indicates that suitable space is potentially available the Operator will be contacted to agree to a physical survey being carried out. The Operator will be required to pay the standard applicable fees for the time and materials used in the execution of the detailed physical survey in advance and regardless of the survey results.

Carry out Physical Survey

Within 90 Working Days GIBTELECOM will carry out a detailed physical survey based on the Operator requirements detailed in the request forms and inform the Operator of the results. If necessary the survey will be carried out by civil engineering consultants and/or building architects contracted by GIBTELECOM for the purpose of meeting its Co-Location obligations.

Space Availability Confirmed

If the physical survey confirms that suitable space is not available the order will be rejected and the Operator informed.

GIBTELECOM will produce a bill for any bespoke costs incurred during the detailed physical survey that are not included in the standard fees paid by the Operator at the time the survey is agreed to.

Co-Location Agreement

If space is available then the Operator must enter into a formal Co-Location Agreement with *GIBTELECOM*.

Produce Requirement Specification and Costs

Upon receipt of a signed Co-Location Agreement the result of the physical survey will be used by *GIBTELECOM* to produce a bill of quantities with associated costs and forecasted timescales which will be passed to the Operator within 90 working days for agreement.

Project Plan

Within 30 Working Days of the bill of quantities and timescales being agreed *GIBTELECOM* will produce a detailed project plan for the specified work.

Undertake Planned Work

GIBTELECOM will execute the specified work to the timescales detailed in the project plan. The Operator will be kept informed of progress and any proposed deviation from the specified work, estimated costs or timescales will be agreed with the Operator.

Operator Acceptance

GIBTELECOM will obtain formal acceptance of the executed works by the Operator and handover the completed Co-Location Service.

Invoice for Co-Location Services

Within 60 Working Days *GIBTELECOM* will produce a bill for the provision of the Co-Location Service.

GIBTELECOM

Reference Unbundling Offer

Annex E3

Metallic Path Full Unbundling Service

Operations & Maintenance Manual

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1. Scope

This Annex covers the process for Metallic Path Full Unbundling Service. These include:

- Order Processes
- Repair Processes

2. Metallic Path Full Unbundling Service – Order Process

This service order process describes the procedures to be followed when an Operator requests a Full Unbundling Service. The procedures cover the two categories of Full Unbundling Service provision:

1) MPF Line Transfer

Refers to a request by an Operator to transfer an existing metallic pair in *GIBTELECOM*'s copper access network which is currently in use to provide switched analogue voice services to a *GIBTELECOM* customer to an MPF providing Full Unbundling Service;

2) New MPF

Refers to a request by an Operator for a new MPF providing Full Unbundling Service that does not replace an existing metallic pair in service delivering *GIBTELECOM* analogue voice service but involves the installation of a new MPF.

The process steps and procedures described below are subject to change from time to time as a result of amendments made to the internal operating processes of *GIBTELECOM*.

All communications relating to the Full Unbundling Service order process shall be via email to the email address: lluorders@gibtele.com.

2.1 Process for initial application and preliminary vetting (This process applies to MPF Line Transfer service request and to New MPF service requests)

Step 1	Operator initiates order by submitting a completed and signed Application Form to <i>GIBTELECOM</i> by email to the email address above. The Operator shall number the application to provide a unique reference number for the service order.
Step 2	<i>GIBTELECOM</i> verifies: <ul style="list-style-type: none">• That the application form has been completed.• Any set-up charges have been paid;• The Operator has a valid Co-location Agreement for the MDF Site specified in the Application Form• The Operator has sufficient Tie Cable/HDF capacity necessary to provision the requested service.• That there is sufficient <i>GIBTELECOM</i> MDF space available.

Step 3	<p>If the order is to be rejected the process follows the "Process Aborted" process (step 48)</p> <p>An order processing rejection charge can be charged as necessary in accordance with the Price List Annex (Annex J)</p>
Step 4	<p>If the order is accepted the order processing begins.</p>
Step 5	<p>When the order is accepted <i>GIBTELECOM</i> sends the Operator an order acceptance notification by email.</p>
Step 6	<p><i>GIBTELECOM</i> verifies the order data. Once <i>GIBTELECOM</i> has verified the data contained in the Operator's order and <i>GIBTELECOM</i> is satisfied with its consistency then <i>GIBTELECOM</i> sends the Operator an email acknowledging the Operator's order.</p>

Requests for MPF Line Transfers shall be processed as described in Section 2.2 of this Annex.

Requests for New MPF shall be processed as described in Section 2.3 of this Annex.

2.2 Process for a request for an MPF Line Transfer

Step 7	<p>Once the data in the request has been verified the request is forwarded to <i>GIBTELECOM</i>'s Customer Services department to establish whether the relevant MPF is unequipped.</p>
Step 8	<p>If the <i>GIBTELECOM</i> Customer Services department establishes that the MPF is unequipped then the process continues at Step 11.</p>
Step 9	<p>If the <i>GIBTELECOM</i> Customer Services department establishes that the MPF is equipped then an alternative route is determined to make the MPF unequipped.</p>
Step 10	<p>A Service Order to unequip the MPF is issued and the work carried out by a <i>GIBTELECOM</i> technician.</p>
Step 11	<p><i>GIBTELECOM</i>'s Customer Services department sends a Service Order to the External Plant team to remove the provision of <i>GIBTELECOM</i> analogue voice services by disconnecting the Line Card circuit on the Exchange side of the MDF.</p>
Step 12	<p>External Plan connects a jumper between the MPF termination on the cable side of the MDF and the allocated equipment side Tie Cable termination to the HDF of the Operator and confirms that the work has been completed as requested.</p>

Step 13	<i>GIBTELECOM</i> sends the Operator an email reporting that the jumpering is complete and the MPF is ready for acceptance testing within agreed time limit.
Step 14	If acceptance of the MPF is received from the Operator within the agreed time limit then the process continues with the removal of the <i>GIBTELECOM</i> analogue voice service
Step 15	If no feedback is received from the Operator within the agreed time limit or the Operator rejects the MPF outright then the process continues from "Process Aborted" (Step 48)
Step 16	If rejection of the MPF is received from the Operator within the agreed time limit the Service Order is referred back to the <i>GIBTELECOM</i> Customer Services department to either rectify the issue or if possible to provide an alternative MPF.
Step 17	Following either the rectification of any issues or the provision of an alternative MPF <i>GIBTELECOM</i> sends the Operator an email reporting that the jumpering is complete and the MPF is ready for acceptance testing within agreed time limit.
Step 18	If acceptance of the MPF is received from the Operator within the agreed time limit then the process continues with the removal of the <i>GIBTELECOM</i> analogue voice service. Process continues from Step 39.
Step 19	If no feedback is received from the Operator within the agreed time limit or the Operator rejects the MPF outright then the process continues from "Process Aborted" (Step 48)

2.3 Process for a request for a new MPF

Step 20	Having completed Step 6 the Operator's order is forwarded to the <i>GIBTELECOM</i> Customer Services department to issue a estimate to the Operator of providing a new MPF
Step 21	If the <i>GIBTELECOM</i> Customer Services department determines the request to be unfeasible unless a relief project is performed then the process continues from Step 23.
Step 22	The <i>GIBTELECOM</i> Customer Service department allocates a spare connection on the cable side of the MDF, routing on the cabinet, DP and pair number. When a complete route is available the <i>GIBTELECOM</i> Customer Service department emails the Operator stating that the request is "Feasible" and issues an estimate of the charge for provision of the MPF. (Sub Process Terminates)
Step 23	If a relief project is required. Initial planning of the relief project is

	started and an estimate is produced for the Operator. The <i>GIBTELECOM</i> Customer Service department updates the request status as unfeasible and informs the Operator via email that the order may only proceed subject to the estimate charge being agreed by the Operator.
Step 24	If the Operator does not accept (or rejects) the charge within the agreed time limit, the process continues at the "Process Aborted" stage (Step 48)
Step 25	If the fee due is within the Operator's accepted limit the relief project is planned and is referred for execution and the process continues at Step 27.
Step 26	If the fee due is outside the Operator's accepted limit then the request goes to the "Process Aborted" stage (Step 48).
Step 27	When the relief project is completed the <i>GIBTELECOM</i> technician connects a jumper between the MPF termination on the cable side of the MDF and the allocated equipment side Tie Cable termination to the HDF of the Operator and forwards the Service Order to the External Plant Team. Order is flagged as completed and the process continues from Step 28.
Step 28	The External Plant technician installs a lead-in cable and NTP at the Customer's premises.
Step 29	If the MPF does not satisfy the MPF Specification then <i>GIBTELECOM</i> will rectify any faults before handing the MPF over to the Operator. Once any fault is rectified the process continues from Step 30.
Step 30	<i>GIBTELECOM</i> Customer Services department updates the Operator via email that the MPF is ready for acceptance testing within established time limits.
Step 31	If acceptance of the MPF is received from the Operator within the agreed time limit then the process continues with the Post-Provisioning Process (Step 51)
Step 32	If no feedback from the Operator is received within the agreed time limit then the process goes to "Process Aborted" (Step 48).
Step 33	If an outright rejection of the MPF is received from the Operator within the agreed time limit the process goes to " Process Aborted" (Step 48)
Step 34	If a rejection (on the basis of poor broadband capability) of the MPF is received from the Operator within the agreed time limit the Service Order is referred back to the <i>GIBTELECOM</i> Customer Services

	department to either rectify the issue or if possible to provide an alternative MPF.
Step 35	Following either the rectification of any issues or the provision of an alternative MPF <i>GIBTELECOM</i> sends the Operator an email reporting that the jumpering is complete and the MPF is ready for acceptance testing within agreed time limit.
Step 36	If acceptance of the MPF is received from the Operator within the agreed time limit then the process continues with the Post-Provisioning Process (Step 51)
Step 37	If no feedback from the Operator is received within the agreed time limit then the process goes to "Process Aborted" (Step 48).
Step 38	If an rejection of the MPF is received from the Operator within the agreed time limit the process goes to " Process Aborted" (Step 48)

2.4 Process for the removal of *GIBTELECOM* analogue voice service

Step 39	Having received the Operator's acceptance of the MPF the <i>GIBTELECOM's</i> Customer Service Department requests the technician to reconnect the Customer's analogue voice service and to disconnect the MPF from the Operator's HDF.
Step 40	The technician reconnects the Customer's analogue telephone service and disconnects the MPF from the Operator's HDF. The technician records this on the Service Order which instructs the Operator to advise the Customer to formally request removal of his <i>GIBTELECOM</i> analogue voice service to enable the provisioning of the Fully Unbundled Service to be finalised.
Step 41	Once the Customer makes the formal request to <i>GIBTELECOM</i> for the removal of the analogue voice service this is processed in the normal manner in which <i>GIBTELECOM</i> deals with disconnection requests by its customers. The removal of the analogue voice service becomes effective once the Customer settles any and all outstanding bills that the Customer may have with <i>GIBTELECOM</i> .
Step 42	The process continues at the "Post-Provisioning Process stage (Step 51).

2.5 Process line reversion

Step 43	A Customer requests to be reverted to the <i>GIBTELECOM</i> analogue voice service and to disconnect the Operator's services delivered over the fully unbundled loop.
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Step 44	The <i>GIBTELECOM</i> RUO Department obtains a confirmation from the Operator that the Operator accepts the Customer's request for the disconnection of the fully unbundled loop.
Step 45	The <i>GIBTELECOM</i> RUO Department initiates a Service Order for the disconnection of the fully unbundled loop and request the <i>GIBTELECOM</i> sales department to contact the Customer and explain to him the procedure the Customer needs to follow in order to revert to <i>GIBTELECOM</i> 's analogue voice service.
Step 46	Once the analogue voice service is restored <i>GIBTELECOM</i> informs the Operator that the service reversion has been completed.
Step 47	<i>GIBTELECOM</i> RUO department team issues a final rental bill to the Operator for the fully unbundled loop service taking the date of confirmation by the Operator of the reversion as the last date of which the Operator will be billed. Disconnection charges if any will be included with the final bill.

2.6 Process aborted sub-process

Step 48	The <i>GIBTELECOM</i> RUO department reviews the process to collect information about the costs incurred up to the stage when the order was aborted
Step 49	If the request involves a MPF Line Transfer and the MPF is still connected to the Operator's HDF then the <i>GIBTELECOM</i> RUO department instructs the <i>GIBTELECOM</i> 's Customer Services department to reconnect the Customer's analogue voice service.
Step 50	The <i>GIBTELECOM</i> RUO department informs the Operator that the request has been rejected giving the reasons and billing the Operator for any costs incurred.

2.7 Post-Provisioning Processes

Step 51	The completed Service Order is passed to <i>GIBTELECOM</i> 's Customer Services department.
Step 52	The <i>GIBTELECOM</i> 's Customer Services department updates records of the actual routing in order to accurately update the line plant records.
Step 53	The <i>GIBTELECOM</i> RUO department verifies whether any additional billable costs were incurred during the process (but not captured on any systems) and issues a manual bill for any such additional billable costs.
Step 54	Rental billing for the Full Unbundling Service commences.

2.8 Cessation of a Full Unbundling Service

Step 55	The Operator initiates the order by submitting a completed order form to <i>GIBTELECOM</i> .
Step 56	<i>GIBTELECOM</i> verifies that: 1. the order form is complete 2. any charges have been paid
Step 57	If any of the pre-requisites are not satisfied then the process continues at the "Process Aborted" stage (Step 48).
Step 58	If all the pre-requisites are satisfied then the Operator's order is accepted and the process begins.
Step 59	<i>GIBTELECOM</i> 's RUO Department refers the request to the Customer Services department for data verification.
Step 60	A <i>GIBTELECOM</i> technician removes the jumpers on the MDF cable side and to the Operator's HDF.
Step 61	The <i>GIBTELECOM</i> technician updates the records and informs the <i>GIBTELECOM</i> Customer Services department of the actual routing to update records.
Step 62	The Full Unbundled Service is disconnected and billing ceases on the date that Step 61 is completed.
Step 63	Final rental bill shall be issued up to this completion date.

3. Full Unbundling Service – Repair Process

This repair process describes the procedures to be followed when an Operator requests either maintenance or repair of a MPF.

All communications related to the process shall be via email at the following email address LLUrepairs@gibtele.com.

The Operator is responsible for investigating any Customer reports relating to the MPF and will report a fault to *GIBTELECOM* only where the Operator has reasonable grounds to believe that the fault lies within the *GIBTELECOM* network.

All requests of assistance will be submitted to *GIBTELECOM* by the Operator. *GIBTELECOM* will not accept any fault reports from a Customer.

If during testing for any type of repair or maintenance, *GIBTELECOM* deems it necessary to carry out intrusive tests to localise the fault, *GIBTELECOM* shall do this without informing the Operator or the Customer.

GIBTELECOM shall use reasonable endeavours to detect and rectify the fault conditions on the MPF. The Operator shall co-operate with *GIBTELECOM*'s

reasonable requests in an effort to locate and if possible resolve any fault that may be present on the MPF. This may include making arrangements for a GIBTELECOM Technician to visit the Customer premises.

3.1 Request by Operator for MPF Repair Process

Step 1	Operator submits a MPF Fault Report to GIBTELECOM via email. The Operator shall supply any additional information that may assist GIBTELECOM in classifying the nature of the fault and identifying the cause.
Step 2	GIBTELECOM carries out the line test in order to establish whether the MPF is within the Technical Specification as per Annex H.
Step 3	If the test result is within the MPF Technical Specification, a copy of the test result is forwarded to the Operator. The process continues at Step 6.
Step 4	The fault is rectified by GIBTELECOM and a copy of the final test result is forwarded to the Operator.
Step 5	If the Operator accepts the test results the process ends.
Step 6	If the Operator accepts the test results the Operator is billed for "Testing when no fault found (no field technician intervention)" as per the Charges Annex and the process ends.
Step 7	GIBTELECOM carries out additional tests with the intervention of a technician. This may require the co-operation of the Customer to provide access to the Customer's premises. If the additional test indicate that the MPF does not meet the electrical characteristics specified in the MPF Technical Specifications then the process continues at Step 5.
Step 8	GIBTELECOM sends a copy of the test results to the Operator and the Operator is billed for "Testing when No Fault Found (with technician intervention)" as per the Charges Annex and the process ends. If the Operator is not fully satisfied the Operator may opt for other actions including a pair swap.

GIBTELECOM
Reference Unbundling Offer

Annex E4
**Metallic Path Sub-loop Unbundling
Service**
Operations & Maintenance Manual

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1. Scope

This Annex covers the process for Metallic Path Sub-loop Unbundling Service. These include:

- Order Processes
- Repair Processes

2. Metallic Path Sub-loop Unbundling Service – Order Process

This service order process describes the procedures to be followed when an Operator requests a Sub-loop Unbundling Service. The procedure covers the two categories of Sub-loop Unbundling Service provision:

1) MPF Line Transfer

Refers to a request by an Operator to transfer an existing metallic pair in GIBTELECOM's copper access network which is currently in use to provide switched analogue voice services to a GIBTELECOM customer to an MPF providing Sub-loop Unbundling Service;

2) New MPF

Refers to a request by an Operator for a new MPF providing Sub-loop Unbundling Service that does not replace an existing metallic pair in service delivering GIBTELECOM analogue voice service but involves the installation of a new MPF.

The process steps and procedures described below are subject to change from time to time as a result of amendments made to the internal operating processes of GIBTELECOM.

All communications relating to the Sub-loop Unbundling Service order process shall be via email to the email address: lluorders@gibtele.com.

2.1 Process for initial application and preliminary vetting (This process applies to MPF Line Transfer service request and to New MPF service requests)

Step 1	Operator initiates order by submitting a completed and signed Application Form to GIBTELECOM by email to the email address above. The Operator shall number the application to provide a unique reference number for the service order.
Step 2	GIBTELECOM verifies: <ul style="list-style-type: none">• That the application form has been completed.• Any set-up charges have been paid;• The Operator has sufficient Tie Cable/HDF capacity necessary to provision the requested service..
Step 3	If the order is to be rejected the process follows the "Process Aborted" process (step 48) An order processing rejection charge can be charged as necessary in

	accordance with the Price List Annex (Annex J)
Step 4	If the order is accepted the order processing begins.
Step 5	When the order is accepted <i>GIBTELECOM</i> sends the Operator an order acceptance notification by email.
Step 6	<i>GIBTELECOM</i> verifies the order data. Once <i>GIBTELECOM</i> has verified the data contained in the Operator's order and <i>GIBTELECOM</i> is satisfied with its consistency then <i>GIBTELECOM</i> sends the Operator an email acknowledging the Operator's order.

Requests for MPF Line Transfers shall be processed as described in Section 2.2 of this Annex.

Requests for New MPF shall be processed as described in Section 2.3 of this Annex.

2.2 Process for a request for an MPF Line Transfer

Step 7	Once the data in the request has been verified the request is forwarded to <i>GIBTELECOM</i> 's Customer Services department to establish whether the relevant MPF is unequipped.
Step 8	If the <i>GIBTELECOM</i> Customer Services department establishes that the MPF is unequipped then the process continues at Step 11.
Step 9	If the <i>GIBTELECOM</i> Customer Services department establishes that the MPF is equipped then an alternative route is determined to make the MPF unequipped.
Step 10	A Service Order to unequip the MPF is issued and the work carried out by a <i>GIBTELECOM</i> technician.
Step 11	<i>GIBTELECOM</i> 's Customer Services department sends a Service Order to the External Plant team to remove the provision of <i>GIBTELECOM</i> analogue voice services by disconnecting the Line Card circuit on the Exchange side of the MDF.
Step 12	External Plant connects a jumper between the E-side of the PCP termination and the allocated Tie Cable termination to the Operator and confirms that the work has been completed as requested.
Step 13	<i>GIBTELECOM</i> sends the Operator an email reporting that the jumpering is complete and the MPF is ready for acceptance testing within agreed time limit.

Step 14	If acceptance of the MPF is received from the Operator within the agreed time limit then the process continues with the removal of the <i>GIBTELECOM</i> analogue voice service
Step 15	If no feedback is received from the Operator within the agreed time limit or the Operator rejects the MPF outright then the process continues from "Process Aborted" (Step 48)
Step 16	If rejection of the MPF is received from the Operator within the agreed time limit the Service Order is referred back to the <i>GIBTELECOM</i> Customer Services department to either rectify the issue or if possible to provide an alternative MPF.
Step 17	Following either the rectification of any issues or the provision of an alternative MPF <i>GIBTELECOM</i> sends the Operator an email reporting that the jumpering is complete and the MPF is ready for acceptance testing within agreed time limit.
Step 18	If acceptance of the MPF is received from the Operator within the agreed time limit then the process continues with the removal of the <i>GIBTELECOM</i> analogue voice service. Process continues from Step 39.
Step 19	If no feedback is received from the Operator within the agreed time limit or the Operator rejects the MPF outright then the process continues from "Process Aborted" (Step 48)

2.3 Process for a request for a new MPF

Step 20	Having completed Step 6 the Operator's order is forwarded to the <i>GIBTELECOM</i> Customer Services department to issue a estimate to the Operator of providing a new MPF
Step 21	If the <i>GIBTELECOM</i> Customer Services department determines the request to be unfeasible unless a relief project is performed then the process continues from Step 23.
Step 22	The <i>GIBTELECOM</i> Customer Service department allocates a spare connection on the cabinet, DP and pair number. When a complete route is available the <i>GIBTELECOM</i> Customer Service department emails the Operator stating that the request is "Feasible" and issues an estimate of the charge for provision of the MPF. (Sub Process Terminates)
Step 23	If a relief project is required. Initial planning of the relief project is started and an estimate is produced for the Operator. The <i>GIBTELECOM</i> Customer Service department updates the request status as unfeasible and informs the Operator via email that the order may only proceed subject to the estimate charge being agreed by the

	Operator.
Step 24	If the Operator does not accept (or rejects) the charge within the agreed time limit, the process continues at the "Process Aborted" stage (Step 48)
Step 25	If the fee due is within the Operator's accepted limit the relief project is planned and is referred for execution and the process continues at Step 27.
Step 26	If the fee due is outside the Operator's accepted limit then the request goes to the "Process Aborted" stage (Step 48).
Step 27	When the relief project is completed the <i>GIBTELECOM</i> technician connects a jumper between the E-side of the PCP termination and the allocated Tie Cable termination to the Operator and forwards the Service Order to the External Plant Team. Order is flagged as completed and the process continues from Step 28.
Step 28	The External Plant technician installs a lead-in cable and NTP at the Customer's premises.
Step 29	If the MPF does not satisfy the MPF Specification then <i>GIBTELECOM</i> will rectify any faults before handing the MPF over to the Operator. Once any fault is rectified the process continues from Step 30.
Step 30	<i>GIBTELECOM</i> Customer Services department updates the Operator via email that the MPF is ready for acceptance testing within established time limits.
Step 31	If acceptance of the MPF is received from the Operator within the agreed time limit then the process continues with the Post-Provisioning Process (Step 51)
Step 32	If no feedback from the Operator is received within the agreed time limit then the process goes to "Process Aborted" (Step 48).
Step 33	If an outright rejection of the MPF is received from the Operator within the agreed time limit the process goes to "Process Aborted" (Step 48)
Step 34	If a rejection (on the basis of poor broadband capability) of the MPF is received from the Operator within the agreed time limit the Service Order is referred back to the <i>GIBTELECOM</i> Customer Services department to either rectify the issue or if possible to provide an alternative MPF.
Step 35	Following either the rectification of any issues or the provision of an alternative MPF <i>GIBTELECOM</i> sends the Operator an email reporting

	that the jumpering is complete and the MPF is ready for acceptance testing within agreed time limit.
Step 36	If acceptance of the MPF is received from the Operator within the agreed time limit then the process continues with the Post-Provisioning Process (Step 51)
Step 37	If no feedback from the Operator is received within the agreed time limit then the process goes to "Process Aborted" (Step 48).
Step 38	If an rejection of the MPF is received from the Operator within the agreed time limit the process goes to " Process Aborted" (Step 48)

2.4 Process for the removal of **GIBTELECOM** analogue voice service

Step 39	Having received the Operator's acceptance of the MPF the <i>GIBTELECOM</i> 's Customer Service Department requests the technician to reconnect the Customer's analogue voice service and to disconnect the MPF from the Operator's Tie Cable.
Step 40	The technician reconnects the Customer's analogue telephone service and disconnects the MPF from the Tie Cable. The technician records this on the Service Order which instructs the Operator to advise the Customer to formally request removal of his <i>GIBTELECOM</i> analogue voice service to enable the provisioning of the Fully Unbundled Service to be finalised.
Step 41	Once the Customer makes the formal request to <i>GIBTELECOM</i> for the removal of the analogue voice service this is processed in the normal manner in which <i>GIBTELECOM</i> deals with disconnection requests by its customers. The removal of the analogue voice service becomes effective once the Customer settles any and all outstanding bills that the Customer may have with <i>GIBTELECOM</i> .
Step 42	The process continues at the "Post-Provisioning Process stage (Step 51).

2.5 Process line reversion

Step 43	A Customer requests to be reverted to the <i>GIBTELECOM</i> analogue voice service and to disconnect the Operator's services delivered over the unbundled sub-loop.
Step 44	The <i>GIBTELECOM</i> RUO Department obtains a confirmation from the Operator that the Operator accepts the Customer's request for the disconnection of the unbundled sub-loop.
Step 45	The <i>GIBTELECOM</i> RUO Department initiates a Service Order for the

	disconnection of the unbundled sub-loop and request the <i>GIBTELECOM</i> sales department to contact the Customer and explain to him the procedure the Customer needs to follow in order to revert to <i>GIBTELECOM's</i> analogue voice service.
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Step 46	Once the analogue voice service is restored <i>GIBTELECOM</i> informs the Operator that the service reversion has been completed.
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Step 47	<i>GIBTELECOM</i> RUO department team issues a final rental bill to the Operator for the fully unbundled loop service taking the date of confirmation by the Operator of the reversion as the last date of which the Operator will be billed. Disconnection charges if any will be included with the final bill.
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2.6 Process aborted sub-process

Step 48	The <i>GIBTELECOM</i> RUO department reviews the process to collect information about the costs incurred up to the stage when the order was aborted
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Step 49	If the request involves a MPF Line Transfer and the MPF is still connected to the Operator's HDF/Tie Cable then the <i>GIBTELECOM</i> RUO department instructs the <i>GIBTELECOM's</i> Customer Services department to reconnect the Customer's analogue voice service.
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Step 50	The <i>GIBTELECOM</i> RUO department informs the Operator that the request has been rejected giving the reasons and billing the Operator for any costs incurred.
---------	--

2.7 Post-Provisioning Processes

Step 51	The completed Service Order is passed to <i>GIBTELECOM's</i> Customer Services department.
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Step 52	The <i>GIBTELECOM's</i> Customer Services department updates records of the actual routing in order to accurately update the line plant records.
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Step 53	The <i>GIBTELECOM</i> RUO department verifies whether any additional billable costs were incurred during the process (but not captured on any systems) and issues a manual bill for any such additional billable costs.
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Step 54	Rental billing for the Sub-loop Unbundling Service commences.
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2.8 Cessation of a Full Unbundling Service

Step 55	The Operator initiates the order by submitting a completed order form to <i>GIBTELECOM</i> .
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Step 56	<i>GIBTELECOM</i> verifies that: 1. the order form is complete 2. any charges have been paid
Step 57	If any of the pre-requisites are not satisfied then the process continues at the "Process Aborted" stage (Step 48).
Step 58	If all the pre-requisites are satisfied then the Operator's order is accepted and the process begins.
Step 59	<i>GIBTELECOM</i> 's RUO Department refers the request to the Customer Services department for data verification.
Step 60	A <i>GIBTELECOM</i> technician removes the jumpers in the PCP to the Operator's Tie Cable. .
Step 61	The <i>GIBTELECOM</i> technician updates the records and informs the <i>GIBTELECOM</i> Customer Services department of the actual routing to update records.
Step 62	The Sub-loop Unbundled Service is disconnected and billing ceases on the date that Step 61 is completed.
Step 63	Final rental bill shall be issued up to this completion date.

3. Sub-loop Unbundling Service – Repair Process

This repair process describes the procedures to be followed when an Operator requests either maintenance or repair of a MPF.

All communications related to the process shall be via email at the following email address LLUrepairs@gibtele.com.

The Operator is responsible for investigating any Customer reports relating to the MPF and will report a fault to *GIBTELECOM* only where the Operator has reasonable grounds to believe that the fault lies within the *GIBTELECOM* network.

All requests of assistance will be submitted to *GIBTELECOM* by the Operator. *GIBTELECOM* will not accept any fault reports from a Customer.

If during testing for any type of repair or maintenance, *GIBTELECOM* deems it necessary to carry out intrusive tests to localise the fault, *GIBTELECOM* shall do this without informing the Operator or the Customer.

GIBTELECOM shall use reasonable endeavours to detect and rectify the fault conditions on the MPF. The Operator shall co-operate with *GIBTELECOM*'s reasonable requests in an effort to locate and if possible resolve any fault that may be present on the MPF. This may include making arrangements for a *GIBTELECOM* Technician to visit the Customer premises.

3.1 Request by Operator for MPF Repair Process

Step 1	Operator submits a MPF Fault Report to <i>GIBTELECOM</i> via email. The Operator shall supply any additional information that may assist <i>GIBTELECOM</i> in classifying the nature of the fault and identifying the cause.
Step 2	<i>GIBTELECOM</i> carries out the line test in order to establish whether the MPF is within the Technical Specification as per Annex H.
Step 3	If the test result is within the MPF Technical Specification, a copy of the test result is forwarded to the Operator. The process continues at Step 6.
Step 4	The fault is rectified by <i>GIBTELECOM</i> and a copy of the final test result is forwarded to the Operator.
Step 5	If the Operator accepts the test results the process ends.
Step 6	If the Operator accepts the test results the Operator is billed for "Testing when no fault found (no field technician intervention)" as per the Charges Annex and the process ends.
Step 7	<i>GIBTELECOM</i> carries out additional tests with the intervention of a technician. This may require the co-operation of the Customer to provide access to the Customer's premises. If the additional test indicate that the MPF does not meet the electrical characteristics specified in the MPF Technical Specifications then the process continues at Step 5.
Step 8	<i>GIBTELECOM</i> sends a copy of the test results to the Operator and the Operator is billed for "Testing when No Fault Found (with technician intervention)" as per the Charges Annex and the process ends. If the Operator is not fully satisfied the Operator may opt for other actions including a pair swap.

GIBTELECOM
Reference Unbundling Offer

Annex F
Service Level Agreements

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1. Introduction

This Service Level Agreement (SLA) is effective from [date] and shall remain in effect until amended following agreement of the parties to such amendment or until the termination of this Agreement.

This document details the service levels to which *GIBTELECOM* commits with regard to the provision and repair of Services covered by this Agreement. Services are at all times provided subject to the terms and conditions as set out in this Agreement.

The Services described in the SLA are subject to the Technical Manual and Operations & Maintenance Manuals which define the detailed operational processes associated with the provision of the Services. This SLA must be read in conjunction with the Operations & Maintenance Manual, Technical Manual and the Service Descriptions.

The definitions in Annex A of this Agreement will apply unless explicitly stated.

2. Metallic Path Facilities

2.1 Provisioning

The following tables define delivery timescales for Metallic Path Facilities as defined in this Agreement.

If *GIBTELECOM* does not meet or does not expect to meet any planned date specified as a milestone within this schedule, the Operations & Maintenance Manual or an associated delivery plan, *GIBTELECOM* shall confirm to the Operator as soon as the delay has been identified. *GIBTELECOM* will include the reasons for the delay and the expected duration of the delay.

GIBTELECOM will endeavour to keep the delay as short as possible. Both Parties shall agree upon a new date for the delayed milestone. Consequently, any previously agreed Ready for Service Date will be cancelled and replaced by a new Ready for Service Date, the new Ready for Service Date being automatically derived using the normal milestone schedule as per the Operations & Maintenance Manual, unless there is a material reason why *GIBTELECOM* may need to further delay the Ready for Service date. For the avoidance of doubt, for the purpose of the calculation of penalties, the original Ready for Service Date shall apply, unless otherwise agreed by the Parties.

Service	Lead Time Working Days	Penalty Charge Per Working Day
Line Sharing Access Service provision	5	£0.98 per day
Line Sharing Access Service disconnection	5	£0.98 per day
Metallic Path Full Loop Unbundling – Line Transfer	5	£0.98 per day
Metallic Path Sub-loop Unbundling – Line Transfer	5	£0.98 per day

Table 1: MPF Provision Lead Times and Penalty Charges

2.2 Repair

Both Parties are required to provide a point of contact for reporting and handling of Faults 24-hours a day, every day of the year. The designated Point of Contacts must ensure that they may be contacted by telephone. Designated Points of Contact will be listed in the Operations & Maintenance Manual.

A fault will be deemed to be 'started' when one of the Parties accepts ownership of the fault. When the fault is reported by the Operator GIBTELECOM shall not delay its acceptance of ownership of the fault.

A fault will be deemed to be 'ended' when GIBTELECOM informs the Operator that the fault has been repaired.

Information on the progress of a fault rectification will be given on a case by case basis as agreed between the Parties.

Registration of the fault, analysis of the fault and any necessary dispatching of technicians will start as soon as possible after the fault has been reported and responsibility has been accepted.

The target resolution times for each fault type are included in Table 2 below.

The Operator will be asked to confirm acceptance of the fault clearance and if considered necessary to perform a re-test. The fault will be considered closed when the Operator either accepts the fault clearance information or confirms a successful re-test (e.g. Service has been restored).

If confirmation of a successful re-test or a rejection is not received GIBTELECOM will close the fault.

If both Parties cannot agree that the fault is cleared, the fault shall not be closed until escalation and/or investigation has been satisfactorily carried out, using appropriate mechanisms previously agreed between both Parties.

2.3 Fault Escalation Process

When the Parties cannot agree on one of the following:

Acceptance of fault ownership;
fault status; or
fault clearance procedure and time-scale,

The Parties may refer to the escalation processes as set out in the Operations & Maintenance Manual.

Compensation payable for fault repair is based upon the monthly charge for the Service affected.

Service	Lead Time Working Days	Penalty Charge Per Working Day
Line fault	5	£0.98 per day
Cable fault	10	£0.98 per day
Testing When fault Not Found	5	£0.98 per day

Table 2: MPF Fault Resolution Time and Penalty Charges

3. Co-Location Services

The following tables define delivery timescales for Co-Location Services necessary for the provision of Unbundled Local Loops (MPFs) as defined in this Agreement.

If either Party does not meet or does not expect to meet any planned date specified as a milestone within this schedule, the Operations & Maintenance Manual or an associated delivery plan, that Party shall confirm to the other Party as soon as the delay has been identified. The Party causing the delay will include the reasons for the delay and the expected duration of the delay.

The Party causing the delay will use best endeavours to keep the delay as short as possible. Both Parties shall agree upon a new date for the delayed milestone. Consequently, any previously agreed Ready for Service Date is cancelled and replaced by a new Ready for Service Date, the new Ready for Service Date being automatically derived using the normal milestone schedule as per the Operations & Maintenance Manual, unless there is a material reason why the Party causing the delay may need to further delay the Ready for Service date. For the avoidance of doubt, for the purpose of the calculation of penalties, the original Ready for Service Date shall apply, unless otherwise agreed by the Parties.

3.1 Co-Location Services – Ordering and Escorted Access

If the submission, procurement or delivery of an Order is delayed, and the cause of such delay is not external to either or both Parties, a penalty maybe payable by one Party to the other Party in accordance with the provisions of this clause.

Planned Escorted Access work is defined as escorted access work which has been agreed by both parties to be carried out at a predetermined time and date. If Escorted Access lead times stated in table 6 are not met, and the cause of such delay is not external to *GIBTELECOM*, a penalty maybe payable to the Operator in accordance with the provisions of this clause.

If the Ready for Service Date for a Co-Location Service is delayed for reasons imputed to the Operator, *GIBTELECOM* will be entitled to bill the Operator in full from the original Ready for Service Date.

If the Operator cancels a co-location Order the following penalties will apply:

1. From the date of the co-location Order acceptance until 6 weeks prior to the agreed Ready for Service Date, the Operator shall be liable for 50% of the relevant charge.
2. From 4 weeks prior to the agreed Ready for Service Date, the Operator shall be liable for 100% of the relevant charge.

If the Ready for Service Date for a co-location service order is delayed, or Escorted Access lead times stated in table 6 are not met, for reasons solely caused by *GIBTELECOM* the penalties specified in Tables 3 and 6 respectively shall apply.

3.2 Survey and Building Works

Service	Lead Time Working Days	Penalty Charge Per Working Day
Application & initial survey	10 working days	£3.70 per day
Full Survey	20 working days after any building application approval and subject to availability of professional surveyor / contractor	5% of total survey charge per day up to the full survey charge
Co-Location works	Case by Case	Bespoke

Table 3: Co-Location Services Lead Times and Penalty Charges

3.3 Internal Tie Cables

Service	Lead Time Working Days	Penalty Charge Per Working Day
First cable terminated at both ends following completion of co-location works	10	5% of Relevant Internal Tie Cable installation charge per day.

Table 4: Internal Tie Cables Lead Times and Penalty Charges

3.4 External Tie Cables

Service	Lead Time Working Days	Penalty Charge Per Working Day
First cable terminated at both ends following completion of Co-Location Works	Bespoke	5% of quoted charge per day.

Table 5: External Tie Cables Lead Times and Penalty Charges

3.5 Escorted Access

Service	Lead Time Hours	Penalty Charge Per Hour
During Working Hours – PLANNED – per hour (minimum 3 hours)	2 Hours	£5.00 per hour
During Working Hours – UNPLANNED – per hour (minimum 3 hours)	6 Hours	£5.00 per hour
Outside Working Hours including Sundays and Public Holidays – PLANNED – per hour (minimum 3 hours)	2 Hours	£5.00 per hour
Outside Working Hours including Sundays and Public Holidays – UNPLANNED – per hour (minimum 3 hours)	6 Hours	£5.00 per hour

Table 6: Escorted Access Lead Times and Penalty Charges

4. Payment of Penalties

Any penalties shall be settled by way of an appropriate adjustment on the next invoice from GIBTELECOM to the Operator.

GIBTELECOM
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Annex H
Metallic Path Facility
Technical Description

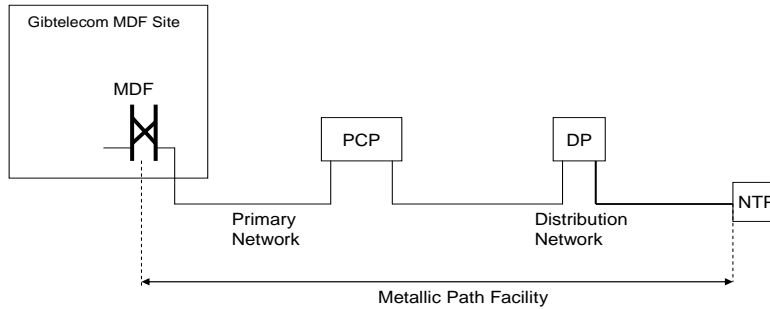
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1. Introduction

This technical description gives detailed definitions of the electrical parameters of the Metallic Path Facility (MPF) provided by GIBTELECOM under this Agreement.

2. MPF Network Network Design



NOTE: the MPF may pass through more than one PCP and may also by-pass completely the PCP in order to directly feed a DP

MDF – Main Distribution Frame
PCP – Primary Cross Connection Point
DP – Distribution Point
NTP – Network Termination Point

2.2 Technical Specification

The following parameters apply to the technical performance of the MPF as defined from the GIBTELECOM MDF to the GIBTELECOM NTP at a Customer's premises. These parameters apply when the MPF has been isolated from the Customer's equipment and internal wiring and from any associated Operator equipment and internal wiring.

2.2.1 Parameter Specifications

Defined MPF Parameter	Parameter Specification
Electrical Continuity	The MPF will consist of a continuous metallic connection provided between a GIBTELECOM MDF and a GIBTELECOM NTP.
Insulation Resistance A leg to B leg B leg to A leg	>100 kOhm
Insulation Resistance A leg to Earth B leg to Earth	>100 kOhm
Insulation Resistance	>100 kOhm

A leg to Battery B leg to Battery	
Measured voltage between A leg and B leg	DC Volts: $-55v < VDC < +55v$ AC Volts: $VAC < 15v$
Measured voltage between A leg and Earth B leg and Earth	DC Volts: $-55 v < VDC < +3v$ AC Volts: $VAC < 15v$
Loop Resistance	<1400 ohms
Measured Capacitance Unbalanced between A leg and B leg to Earth	<15% unbalanced between each leg measured to Earth
Measured Insertion Loss maximum	50 dB @ 100 kHz

2.2.2 Notes

1. Insulation Resistance Measurements – measurement of insulation resistance is carried out using a voltage of 30 volts DC. In the event of resistance measurement producing readings below the stated parameter specification the MPF will be considered to be faulty.
2. Voltage Measurements – voltages detected on the MPF will be measured using a voltmeter with an internal impedance of 100 kOhms. Measurements of AC voltages will be carried out for frequencies up to 100Hz. The voltage measurements will not recognise peaks that happen with a frequency of less than 1 event per second (<60 Hz) with a duration of less than 1ms.
3. Loop Resistance – the resistance measurement is carried out using a voltage of 30 volts DC. In the event of resistance measurement producing readings above the stated parameter specification the MPF will normally be considered to be faulty. However, when the measured loop resistance value is not significantly greater than that of other pairs in the vicinity then the MPF will not be considered to be faulty. Operators should note that MPFs to remoter areas may have a loop resistance that is likely to exceed the maximum value that is listed in the MPF specification.
4. Measured Insertion Loss – the insertion loss measurement is carried out at 100kHz between terminations of 140 Ohm non-reactive resistance for the nominal transmit power level of between -10dBm and 0dBm.
5. DC voltages of the magnitude specified should only occur as a result of a network fault condition. The Operator should ensure that the equipment connected to the MPF should withstand DC voltages of this magnitude.

3. Operational Requirements

3.1 Power Supply – Maximum Permissible Voltage and Current Levels on an MPF

The voltage and current applied to the MPF in the GIBTELECOM Network by an Operator needs to be limited for a number of reasons:

-
- To comply with the health and safety regulations covering the safety of *GIBTELECOM* operational staff.
 - To ensure that the *GIBTELECOM* Network does not suffer damage.
 - To prevent voltage and current surge protection systems from being activated in error.

Constraints on voltages and currents, including the transmission signal, applied to the MPF are as follows:

- Applied open circuit voltage must not exceed a peak voltage of 120v of positive or negative polarity to earth or to the A-leg or B-leg of the MPF.
- Applied open circuit voltage must not exceed a peak voltage of 200v between the A-leg and the B-leg of the MPF.

A maximum current of 60mA peak is allowed to flow in either leg of the MPF.

The publication of this MPF specification does not imply any liability on the part of *GIBTELECOM* for any damages that may be caused to persons or to the equipment of the Operators, Customers or third parties as a result of electrical conditions on its MPFs that lie outside the specified values or ranges.

Transmission Inputs on an MPF

All transmissions and signals carried by the MPF must comply with the requirements and specifications laid down in the Access Network Frequency Plan in Annex I of this Agreement.

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Annex I
Access Network Frequency Plan

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1 Scope

This specification defines the Access Network Frequency Plan (ANFP) applicable to transmission systems to be used on the *GIBTELECOM* network. It is applicable to the whole of the *GIBTELECOM* network provided using unscreened twisted metallic pairs within the geographic area served by *GIBTELECOM*.

To ensure the prevention of undue interference between transmission systems used on different metallic pairs in the same cable, transmission systems connected to metallic pairs of the *GIBTELECOM* network need to conform to this specification. This specification is applicable to all *GIBTELECOM* switched and leased line analogue services.

The NFP considers access to frequencies up to 1.1 MHz (e.g. for systems up to and including ADSL). The limits in this NFP apply at the interface to the metallic pair of the *GIBTELECOM* cable network.

Where a customer's installation causes, or can reasonably be foreseen to cause, harmful interference to transmission systems used on different metallic pairs in the same cable[s], *GIBTELECOM* may require that the interference be prevented, for instance by means of mitigation measures (e.g. by the addition of a filter), or by requesting authorisation for disconnection or other relevant powers. It is strongly recommended that customer premises equipment (CPE) conform to this NFP.

2 NFP Construction

The NFP as specified in this document was developed using similar principles to those used by OFCOM.

- the management of the NFP will be by hard Power Spectrum Density (PSD) masks¹.
- each interface giving access into the cable plant will have a PSD mask defined for it. Interfaces at different locations may have different masks.
- the mask will apply to any equipment connected at the location, irrespective of modem type .
- the mask will define the limit for power transmitted (or leaked) into the cable plant.
- at each frequency, the PSD of the transmitter must be at or lower than the permitted PSD mask.

The permitted PSD masks were produced as follows:

- The systems already deployed in significant volumes are : ISDN2 basic access, $\leq 256\text{kb/s}$ 2B1Q, 64kb/s AMI and ADSL DMT over POTS. These are taken as the existing noise environment.
- (any transmission system will be permitted to be used on the *GIBTELECOM* network provided that it conforms to the NFP masks).
- A PSD mask is produced for each transmitter of each identified system for both exchange and customer locations.
- For each location the permitted PSD mask is, at each frequency independently, the maximum of the masks for those transmitters which may have been installed there.

¹ Hard PSD masks are not necessarily appropriate for voice band equipment.

- SHDSL has been included but is subject to deployment distance restrictions depending on the PSD of the transmit signal.²

Any increase in the level of pollution that is permitted will directly result in decreased margin of performance in already deployed systems. Any substantial increase would cause these systems to fail.

Equipment PSD templates specified by ETSI/FSAN for ISDN2 and ADSL have been used in addition to data taken from the relevant standards for SHDSL. However, no standardised data could be found for 2B1Q 256kb/s and AMI 64kb/s and so manufacturer measured data was used and increased by 3dB in order to allow for sample variation.

This specification only considers the limits relevant to control of interference between DSL systems on different lines. Other limits are applicable, such as safety limits on line voltages, but these are outside the scope of this document.

3 NFP Specification

The NFP is defined by a set of categories for access interfaces, each having a PSD, and by voice band specifications based on ETSI standards applicable to CPE.

For frequencies at and below 200kHz, equipment compliant with this NFP must either meet the requirements defined in section 3.1 or section 3.2. For frequencies above 200kHz, the requirements of section 3.1 apply.

3.1 PSD Mask and Interface Categories

3.1.1 Interface Categories

Each interface is assigned one of three categories determined by its location. One category is for the interfaces in an exchange, the others are for customers at various distances from the exchange. The controlled interfaces are the Main Distribution Frame (MDF) in the exchange and the Network Termination Point (NTP) at the customer's premises.

The categorisation of customers' locations is in terms of the physical distance from the exchange defined by the length of a nominal line to the exchange. The categories are defined in table 1 and illustrated in figure 1

Category Name	Location
down	the MDF of an exchange
up short	the customer NTP where the nominal line length is 0.74 km or less
up medium	the customer NTP where the nominal line length is 1.68 km or less but over 0.74 km
up long	the customer NTP where the nominal line length is over 1.68 km

Table 1 - ANFP Interface Category Definitions

The definition of 'short' , 'medium' and 'long' is based on the accommodation of SHDSL technology operating at different line rates. If SHDSL systems operating at rates > 1032 kbps had not been included then only one category would be

² High bit-rate ADSL (>5Mb/s) assuming a noise environment based on ISDN BA, ≤ 256kbps 2B1Q and 64kb/s AMI. Standardised SHDSL systems operating at rates of ≤ 1032kbps have been identified as being compatible with the existing environment. Standardised SHDSL systems operating at rates above 1032kbps have been identified as potential disturbers and, as such, are subject to restriction.

required. In order to limit harm to neighbouring pairs, neighbouring line interfaces sharing a given Distribution Point (DP) will be categorised the same.

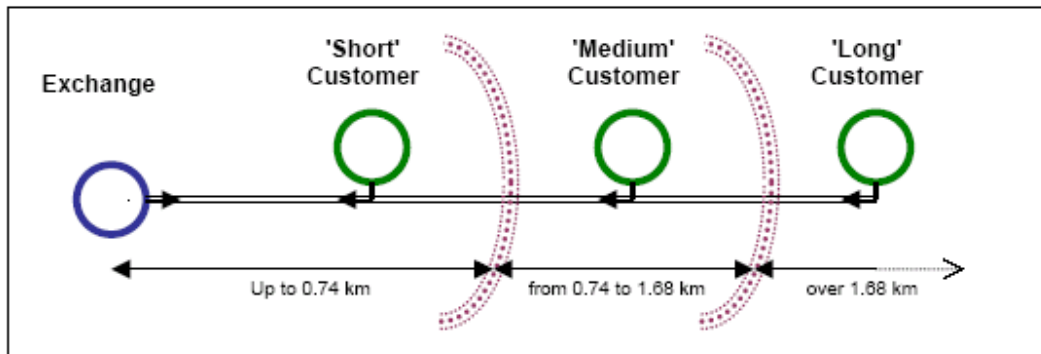


Figure 1 - The ANFP Interface Categories

3.1.2 PSD Masks

Each interface category has a PSD mask which defines the limits of the signals that can be injected at each interface location. The 'down' mask applies to the direction of transmission from the exchange to the customer and the three 'up' masks - 'up short', 'up medium' and 'up long' - apply to the direction of transmission from a customer location within each category towards the exchange.

The set of four permitted masks is specified by the data in Annex 1 and illustrated in Figure 2.

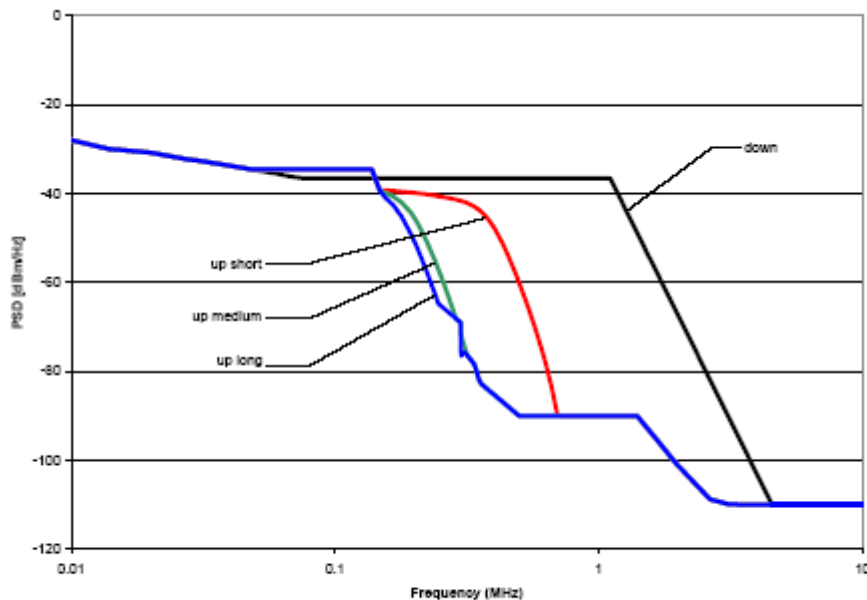


Figure 2 - Permitted PSD Masks

Note : All PSD masks are defined over the range 100Hz to 30MHz, although only a subset of this range is shown in the figure above. Where the PSDs overlap, only one is shown.

3.2 Alternative Voiceband Specification

For frequencies at and below 200 kHz, compliance to this NFP may be demonstrated by conformance to the requirements in this section as an alternative to meeting the requirements of section 3.1. The requirements are applicable at both the customer end (irrespective of category) and exchange end of the Metallic Path Facility (MPF).

Note: 1. The requirements in this section are drawn from ETSI voiceband CPE standards³. However, any type of equipment may use these requirements (and associated tests) instead of the requirements in section 3.1 to demonstrate compliance to this NFP.

Equipment compliant to this ANFP shall meet the requirements of the following Clauses of TBR 21 [6]

- Clause 4.7.3.1 (Mean sending level);
- Clause 4.7.3.2 (Instantaneous voltage);
- Clause 4.7.3.3 (Sending level in a 10 Hz bandwidth) as modified by TR 103 000-2-1 [7]
- Clause 4.7.3.4 (Sending level above 4.3 kHz) as modified by TR 103 000-2-1 [7];
- Clause 4.8.2.2.1 (DTMF Absolute Sending Levels) (See Note 5).

Note 2. The intent of these requirements is to control the level of crosstalk. TBR21 deals with other aspects but only those requirements relating to the control of crosstalk have been included in this

Note 3. The requirements of this clause below 100 Hz do not apply in this NFP.

Note 4. As described in EN 301 437 Annex C, it is not necessary to test the requirements of this clause if the terminal is a voice terminal (e.g. has a handset) and requires voice stimulation to perform the test.

Note 5. Only applicable if the equipment has a DTMF sender.

Infrequent and short duration signals at levels higher than those specified in this section are permitted from equipment used for MPF maintenance or from equipment connected to the exchange end and used for management and maintenance of voiceband services (e.g. the howler signal – see BS6305 [12], Appendix C.4)

4 Key features of the NFP

The NFP controls the spectrum and power that can be launched into each of the exchange end and the Customer premise end of the wire-pair.

The NFP does not preclude use of broadband equipment on any line, although serviceability on a line is subject to the electrical qualities of the line and the technical capability of the xDSL systems used.

The NFP allows provision of symmetric services to the business (and residential) sector and widespread deployment of ADSL to mass-market residential customers.

³ Various technical standards have set voiceband limits for CPE but the most recent were TBR 21 [6], EN 301 437 [8], EG 201 121 [9] and TR 103 000-2-1 [7] all published by ETSI.

There are no special restrictions on wire-pair selection, and in principle allows for 100% cable fill. (While it is unlikely that GIBTELECOM 's network would reach 100% xDSL fill, there are credible situations that give equivalent interference.) Adopting a policy of no additional special pair selection processes means that engineering costs are minimised.

The NFP is technology neutral, and as such is as future proof as possible. The PSDs used in the NFP are consistent with the levels used by internationally standardised xDSL systems. This minimises the risk of introduction of rogue xDSL systems with strong line spectra that may cause objectionable radiated emissions.

The use of SDSL (SHDSL) systems (as defined in international standards) has been factored into the NFP and will be permitted by the plan (the data rate that may be attempted by these systems will be dependent on the categorisation of the customer's end).

5 Future Development

The change control process for the GIBTELECOM NFP is included in Annex 3.

6 Abbreviations

ADSL	Asymmetric Digital Subscriber Line
CPE	Customer Premise Equipment
DP	Distribution Point
DSL	Digital Subscriber Line
EC	European Community
ETSI	European Telecommunications Standards Institute
ISDN	Integrated Services Digital Network
MDF	Main Distribution Frame
MPF	Metallic Path Facility
NFP	Network Frequency Plan
NTP	Network Terminating Point
OFTEL	Office of Telecommunications
POTS	Plain Old Telephone Service
PSD	Power Spectral Density
RFI	Radio Frequency Interference
	Symmetric High Speed Digital Subscriber Line (TC-PAM line code)
SHDSL	
VDSL	Very High Speed Digital Subscriber Line

Annex 1 NFP PSD Mask definitions

The masks are defined by the data given in the following table.

Frequency MHz	down	up short	up medium	up long	Frequency MHz	down	up short	up medium	up long
0.000100	-24.24	-24.24	-24.24	-24.24	0.200000	-39.80	-45.44	-50.75	
0.000400	-24.26	-24.26	-24.26	-24.26	0.208333	-39.92	-47.24	-53.19	
0.001000	-24.31	-24.31	-24.31	-24.31	0.215610	-40.04	-48.96	-55.36	
0.002000	-24.44	-24.44	-24.44	-24.44	0.222373	-40.15	-50.64	-57.40	
0.003000	-24.64	-24.64	-24.64	-24.64	0.233450	-40.35	-53.51	-60.77	
0.004000	-24.90	-24.90	-24.90	-24.90	0.235084	-40.38	-53.94	-61.26	
0.004010	-24.90	-24.90	-24.90	-24.90	0.239000	-40.46	-54.98	-62.46	
0.005000	-25.23	-25.23	-25.23	-25.23	0.246148	-40.60	-56.89	-64.65	
0.006000	-25.63	-25.63	-25.63	-25.63	0.248000	-40.63	-57.39	-64.86	
0.006058	-25.66	-25.66	-25.66	-25.66	0.249819	-40.66	-57.87	-65.02	
0.007000	-26.13	-26.13	-26.13	-26.13	0.250067	-40.66	-57.94	-65.04	
0.007177	-26.23	-26.23	-26.23	-26.23	0.256000	-40.75	-59.54	-65.55	
0.009000	-27.30	-27.30	-27.30	-27.30	0.256270	-40.76	-59.61	-65.58	
0.014000	-30.00	-30.00	-30.00	-30.00	0.262988	-40.87	-61.43	-66.14	
0.015000	-30.10	-30.10	-30.10	-30.10	0.263000	-40.87	-61.44	-66.14	
0.020000	-30.76	-30.76	-30.76	-30.76	0.265315	-40.90	-62.06	-66.33	
0.025975	-31.97	-31.97	-31.97	-31.97	0.266667	-40.93	-62.43	-66.44	
0.028000	-32.33	-32.33	-32.33	-32.33	0.267397	-40.94	-62.63	-66.50	
0.030000	-32.50	-32.50	-32.50	-32.50	0.268000	-40.95	-62.79	-66.55	
0.037000	-33.35	-33.35	-33.35	-33.35	0.271000	-41.00	-63.61	-66.79	
0.045000	-34.20	-34.20	-34.20	-34.20	0.272638	-41.03	-64.06	-66.92	
0.047884	-34.52	-34.50	-34.50	-34.50	0.273000	-41.04	-64.16	-66.95	
0.048147	-34.54				0.278421	-41.14	-65.64	-67.38	
0.048187	-34.54				0.281000	-41.19	-66.35	-67.58	
0.060000	-35.45				0.283116	-41.24	-66.93	-67.74	
0.066660	-36.05				0.286003	-41.30	-67.73	-67.96	
0.075000	-36.50				0.287008	-41.32	-68.01	-68.04	
0.138000		-34.50	-34.50	-34.50	0.291333	-41.41	-68.36	-68.36	
0.145222		-38.04	-38.04	-38.04	0.292485	-41.44	-68.45	-68.45	
0.147654		-39.15	-39.19	-39.19	0.295483	-41.51	-68.67	-68.67	
0.155286		-39.23	-39.89	-40.83	0.299161	-41.60	-68.94	-68.94	
0.166091		-39.36	-40.63	-42.53	0.300000	-41.62	-69.00	-69.00	
0.179000		-39.51	-41.96	-45.17	0.301000	-41.65	-71.94	-76.44	
0.193467		-39.71	-44.18	-48.90	0.303000	-41.70	-72.52	-76.24	
0.194898		-39.72	-44.40	-49.25	0.303982	-41.73	-72.80	-76.14	
0.199722		-39.80	-45.38	-50.67	0.307000	-41.81	-73.67	-75.85	

Frequency MHz	down	up short	up medium	up long	Frequency MHz	down	up short	up medium	up long
0.308232		-41.84	-74.03	-75.73	0.500000		-80.15	-90.00	-90.00
0.310322		-41.90	-74.64	-75.59	0.501687		-80.37		
0.318586		-42.16	-76.46	-76.46	0.503650		-80.64		
0.319000		-42.18	-76.50	-76.50	0.508812		-81.34		
0.327566		-42.49	-77.37	-77.37	0.515146		-82.20		
0.333000		-42.71	-77.92	-77.92	0.520871		-82.98		
0.333143		-42.72	-77.93	-77.93	0.523446		-83.33		
0.333333		-42.72	-77.95	-77.95	0.534365		-84.82		
0.336700		-42.87	-78.28	-78.28	0.545545		-86.35		
0.344065		-43.23	-79.78	-79.78	0.548595		-86.76		
0.344450		-43.25	-79.89	-79.89	0.564058		-86.89		
0.349963		-43.54	-81.46	-81.46	0.570000		-89.72		
0.351000		-43.60	-81.75	-81.75	0.579787		-71.08		
0.358742		-44.08	-82.80	-82.80	0.582687		-71.49		
0.366157		-44.58	-83.25	-83.25	0.600000		-73.95		
0.378000		-45.51	-83.94	-83.94	0.602626		-74.32		
0.380000		-45.68	-84.05	-84.05	0.613094		-75.84		
0.382919		-45.93	-84.22	-84.22	0.625055		-77.61		
0.384295		-46.05	-84.30	-84.30	0.630511		-78.43		
0.399000		-47.47	-85.11	-85.11	0.650000		-81.45		
0.400000		-47.57	-85.16	-85.16	0.661743		-83.36		
0.404253		-48.02	-85.39	-85.39	0.697042		-89.77		
0.404794		-48.07	-85.42	-85.42	0.735000		-90.00		
0.404807		-48.08	-85.42	-85.42	1.104000	-36.50			
0.423859		-50.24	-86.42	-86.42	1.400000		-90.00	-90.00	-90.00
0.427391		-50.67	-86.60	-86.60	1.489432		-91.95	-91.95	-91.95
0.433333		-51.39	-86.90	-86.90	1.499983		-92.17	-92.17	-92.17
0.441289		-52.39	-87.29	-87.29	1.630000		-94.78	-94.78	-94.78
0.452464		-53.82	-87.83	-87.83	1.960000		-100.57	-100.57	-100.57
0.456865		-54.40	-88.04	-88.04	2.645685		-108.79	-108.79	-108.79
0.469474		-56.06	-88.63	-88.63	2.920000		-109.43	-109.43	-109.43
0.479432		-57.38	-89.09	-89.09	3.093000		-109.81	-109.81	-109.81
0.482646		-57.81	-89.23	-89.23	3.637000		-110.00	-110.00	-110.00
0.487516		-58.47	-89.45	-89.45	4.545000	-110.00			
0.492000		-59.07	-89.65	-89.65	30.000000	-110.00	-110.00	-110.00	-110.00
0.494218		-59.37	-89.75	-89.75					

The data defines the mask corner frequencies. Between the given corner frequencies the mask values are defined by interpolation (log frequency [MHz]/linear dB axis [dBm/Hz]).

The contributing PSD's were as follows:

ISDN BRA : (source : BT / ETSI TM6 +1dB)

Frequency (MHz)	PSD dBm/Hz
0.0001	-31.8
0.015	-31.8
0.03	-33.5
0.045	-36.6
0.06	-42.2
0.075	-55
0.085	-55
0.1	-48
0.109	-48
0.3	-69
0.301	-79
0.5	-90
1.4	-90
3.637	-120
30	-120

Note : Interpolation was used at all other frequencies

ADSL Downstream : (source : ANSI)

Frequency (MHz)	PSD dBm/Hz
0.0001	-97.5
0.004	-97.5
0.00401	-92.5
0.025875	-36.5
1.104	-36.5
3.093	-90
4.545	-110
30	-110

Note : Interpolation was used at all other frequencies

ADSL Upstream : (source : ANSI)

Frequency (MHz)	PSD dBm/Hz
0.0001	-97.5
0.004	-97.5
0.00401	-92.5
0.025875	-34.5
0.138	-34.5
0.307	-90
1.221	-90
1.83	-110
30	-110

Note : Interpolation was used at all other frequencies

2B1Q 256kb/s (source : based on manufacturer measured data +3dB)

Frequency(MHz)	PSD dBm/Hz
0.001	-36.67
0.005	-32.86
0.01	-32.79
0.02	-33.02
0.04	-34.07
0.06	-36.01
0.08	-39.23
0.1	-44.75
0.12	-56.10
0.13	-78.55
0.15	-56.99
0.17	-55.53

0.2	-59.07
0.23	-67.09
0.26	-94.48
0.28	-78.59
0.31	-75.58
0.34	-78.60
0.37	-86.98
0.4	-99.10
0.45	-88.98
0.53	-105.80
0.58	-98.40
0.66	-108.90
.661	-110.00

Note : Interpolation was used at all other frequencies

64kb/s AMI (source : based on manufacturer measured data +3dB)

Frequency (MHz) PSD dBm/Hz

0.001	-45.00
0.005	-40.00
0.01	-37.00
0.02	-33.96
0.04	-36.27
0.06	-54.50
0.07	-98.10
0.08	-64.64
0.09	-56.99
0.1	-58.19
0.11	-59.08
0.12	-65.39
0.14	-105.30
0.16	-78.94
0.175	-78.75
0.19	-82.71
0.21	-106.70
0.23	-94.04
0.245	-90.35
0.26	-94.77
0.29	-106.80
0.325	-101.20
0.35	-107.00
.351	-110.00

Note : Interpolation was used at all other frequencies

SHDSL

The SHDSL contribution was calculated by finding the maxima of the PSD's for selected data rates between 64kb/s and 2312 kb/s depending on the line category. These were calculated from the equation for the symmetric PSD mask $PSDMASK_{SHDSL}$ (0dB power back off) as defined in section B.4.1 of ITU G.991.2 [5]. It should be noted that no interpolation was used i.e. the equation was used for each frequency of interest. The rates selected were

down : 64k, 72k, 200k, 336k, 392k, 464k, 520k, 776k, 784k, 874k , 1032k, 1160k, 1544k, 2056k and 2312kbit/s.

up short : 64k, 72k, 200k, 336k, 392k, 464k, 520k, 776k, 784k, 874k , 1032k, 1160k, 1544k, 2056k and 2312kbit/s.

up medium : 64k, 72k, 200k, 336k, 392k, 464k, 520k, 776k, 784k, 874k , 1032k, 1160kbit/s

up long : 64k, 72k, 200k, 336k, 392k, 464k, 520k, 776k, 784k, 874k , 1032kbit/s

Annex 2 NFP Line Categorisation

The NFP defines different PSD masks for the customer end depending on distance from the exchange - primarily the physical line length but also taking account the categorisation of other lines terminating at the same DP.

This classification into short, medium and long is applied to all existing *GIBTELECOM* line ends based on an estimate of the physical length of a line to the exchange. Once the classification has been undertaken, the classification for a given end is fixed and will only change if that line (or the lines terminating on the same DP) is subject to a significant engineering modification (e.g. re-routing due to a road development scheme) or to an NFP category check process that results in a change in the category.

How the various classes of DSL may fit the NFP

The following table names the standardised systems used in the *GIBTELECOM* NFP.

Short Line	Medium Line	Long Line
POTS	POTS	POTS
ISDN Basic Rate Access	ISDN Basic Rate Access	ISDN Basic Rate Access
ADSL over POTS	ADSL over POTS	ADSL over POTS
64kbps AMI	64 kbps AMI	64 kb/s AMI
64 - 256 kbit/s 2B1Q	64 - 256 kbit/s 2B1Q	64 - 256 kbit/s 2B1Q
SDSL/SHDSL 64 - 2312kbit/s gross rate	SDSL/SHDSL 64 - 1160 kbit/s gross rate	SDSL/SHDSL 64 - 1032 kbit/s gross rate

The NFP does not exclude specific systems; it excludes by implication : one may not install a system which does not conform to the masks at each of its ends. For example the NFP would exclude the following standardised systems from use on *any GIBTELECOM* network line ('short', 'medium' or 'long'):

- A 1-pair 2.3 Mbit/s HDSL system using 2B1Q or CAP
- A 2 or 3 pair 2.3 Mbit/s HDSL system using 2B1Q or CAP
- ADSL over ISDN
- Reverse ADSL (i.e. with the high bandwidth implemented in the customer to exchange direction). This means that ADSL is precluded from use on private circuits.

Annex 3 NFP Change Control Procedure.

The following change control procedure as agreed by *GIBTELECOM* and the GRA applies.

1. A proposal to amend the NFP may be submitted at any time, by any interested party, to the GRA for approval.
2. Any proposal to amend the NFP should contain: -
 - an impact assessment statement on at least the telecommunication systems listed in Annex 2.
 - a proposed date for implementation.
3. *GIBTELECOM* will adopt a proposed NFP amendment taking account of the following:
 - not only the impact of the proposed amendment on the current issue of the NFP but also the impact compared with any previous issues.
 - the need to discourage changes that would be likely to further erode the cross-talk noise environment, and might lead to denial of service, loss of service, or reduction in service quality for existing services. In the case of a proposal for such a relaxation, it is recommended that full consideration be given to the public interest benefit of such a change.
 - the need to encourage changes that would improve the overall crosstalk noise environment in the long term, with the objective of increasing the ubiquity of broadband services
4. Any objection to a proposed amendment should be supported by technical data to support the reasons for the objection.
5. Where there is no consensus agreement, the proposed amendment shall be passed to the GRA for determination.

GIBTELECOM
Reference Unbundling Offer

Annex J
Price List

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Notes

This list may be amended from time to time subject to obligations under the regulation act.

In the event of an accepted order being withdrawn by the Operator before the agreed in-service date, the full applicable provision charge will be made.

1. Local loop unbundling Services

1.1 Operator-specific charge

Code	Service	Price (£)
1.1	Operator-specific charge (one-off)	4,948

1.2 Line Sharing Access Service

1.2.1 One time Charges

Code	Service	Price (£)
1.2.1.1	Line Sharing Service Provision	82.66
1.2.1.2	Line Sharing Deactivation	46.33
1.2.1.3	Line Testing when No Fault Found	39.98
1.2.1.4	Splitter Unit (per line, where required)	30.00

1.2.2 Recurrent Charges

Code	Service	Price (£)
1.2.2.1	Line Sharing Service Monthly Rental	5.17

1.3 Metallic Path Full Unbundling Service

1.3.1 One time Charges

Code	Service	Price (£)
1.3.1.1	Metallic Path Full Unbundling Service – Line Transfer	82.66
1.3.1.2	Metallic Path Full Unbundling Service – New MPF where Spare Capacity Exists at the DP.	bespoke
1.3.1.3	Metallic Path Full Unbundling Service – New MPF Requiring Limited Network Rearrangements	bespoke
1.3.1.4	Metallic Path Full Unbundling Service - Reversion of an MPF to a Gibtelecom Usable Pair	64.10
1.3.1.5	Line Testing when No Fault Found	39.98

1.3.2 Recurrent Charges

Code	Service	Price (£)
1.3.2.1	Metallic Path Full Unbundling Service Monthly Rental	10.34

1.4 Sub-loop Unbundling Service

1.4.1 One time Charges

Code	Service	Price (£)
1.4.1.1	Sub-loop Unbundling Service – Line Transfer	82.66
1.4.1.2	Sub-loop Unbundling Service – New MPF where Spare Capacity Exists at the DP.	bespoke
1.4.1.3	Sub-loop Unbundling Service – New MPF Requiring Limited Network Rearrangements	bespoke
1.4.1.4	Sub-loop Unbundling Service - Reversion of an MPF to a Gibtelecom Usable Pair	64.10
1.4.1.5	Line Testing when No Fault Found	39.98

1.4.2 Recurrent Charges

Code	Service	Price (£)
1.4.2.1	Sub-loop Unbundling Service Monthly Rental	2.69

2 Co-location Services

2.1 Survey and Building Works

Code	Service	Price (£)
2.1.1	Physical Co-location Application and Initial Survey (one time charge per survey)	80.00
2.1.2	Physical Co-location Application and Full Survey (if initial survey positive)	Bespoke
2.1.3	Distant Co-location Application and Survey	Bespoke
2.1.4	Physical Co-location Equipment Room Works	Bespoke
2.1.5	Co-Mingling Co-location Application and Initial Survey (one time charge per survey)	80.00
2.1.6	Co-Mingling Co-location Application and Full Survey (if initial survey positive)	Bespoke
2.1.7	Co-Mingling Co-location Equipment Room Works	Bespoke

2.2 Essential Services

Code	Service	Price (£)
2.2.1	Electrical Rental per kW per annum	Bespoke
2.2.2	Electricity Usage per kWh	Published rate plus 5%
2.2.3	Security Charge per annum	Bespoke
2.2.4	Essential Power Service Rental per KVA per annum	Bespoke
2.2.5	Air conditioning per annum	Bespoke
2.2.6	Fire Alarms per annum	Bespoke
2.2.7	Floorspace Rental per annum	Bespoke

2.3 Internal Tie Cables

2.3.1 One time Charges

Code	Service	Price (£)
2.3.1.1	Internal Tie Cable - First 100 pair cable, 100m (or under) terminated on both ends	1,595.43
2.3.1.2	Internal Tie Cable - Additional 100 pair cable, 100m (or under) terminated on both ends	1,300.72
2.3.1.3	Internal Tie Cable - First 100 pair cable for each additional 100m (or under)	493.25
2.3.1.4	Internal Tie Cable - Additional 100 pair cable for each additional 100m (or under)	444.14

2.4 External Tie Cables

2.4.1 One time Charges

Code	Service	Price (£)
2.4.1.1	External Tie Cable - First 100 pair cable, First 100m, Connection terminated at both end, incl. MDF	Bespoke
2.4.1.2	External Tie Cable - First 200 pair cable, First 100m, Connection terminated at both end, incl. MDF	Bespoke
2.4.1.3	External Tie Cable - First 400 pair cable, First 100m, Connection terminated at both end, incl. MDF	Bespoke
2.4.1.4	Additional 100m of 100 pair	Bespoke
2.4.1.5	Additional 100m of 200 pair	Bespoke
2.4.1.6	Additional 100m of 400 pair	Bespoke

2.5 Escorted Access

Code	Service	Price (£)
2.5.1	Working Hours - planned - per hour (min. 3 hours)	34.90/hour
2.5.2	Working Hours - unplanned - per hour (min. 3 hours)	43.63/hour
2.5.3	Outside Working Hours - planned - per hour (min. 3 hours)	52.36/hour
2.5.4	Outside Working Hours - unplanned - per hour (min. 3 hours)	65.45/hour
2.5.5	Midnight to 8am during week - per hour (min. 3 hours)	65.45/hour
2.5.6	Sundays and Public Holidays - per hour (min. 3 hours)	69.81/hour
2.5.7	Midnight to 8am Sundays and Public Holidays - per hour (min. 3 hours)	78.54/hour

GIBTELECOM
Reference Unbundling Offer

Annex K
List of *GIBTELECOM* MDF Sites

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1. Introduction

In order to facilitate Local Loop Unbundling GIBTELECOM offers Co-Location Services as described in Annex C of this Agreement. Co-Location needs to take place at an MDF Site which can accommodate a particular type of Co-Locations requested by the Operator.

This Annex provides information about those GIBTELECOM MDF Sites that are potentially available for one or more kind of Co-Location.

The MDF sites in this Annex are divided into three categories:

- Sites which have been pre-surveyed by GIBTELECOM and where this pre-survey has shown that one or more type of Co-Location is very **likely** to be feasible¹ (Likely Co-Location MDF Sites)
- Sites which have been pre-surveyed by GIBTELECOM and where this pre-survey has shown that one or more type of Co-Location **may**² be feasible (Potential Co-Location MDF Sites)
- Sites which have been pre-surveyed by GIBTELECOM and where this pre-survey has shown that Co-Location is **not** feasible (MDF Sites unsuitable for Co-Location)

Additionally, this Annex indicates which type of Co-Location each MDF site is likely to be suitable for.

Three types of Co-Location are available:

- Physical Co-Location,
- Distant Co-Location, and
- Co—Mingling Co-Location

These three types of Co-Location are described in Schedules C2, C3 and C9 respectively.

Physical Co-Location and Distant Co-Location are the primary Co-Location options with Co-Mingling Co-Location as a last resort alternative. GIBTELECOM will only offer Co-Mingling Co-Location when all options of providing Physical Co-Location have been exhausted.

Due to the reduced security and segregation between Operators' equipment and GIBTELECOM's equipment in the Co-Mingling Co-Location option, this option is only offered at sites where Physical Co-Location cannot be offered within a reasonable period of time. In such sites, where sufficient floor space exists to accommodate at least one Operator's rack and equipment, Co-Mingling Co-Location is offered.

Furthermore this Annex provides a list of the MDF Sites from which Co-Location for Out of MDF Area Line Sharing Access can be made available (Out of MDF Area Co-Location MDF Sites)

GIBTELECOM's rationale for the categorisation will be available upon request to signatories of this Agreement.

¹ The pre-survey is performed at a high level and although conducted with the intention of vetting MDF Sites for Co-Location suitability, GIBTELECOM makes no guarantees or warranties that each site in this category is suitable for Co-Location.

² For MDF Sites in this category, the pre-survey has indicated that although some Co-Location parameters can be made available, problems may exist in the provision of other components, including for example physical space, power, air-conditioning or availability of MDF rack-space to accommodate the Operator.

The contents of this Annex will be updated on an ongoing basis.

2. Likely Co-Location MDF Sites

The list below sets out the Likely Co-Location MDF sites as defined above. For each MDF Site in this list its estimated suitability is indicated for each type of co-location as described in the relevant Annexes to this Agreement.

MDF Site Name	Physical Co-Location	Distant Co-Location	Co-Mingling Co-location
Victoria Stadium	YES	YES	NO
Jumper's Bastion	NO	YES	YES
Elliott's Battery	YES	YES	NO
Montagu Crescent	NO	YES	YES

3. Potential Co-Location MDF Sites

The list below sets out the Potential Co-Location MDF Sites as defined above, for each MDF Site in this list its estimated suitability is indicated for each type of Co-Location as described in the relevant Annexes to this Agreement.

MDF Site Name	Physical Co-location	Distant Co-location	Co-Mingling Co-location
Rosia House	NO	YES	NO
Catalan Bay	NO	YES	NO
New Harbours	NO	YES	NO

4. Out Of MDF Area Co-Location MDF Sites

The list below sets out the Out of MDF Area Co-Location MDF Sites as defined above, for each MDF Site in this list its estimated suitability is indicated for each type of Co-Location as described in the relevant Annexes to this Agreement.

Each of the MDF Sites listed in this table are also listed in the table in either section 2 or 3 above and the contents of table should be read in conjunction with these two tables.

MDF Site Name	Physical Co-location	Distant Co-location	Co-Mingling Co-location
Victoria Stadium	YES	YES	NO

5. MDF Sites unsuitable for Co-location

The list below sets out the MDF Sites deemed by GIBTELECOM to be unsuitable for Co-Location.

MDF Site Name	Physical Co-location	Distant Co-location	Co-Mingling Co-location
Europort	NO	NO	NO

City Hall	NO	NO	NO
Queensway Quay	NO	NO	NO

6. Maintenance of Lists of MDF Sites

GIBTELECOM will update the tables in this Annex from time to time and shall notify Operator within 5 Working Days of such updates. Notifications of updates will be sent electronically by e-mail to Operator's identified point of contact.

7. Initial Information on MDF Sites

The following information will be made available, for each MDF Site in the GIBTELECOM network, on signature of a Non-Disclosure Agreement by the Operator:

1. Exchange Name
2. MDFs at the exchange
3. Number of local loops
4. Indication of Geographic area serviced by the exchange
5. Exchange address and / or grid co-ordinates
6. Type of MDF – small, medium or large.

GIBTELECOM
Reference Unbundling Offer

Annex L
Non Disclosure Agreement

DATED ____ day of _____ 2008

BETWEEN

(1) GIBTELECOM LIMITED

-and-

(2) _____

CONFIDENTIALITY & NON-DISCLOSURE
AGREEMENT

THIS AGREEMENT is made the _____ day of _____ 2008

BETWEEN:-

- (1) GIBTELECOM LTD (hereinafter referred to as "Gibtelecom") a Company registered in Gibraltar with its registered office at 15/21 John Mackintosh Square.
- (2) _____ with its registered office at _____ (hereinafter referred to as "_____").

WHEREAS:

_____ wish to enter into a relationship with Gibtelecom that has and will continue to entail the provision of information by Gibtelecom to _____ of a technical and/or commercial nature with a view to contracting with Gibtelecom under the terms of its extant Reference Unbundling Offer [the "Business Purpose"].

1. In this Agreement the following terms shall have the following meanings:

"Confidential Information" means all financial, commercial, technical, operational, staff, management and other information, data and know-how regarding, respectively, Gibtelecom and members of their respective groups including their respective products, assets, data-networks, customers, suppliers, and employees which may be supplied orally or in writing by Gibtelecom or by their respective agents, advisers, employees or directors.

"Gibtelecom" means Gibtelecom and its Gibconnect (currently not trading), having offices at 15/21 John Mackintosh Square, Mount Pleasant, South Barracks Road and The Haven, 23 John Mackintosh Square respectively.

“Information” means information, knowledge, know-how, communications, data or other material, in any form, including but not limited to, oral, written, graphic or electromagnetic form.

2. Confidential Information disclosed by one party (the “Disclosing Party”) to any other party (the “Receiving Party”) shall be treated as confidential and safeguarded hereunder by the Receiving Party for a period _____ of five years from the date of disclosure. The Parties further agree that unless otherwise agreed in writing each of them will keep confidential and not disclose to any third party the contents of any Confidential Information made available to them or of any information relating to the terms, conditions, timing or other commercially sensitive facts.
3. The Receiving Party agrees that:
 - (a) any Confidential Information disclosed hereunder shall be used by the Receiving Party solely for the purpose set out in the Business Purpose;
 - (b) any Confidential Information disclosed hereunder shall remain at all times the property of the Disclosing Party;
 - (c) except as may be required by applicable law or regulation or the rules or requirements of any relevant stock exchange or relevant regulatory authority (in which case it will give the Disclosing Party prompt written notice of such requirement and use reasonable endeavors to cooperate in enabling the Disclosing Party to seek suitable protective orders against disclosure), it will not distribute, disclose, or disseminate such Confidential Information to anyone, except employees or professional advisers who have a need to know such Confidential Information for the Business Purpose for which it is disclosed;
 - (d) it will not copy the Confidential Information except as is necessary for the purposes set out in the Business Purpose and provided that the Disclosing Party is informed at the time of what Confidential Information has been copied and to whom; and
 - (e) upon the written request of the Disclosing Party all Confidential Information in writing and all copies thereof in the possession of the Receiving Party shall be returned to the Disclosing Party or destroyed at the option and instructions of the Disclosing Party.

4. The obligations set out in paragraphs 2 and 3 above shall cease to apply to Confidential Information which:
 - (a) is or becomes generally available to the public other than as a result of a breach of this Agreement; or
 - (b) comes into the possession of the Receiving Party or any Associated Company of the Receiving Party or its or their employees or advisers from a third party who is free lawfully to disclose the same.
5. The Receiving Party warrants that it applies reasonable safeguards against the unauthorized disclosure of confidential and proprietary information and agrees that it shall protect the Confidential Information of the Disclosing Party in the same manner and to the same degree that it protects its own Confidential Information and proprietary information.
6. In relation to disclosure to employees and professional advisers the Receiving Party further agrees to advise all of its employees and professional advisers having access to Confidential Information of its obligations hereunder and to procure that such companies, employees and advisers comply with all such obligations.
7. The Receiving Party agrees that monetary damages would not be a sufficient remedy for any breach of this Agreement and that the Disclosing Party shall be entitled to seek injunctive or other equitable relief to remedy or prevent any breach or threatened breach of this Agreement by the Receiving Party or any of its employees or advisers. Such remedy shall not be the exclusive remedy for any breach of this Agreement, but shall be in addition to all other rights and remedies available at law or in equity.
8. No failure or delay by any party in exercising any right or power shall operate as a waiver thereof, nor shall any single or partial exercise thereof preclude any other or further exercise thereof, or the exercise of any other right or power hereunder.
9. Any Confidential Information supplied to the Receiving Party by the Disclosing Party prior to the execution of this Agreement shall be considered in the same manner and be subject to the same treatment as the Confidential Information made available after the execution of this Agreement.
10. The obligations of confidentiality and non-disclosure under this Agreement shall remain in effect for the period of time specified in paragraph 2 above, without regard to the extent or duration of the business relationship between or among any of the parties.

11. It is understood that this Agreement is not intended to, and does not, obligate Gibtelecom to enter into any agreement relating to the Business Purpose.
12. Nothing contained in the Agreement shall be construed as granting or conferring title or rights by license or otherwise in any Confidential Information disclosed to the Receiving Party.
13. Any amendment to this Agreement must be in writing and signed by an authorized officer of each party.
14. This Agreement shall be governed by and construed in accordance with the Laws of Gibraltar and all parties agree to submit to the non-exclusive jurisdiction of the Gibraltar Courts.
15. This Agreement supersedes any prior agreement between the parties as to the subject matter hereof.
16. This Agreement may be executed in counterparts, each of which shall be deemed to constitute an original, but all of which together shall constitute one and the same document. The parties confirm that any facsimile copy of another party's executed counterpart of this Agreement (or its signature page thereof) will be deemed to be an executed original thereof.
17. All notices, demands or other communications under this agreement must be given or made in writing, and must be delivered personally, or sent by fax to:

Disclosing Party

Gibtelecom
15/21 John Mackintosh Square
Gibraltar.

Fax: +350 20070062
Attention: _____

Receiving Party

Fax: _____
Attention: _____

IN WITNESS WHEREOF, the parties have executed this Agreement on the date first set forth above.

SIGNED by

for and on behalf of
Gibtelecom Limited in the presence of

dated: _____

SIGNED by

for and on behalf of
_____ in the presence of

dated: _____

GIBTELECOM

Reference Unbundling Offer

Annex M

Co-Location Services

General Health & Safety Requirements

1. Introduction

1.1. *GIBTELECOM* has both a legal and moral responsibility to ensure that all work operations undertaken by the Operator and its contractors are conducted in a safe manner with significantly reduced risk of avoidable injury and ill health.

2. Scope

2.1. This document is intended to:

2.1.1. Acquaint the Operator with current health and safety legislation affecting its activities on *GIBTELECOM* premises.

2.1.2. Acquaint the Operator with *GIBTELECOM* health and safety policy and provide guidance as to its practical application while it is on *GIBTELECOM* premises or plant location for any of the following reasons:

2.1.2.1. installing, removing, working on or testing any equipment or plant

2.1.2.2. visiting *GIBTELECOM* premises or plant location for any other reason.

3. General Rules for Access to GIBTELECOM Premises

3.1. The following general rules apply to all Operator staff entering on to any *GIBTELECOM* property (building premises / civil works site) for the purpose of conducting any work activity. These rules are designed to ensure that a high standard of safety is maintained at all times. The rules do not cover every eventuality and do not relieve the Operator of its legal and moral obligations in respect of any omissions from this document. The implementation of these requirements will be audited and monitored at the discretion of the *GIBTELECOM* Health and Safety Officer.

3.2. Basic Legal & Company Requirements

3.2.1. Legislation

3.2.1.1. All Operator personnel must comply with all relevant health and safety provisions which relate to the task and / or the workplace including the following:

3.2.1.1.1. The Factories Act 1956

3.2.1.1.2. The Management of Health and Safety at Work Regulations, 1996

3.2.1.1.3. The Workplace (Health, Safety and Welfare) Regulations, 1996.

3.2.1.1.4. The Construction (Design, Management, Health, Safety and Welfare) Regulations, 1998

3.2.1.1.5. All other statutory provisions relevant to the place of Work

3.2.1.1.6. Reference to the above shall be deemed to include any amendment thereto or replacement that may be in force from time to time.

3.3. GIBTELECOM Requirements

3.3.1. *GIBTELECOM* health & safety requirements are defined in the *GIBTELECOM Health and Safety Policy*. All Operator personnel must comply with these requirements when working in *GIBTELECOM* buildings. The *GIBTELECOM* representative will advise the Operator of any unique site requirements not addressed by the general requirements addressed in this document.

3.4. Health & Safety Inspection

3.4.1. Prior to any co-location of Operator equipment in *GIBTELECOM* buildings, *GIBTELECOM* will conduct a health & safety inspection of the proposed area and any associated dependencies (e.g. emergency evacuation routes). A further inspection will be carried out on completion of the co-location.

4. Health and Safety Documentation Requirements

4.1. The Operator's current Health and Safety policy documentation as requested prior to any works commencing. This may be returned immediately or at the end of the project as desired.

4.2. Details of Method Statement /Site Specific Safety Statement as required.

4.3. Any other Health and Safety related documentation if requested e.g. evidence of training/certificates of competency, vehicle or lifting appliances certification, insurance details etc.

4.4. Project Supervisor(s) appointment details(as required).

4.5. Notifiable Site details

4.6. Evidence of required approvals, agreements and associated documents as.

4.7. Any changes in Operator's Health and Safety Statement/Safety policy documentation must be notified to *GIBTELECOM* in writing.

5. Specific Obligations on Operator's

5.1. The Operator is required to take account of and make provisions for ensuring the health and safety of its employees and relevant others in the vicinity of the work area as follows:

5.2. Where the Operator contracts any work, the Operator must ensure that the contractor and any subcontractors appointed are aware of and abide by any obligations of this document or any other related requirement as stipulated by *GIBTELECOM*.

5.3. Construction Project Work

5.3.1. Take account of particular risks as contained in the Construction (Design, Management, Health, Safety and Welfare) Regulations, 1998.

5.3.2. Report any fatal or notifiable accidents/ dangerous occurrences to *GIBTELECOM*'s Health and Safety Officer.

5.3.3. Ensure that their employees/Safety Representative(s) are provided with health and safety information / training and consultation as required.

5.3.4. Comply with health and safety directions as issued by the *GIBTELECOM* representative.

5.3.5. Put in place reasonable measures to prevent access of unauthorised persons on the work area.

5.3.6. The Operator must ensure that all of its employees, supervisors, visitors etc are adequately attired with suitable and approved Personal Protective Equipment at all times while on *GIBTELECOM* premises and /or plant location.

5.3.7. Health and Safety Plan (if undertaking construction project work).

6. Private /Work Vehicles

6.1. Vehicles used by employees of the Operator are allowed on to *GIBTELECOM* premises for delivery, collection and parking subject to local arrangements. All drivers are requested to exercise maximum care when on company premises and particularly when *GIBTELECOM* employees or members of the public are in the vicinity. Drivers of large vehicles operating in restricted circumstances must ensure there is a person in attendance to assist with reversing etc.

7. Delivery and Deposit of Materials

7.1. No materials, goods or equipment shall be stored in plant rooms or placed so as to obstruct the general work area / fire exit routes etc. All rubbish / discarded waste materials must be collected and removed from the premises daily. Hazardous waste must not be stored on the premises/site and should be removed by a competent person.

7.2. An inventory of all stored equipment, tools, materials must be made available to the *GIBTELECOM* representative on request.

7.3. Hazardous and Toxic Materials

7.3.1. Toxic and hazardous materials and substances must not be taken onto *GIBTELECOM* premises without prior approval of the *GIBTELECOM* representative in consultation with the Group Health and Safety Officer.

7.3.2. A Material Safety Data Sheet must be obtained and presented to the *GIBTELECOM* representative.

7.3.3. All toxic and hazardous materials, substances and or their containers must contain appropriate warning labels.

7.3.4. Access restricted to authorised competent persons.

7.3.5. A method statement may be requested by the *GIBTELECOM* representative.

7.3.6. An inventory of all materials and substances in use or in approved storage must be prepared and forwarded to the *GIBTELECOM* representative as requested.

8. Operator Work Area

8.1. General Requirements

8.1.1. While on *GIBTELECOM* property the Operator must keep the work area safe and secure at all times. Doors to flat roofs, plant rooms and electrical apparatus areas should be kept locked at all times. Warning signs / notices should also be posted in prominent locations. Naked flame Super Ser /Blow Heaters or other naked flame appliances are not permitted to be used as temporary heating appliances in *GIBTELECOM* buildings. Temporary heating appliances should not be introduced into the Operator work area under any circumstances without prior authorisation from an authorised *GIBTELECOM* representative.

8.1.2. Bottles and cylinders of explosive/flammable gases/oxygen etc should not be used without an appropriate permit to work system. These items must never be stored within *GIBTELECOM* premises.

8.1.3. Some locations may require special precautions due to their proximity to personnel or equipment e.g. dusts, noise etc. appropriate effective method of control must be used in such situations.

8.2. Electrical Safety Requirements

8.2.1. Strict adherence to the Management of Health and Safety at Work Regulations 1996 which requires precautions to be taken against the risk of death or personal injury from electricity used in the place of work.

9. Holes, Raised Surfaces and Projections

9.1. Holes, raised or dangerous surfaces, trailing leads and projecting equipment must not be left unattended at any time without taking the necessary safety precautions. All openings must be securely fenced by an approved and suitable barrier and highlighted by approved and suitable signs/notices.

10. Access / Egress

10.1. Appropriate access and egress arrangements to *GIBTELECOM* premises /plant sites must be agreed between the Operator and the *GIBTELECOM* representative prior to work commencing. The Operator will be required to adhere to *GIBTELECOM* Access and Security Procedures.

11. Plant, Tools and Equipment

11.1. All plant tools and equipment to be utilised on *GIBTELECOM* premises must be of safe design and free of patent defect. Plant, tools and equipment should only be used for the purpose for which they were designed and by competent personnel. Lifting tackle must conform to current Factories (Lifting Operations and Lifting Equipment) Regulations, 1999. It is the responsibility of the Operator to ensure that the goods, tools plant and equipment are properly stored and secured or removed from the site when not in use. Such items should not be accessible to unauthorised *GIBTELECOM* personnel or members of the public.

11.2. Portable Electrical Equipment

11.2.1. Use of battery operated or low voltage (110volt) tools permissible only.

11.3. Working with Live Equipment

11.3.1. The *GIBTELECOM* representative must be informed prior to work commencing.

11.3.2. Minimum of two competent persons required on site throughout the operation.

11.3.3. A *GIBTELECOM* approved Permit to Work system is required.

11.4. Electric Arc Welding

11.4.1. The *GIBTELECOM* representative must be informed prior to work commencing.

11.4.2. Two competent persons must be present while work is in progress.

11.4.3. Welding operations should be conducted in a safe and suitable external location where practicable. A *GIBTELECOM* approved "Hot Work Permit" system must be incorporated with all such operations.

11.4.4. All connections and leads must be of an approved type, safely insulated and of robust construction and suitable for the task to be undertaken. The work piece must be adequately earthed.

11.4.5. Appropriate PPE must be worn.

11.4.6. Appropriate fire fighting equipment and fire blanket must be available at the work site for the duration of the task.

11.4.7. Arrangements must be in place for a fire watch duty for up to **1 hour** after the task has been completed.

11.5. Gas Welding

11.5.1. The *GIBTELECOM* representative must be informed prior to work commencing.

11.5.2. Acetylene and oxygen cylinders should **never** be stored on the premises and must be removed to a safe and suitable designated location after the task has been completed.

11.5.3. Cylinders must be transported and retained on an approved and suitable cylinder dolly while on *GIBTELECOM* premises.

11.5.4. Approved, maintained and suitable connections, hoses, flashback arresters must be utilised.

11.5.5. Appropriate fire fighting equipment/ fire blanket must be present at the work site for the duration of the task.

11.5.6. Arrangements must be in place for a fire watch duty for up to **1 hour** after the task has been completed

11.5.7. Appropriate Personal Protective Clothing must be worn.

12. Safe Guarding of Machinery

12.1. All machinery must be guarded in accordance with statutory and specified *GIBTELECOM* requirements. Machine guards, fencing etc., removed for maintenance or cleaning purposes must be replaced before machines or equipment are put back into service.

13. Existing Services

13.1. It is the responsibility of the Operator to ascertain the existence and location of all electrical cables, telecommunication cables, drains, air, gas and water mains before commencing any openings or excavation work.

14. Notices / Sign-posting

14.1. All operations undertaken by the Operator on *GIBTELECOM* premises or sites must be adequately sign-posted. Notices posted should be clearly visible, readable and conform to the Health and Safety (Safety Signs and Signals) Regulations, 1996.

15. Working Aloft

15.1. Portable Access Equipment

15.1.1. Ladders, Step Ladders or Trestles must be of sound construction, suitable for the purpose and free from patent defect

15.1.2. Telephone exchange and other live plant location ladders should be manufactured from an approved non-conducting material e.g. fibreglass/timber.

15.1.3. All ladders (other than stepladders or trestles) should be safely secured at the top and bottom or footed at the base to prevent movement.

15.1.4. Equipment and materials must be carefully manoeuvred and never thrown or dropped deliberately from a height.

15.1.5. Competent persons only should be employed on pole climbing.

15.2. Access To Work Site

15.2.1. Safe access to all work areas must be provided in the form of proper scaffolding, ladders, steps, walkways, etc.

15.2.2. Scaffolding must be properly erected and inspected, at prescribed intervals, by competent persons.

15.3. Roof Work

15.3.1. The Operator must prepare a documented risk assessment of the work to be undertaken and forward a copy to the *GIBTELECOM* representative as required.

15.3.2. A safe means of access/aggress must be provided and maintained.

15.3.3. Roof ladders / crawling boards/other suitable coverings must be utilised to prevent a fall through fragile materials.

15.3.4. Suitable guard-rails/barriers /notices/signs etc must be provided to prevent falls of persons/materials from edges or through roof-lights and other openings.

15.3.5. Approved and suitable safety harness/belts/anchorage points must be utilised on all unguarded roofs. All users must be competent and evidence of training may be a requirement.

15.3.6. All areas below where work is in progress and or where debris is likely to fall, must be cordoned off by approved and suitable means. Access must only be permitted if necessary to authorised persons.

15.3.7. Permission for roof access must be authorised by the *GIBTELECOM* representative, who will arrange an escort.

16. Radiation Hazard Sites

16.1. Electromagnetic Radiation

16.1.1. The *GIBTELECOM* representative must advise the Operator regarding the presence of a radiation hazard.

16.1.2. Work must not commence on site until adequate and approved risk control measures have been implemented to the satisfaction of the *GIBTELECOM* representative and the Operator has been advised accordingly.

17. Warning of Danger

17.1. Care must be taken at all times to protect *GIBTELECOM* personnel and members of the public from danger and to protect property and work in progress from damage. Any circumstances, which give rise to such danger or damage, must be reported immediately to the *GIBTELECOM* representative.

18. Personal Protection

18.1. The Operator is required to ensure that their employees, supervisors and site visitors are adequately attired with suitable and approved Personal Protective Equipment at all times while on site.

19. Accidents & Dangerous Occurrences

19.1. The Operator has a statutory duty to report fatal and notifiable accidents/dangerous occurrences to the Health and Safety Authority and Site Project Supervisor if appointed. Details of all such incidents should be forwarded without delay by documented report to the relevant *GIBTELECOM* representative. The *GIBTELECOM* representative will arrange for a copy of the report to be forwarded to the *GIBTELECOM* Health and Safety Officer.

20. Specialist Activities

20.1. It is necessary for the Operator to have a Safety and Health Plan or documented safe system of work as appropriate for activities involving particular risk to health and safety.

20.1.1. Hot work of any type e.g. welding, flame, cutting, grinding etc. (within buildings or explosive environment) appropriate The use of any tools or equipment, which may generate sparks or sources of ignition (within building or explosive environments).

20.1.2. Dangerous Excavations

20.1.3. Entry into certain confined spaces.

20.2.4. Specified work on electrical equipment (e.g. work on live equipment).

20.1.5. Work on energised antennas.

20.1.6. Working aloft.

20.1.7. Working adjacent to fire protection equipment.

20.1.8. Explosive Environments

20.1.9. Working in *GIBTELECOM* network battery rooms.

20.1.10. Working adjacent to other services e.g. gas, electricity, water etc

20.1.11. Work adjacent to or involving hazardous substances i.e. Asbestos.

20.1.12. Storage and/or use of flammable liquids and materials.

20.1.13. Work or testing of high-pressure equipment.

21. Fire

21.1 The Operator will not be familiar with *GIBTELECOM* premises and may lack knowledge of the necessary fire precautions and correct action to be followed in the event of a fire. To maximise fire prevention and the safety of personnel in the event of fire all activities should ensure that all necessary precautions are taken.

21.2 In the event of fire, the Operator must instruct all employees or their agents entering *GIBTELECOM* premises in the procedures to be followed in the event of an emergency, including

21.2.1.1 Means of raising the alarm

21.2.1.2 Calling the fire brigade

21.2.1.3 Using the fire extinguishing equipment

21.2.1.4 Evacuation of the premises

21.3 All Operators must familiarise themselves with the location of

21.3.1 Escape routes

21.3.2 Fire points

21.3.3 Fire extinguishing equipment

21.3.4 Alarm Call points.

21.3.5 Telephones from which the fire brigade can be called

21.4 If fire protection equipment or fire safety signs must be temporarily covered or removed the *GIBTELECOM* representative must be warned and alternative arrangements should be made.

22. Smoking

22.1. All *GIBTELECOM* telephone exchange buildings and underground plant locations are designated **NO SMOKING** areas.

23. Storage

23.1. Storage of normal combustible goods should be strictly controlled and must be placed;

23.1.1. Away from sources of ignition or heat

23.1.2. Where it does not cause obstruction of means of escape or fire protection equipment.

23.1.3. Where it is unlikely to spread fire to other areas of the building should it catch fire.

23.2. Storage in exchange areas should be limited to the necessary for one day's work.

24 Waste and Rubbish

24.1 All Operators must dispose of waste and rubbish regularly and frequently. Operators must remove all combustible material such as packaging and trimmings daily.

24.2 There must be no burning of rubbish on *GIBTELECOM* premises