# AN AGREEMENT

BETWEEN

# TRANSMISSION COMPANY OF NIGERIA LIMITED

AND

## ALHERI ENGINEERING COMPANY LIMITED

### PROJECT:

TO DESIGN, BUILD, FINANCE, OPERATE TRANSYCO'S FIBRE OPTIC CABLE TELECOMMUNICATIONS INFRASTRUCTURE

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## **SCHEDULES**

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THIS AGREEMENT is made the 2000 day of 2006 BETWEEN TRANSMISSION COMPANY OF NIGERIA LIMITED a company incorporated in Nigeria as a subsidiary of the Power Holding Company of Nigeria, with its principal place of business situate at Plot 441 Zambezi Crescent, Maitama, Abuja (hereinafter referred to as "TCN" which expression shall where the context so admit include its successors-in-title and assigns) of the one part AND ALHERI ENGINEERING COMPANY LIMITED a company incorporated in Nigeria with its principal place of business at No. 1 Alfred Rewane Road, Lagos (hereinafter referred to as "ALHERI" which expression shall where the context so admit, include its successors-in-title and assigns.

#### WHEREAS:

- 1. Transmission Company of Nigeria is the owner of all transmission powerlines, sub-stations, and other transmission infrastructure previously owned by the Power Holding Company of Nigeria ("PHCN").
- It is the intention of TCN to develop, upgrade, and commercialize its
  existing and proposed fibre optic network and facilities to provide a
  cost effective telecommunications infrastructure for a more efficient
  attainment of its corporate goals, and to generate additional income.
- 3. ALHERI is willing to Design, Build, Finance, and Operate TCN's telecommunications infrastructure to meet the needs of the latter, for a period of fifteen (15) years, and to subsequently Transfer the infrastructure back to TCN.
- TCN has agreed to grant, and ALHERI has agreed to accept a right of use of TCN's infrastructure for the purposes, and upon the terms and conditions hereinafter stated.
- The Federal Government of Nigeria, through the Federal Ministry of Power and Steel has approved of the performance of this Agreement by the parties herein and upon the terms and conditions hereinafter stated.

# NOW IT IS HEREBY AGREED as follows:

## Definition of Terms.

Unless otherwise stated in the provisions of this Agreement, the following terms, either in singular or plural, shall have the meaning set forth below:

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"Actual Completion Date"

shall mean the actual date that the Alheri Network is completed where such date is different from the Target Completion Date.

"Alheri Network"

shall mean the segments of the TCN fibre optic cable telecommunications network assigned to Alheri for the purposes of this agreement, together with any expansions and development effected during the term of this agreement. The current status of the Alheri Network is more particularly shown in the Fifth Schedule hereto.

"Agreement"

means this agreement as the same relates to the grant of right of use of TCN infrastructure by TCN to Alheri for the purposes stated herein;

"Apparatus"

shall mean any telecommunications equipment, fixtures and/or other facilities associated therewith or ancilliary thereto which forms part of the Alheri Network either presently existing or added in future.

"Buy Out"

shall mean the exercise by TCN of its right to acquire the Alheri Network, or such parts of it as is completed upon the happening of events and/or circumstances stated in Articles 15.5, 24 and 26 herein.

"Call Data Records"

shall mean all record of call traffic on the Alheri Network obtained in accordance with industry norm and practice.

"Co-location"

means a joint location of Alheri's equipment and fixtures with those of TCN on TCN property under TCN management as may be required for the performance of the main agreement upon the terms and conditions of the "Co-location And Facilities Management Services Agreement" annexed to this Agreement.

"Commencement Date"

means the date the last required signature for this agreement is appended.

"DBFO"

shall mean Design, Build, Finance and Operate, being the terms of the project development between TCN and Alheri.

""Diversion Notice"

shall mean a notice given to TCN by Alheri, requiring any part of the equipment or fixtures of Alheri to be moved, altered, re-routed or diverted.

"Duration"

shall mean the period this Agreement shall be in force, which shall be a fixed term of Fifteen (15) Years from the Commencement Date, subject to such earlier termination or subsequent renewal as provided for herein.

"Fffective Date"

shall mean not later than six months after the Commencement Date.

"Financial Records"

shall mean all documents, records and data relating to finances of Alheri as they relate to the Project including, but not limited to books of accounts and financial transactional documents.

"FOC Network"

shall mean Fibre Optic Cable Network.

"Force Majeure"

shall mean a set of conditions, which releases either party from of its obligations under this Agreement, upon terms and conditions stated herein.

"Infrastructure"

shall mean such land, building, equipment and rights that form the technical basis of the subject matter of this Agreement.

"ITU-T"

shall mean The Standard Bureau of the International Telecommunications Union.

"NCA"

shall mean the Nigerian Communications Act, 2003 together with all amendments thereto.

"NCC"

shall mean the Nigerian Communications Commission and its agents as appointed pursuant to the powers under the Nigerian Communications Act, 2003.

"Network Control"

shall mean the monitoring of the network performance and attributes.

shall mean the location dedicated for the "Network Control Centre" monitoring of the network performance and attributes.

"Network Management System" shall mean a system put in place by Alheri for the effective management of the Alheri Network.

"New Works"

shall mean the different phases of construction and installations to be carried out in the expansion and development of the existing fibre optic cable network to achieve the full span of the Alheri Network.

"NLDL"

shall mean the National Long Distance Licence (NLDO/002/05) granted by the National Communications Commission to Alheri under Section 32 of the Nigerian Telecommunications Act, 2003.

"Notice of New Works"

shall mean a completed notice of new works submitted to TCN by Alheri, which shall include a plan showing the proposed location of the New Works on TCN Property, details of the New Work and the programme for such works.

"Operating Parameters"

shall mean the Operating Parameters set out in the First Schedule hereto.

"Operating Permits"

shall include any licenses, consents, releases, agreements and approvals that may be required for all aspects of the project

"Operator"

shall mean Alheri Engineering Company Limited.

"Performance Bond"

shall mean the bond for the sum of US\$500,000.00 (five hundred thousand U.S. dollars) issued by a first class financial institution acceptable to TCN in respect of the performance by Alheri of its obligations under this agreement

"Point of Presence"

shall mean any location within TCN property where Alheri's switching and transmission facilities are provided for the purpose of interfacing with it's customers or with another operator.



"Project Scope" or "Project" shall mean the construction, equipping and

activation of the Alheri Network in conformity with the specifications and project scope set out in the

First Schedule hereto.

"Telecommunication" shall mean any transmission, emission or reception

of signs, signals, writing, images, sounds or intelligence of any nature by wire, radio, visual or

other electro-magnetic systems;

"Testing" shall mean the submission of each completed

segment of the Alheri Network to the testing procedure contained in the Second Schedule

hereto.

"TCN Property" shall mean all telecommunications,

electricity and other infrastructure including land, buildings, rights of way, easements and other

access rights belonging to TCN.

"The Project" shall mean the exploitation of TCN's vast

infrastructure for the development of a sustainable and commercially viable Fibre Optics-based ('FOC') backbone network on a DBFO basis with a world class telecommunications company, using TCN's existing FOC infrastructure to build a formidable network that is capable of providing stable inter-city broadband communications services to telecom operators and other corporate

organizations in Nigeria.

"WTA" shall mean the Wireless Telegraphy Act Cap 469

Laws of the Federation of Nigeria as amended by the Wireless Telegraphy (Amendment) Act No. 31

of 1998.

2. The Project

The focus of the project is the exploitation of TCN's vast infrastructure for the development of a sustainable and commercially viable FOC-based backbone network on a Design, Build, Finance and Operate (DBFO) arrangement with a world-class telecommunications company.

The project seeks to use as a foundation, TCN's existing FOC infrastructure to build a formidable network that is capable of providing stable inter-city broadband communications services to telecom

operators and others who may require it, as permissible under the terms of the NLDL.

### Conditions Precedent

ALHERI shall on or before the commencement date, or such later date as the parties hereto may agree, submit to TCN, copies of the following documents:-

- (i) Copies of the Memorandum and Articles of Association of ALHERI, Duly certified at the Corporate Affairs Registry.
- (ii) Copies of Resolutions duly passed by the Board of Directors of ALHERI authorizing the execution, delivery and performance by ALHERI of this Agreement, certified by the Company Secretary in a manner satisfactory to TCN.
- (iii) Performance Bond of a financial institution acceptable to TCN in respect of ALHERI's obligations under Clause 8. The Bond should be for a sum of \$500,000.00 (five hundred thousand U.S. dollars). The Performance Bond shall take effect ninety (90) days after the Commencement Date of this Agreement, and shall continue in full effect until the attainment by ALHERI of a minimum activation of one thousand, five hundred (1,500) kilometers of fibre.
- (iv) Copy of the NLDL issued by the NCC.
- (v) A certificate of the Company Secretary of ALHERI confirming that all necessary corporate and other approvals and action have been duly obtained and taken for the due execution, delivery and performance by ALHERI of this Agreement. PROVIDED THAT any approvals that can only be obtained after the execution of this Agreement shall be duly obtained immediately after the execution.
- (vi) A certificate of the Company Secretary of ALHERI confirming that a copy of this Agreement has been submitted to the NCC in accordance with Condition 12 of the NLDL.
- (vii) Copies of relevant material contracts embodied in business services agreements with third parties for the provision of technical, supply and financial services connected with this agreement. Copies of such material contracts that come into force after the commencement of this agreement shall be submitted to TCN immediately upon execution.



### 4 Grant of Rights

- 4.1 For the purposes stated herein, and in consideration of the sums of money payable by ALHERI to TCN, TCN grants to ALHERI, the rights of access and use of TCN's existing and planned Fibre Optic Cable network, and other relevant physical infrastructure, as determined and agreed to by both parties, within all that area or territory demarcated in Blue colour in the Third Schedule hereto, for the duration of this agreement;
  - (a) To design, build, finance and operate on existing TCN infrastructure, as is reasonably required, a new telecommunications infrastructure upon the terms and specifications herein contained.
  - (b) To develop, modify, expand, redesign, operate and use TCN's existing and planned infrastructure.
- 4.2 ALHERI shall have right of entry into TCN property as may be required and necessary for the purpose of the business of the project, and to maintain and repair the telecommunications facility, and to undertake new work, provided that the right of entry to undertake such new work shall only be exercisable subject to prior notice to TCN.
- 4.3 TCN shall grant to ALHERI, an unfettered access to ALHERI's Point of Presence where the latter occurs in sub-station environments and shall provide ALHERI regular electricity supply and back-up power where available in co-location, areas to power associated telecommunications equipment and facilities. ALHERI shall also provide its own back-up power supply to make up for any deficiencies in TCN's power supply.
- 4.4 The rights of access and use granted herein in relation to facilities and equipment co-located with TCN facilities and/or within TCN secured areas, shall be exercisable at all such times as are reasonably necessary for the performance by ALHERI of its obligations in this Agreement, PROVIDED THAT in the event that ALHERI, as of necessity has to exercise these rights outside TCN's normal hours of work, or during public holidays, ALHERI shall give to TCN a prior written notification of such intention.
- 4.5 ALHERI shall bear all costs and charges for special and temporary rights of way required by them in connection with the project. For the avoidance of doubt, ALHERI shall incur at its own cost any additional facilities outside the FOC Network required by them for the purposes of the project.



### EASEMENTS AND RIGHTS OF WAY

4.6 TCN shall assign to ALHERI all easements, rights of way and other such rights, over third-party interests, where assignable in law, presently enjoyed by TCN or its holding company, or other predecessor-in-title provided that where such right is inalienable, TCN shall use its best endeavour to ensure that ALHERI enjoys those rights for the better performance of its obligations in this agreement

### RENTAL OF PHCN SPACE AND FACILITIES

4.7 ALHERI shall be entitled to lease from TCN upon terms and conditions stated in the Co-location and Management Services Agreement in the Fourth Schedule hereto, such open space, rooms, pylons, towers, land and other physical infrastructure as are available and necessarily required for the performance by ALHERI of its obligations in this Agreement.

## LIMITS TO ALHERI ACCESS RIGHTS

- The Rights of Access granted to ALHERI above are not general, but specific and limited in use to the actual and identifiable need of ALHERI in the performance of its obligations in this Agreement. ALHERI shall however have an exclusive right of access and use of the fibre optic cable network in the ALHERI Network throughout the duration of this Agreement.
  - 4.9 No ALHERI staff, contractor, associate or affiliate shall exercise any right of access whatsoever into or over any TCN property or facility not directly concerned with or related to the performance by ALHERI of its obligations under this Agreement.
  - 4.10 ALHERI shall not exercise its rights herein in a manner that may interfere with, disrupt, or frustrate the performance by TCN of its main function of transmission of electricity nationwide, through its national grid.
  - 4.11 Any ALHERI staff, contractor, associate or affiliate operating within any TCN Property or facility must at all such times wear an



- identifiable ALHERI Identity badge, a sample of which would have been submitted to TCN before being put to use.
- 4.12 TCN shall at all times be responsible for the security of its property and facilities, and all ALHERI staff, contractors, associates or affiliates operating therein shall be subject to all security regulations and provisions established and enforced by TCN.

### TCN RIGHTS AND PRIVILEGES

4.13 TCN shall have a right of access, upon prior written request, to all operating records, particularly, but not limited to the Call Data Records, financial records, and all other data reasonably necessary for the performance of its function of managing and administering the operation of this Agreement on behalf of TCN.

# Specifications and Operating Parameters

- 5.1 The Project shall be constructed and equipped in accordance with the technical standards, specifications and project scope set out in the First Schedule hereto.
- 5.2. ALHERI shall, in compliance with Condition 23 and 26 of the NLDL, ensure that throughout the term of the Licence, all equipment used for the project, conform with the NCC technical standards and specifications for electro-magnetic compatibility and NCC's requirement for network interface. ALHERI shall also ensure that all necessary compliance certificates are obtained from NCC or a body approved by NCC before commencing operations.
- 5.3 ALHERI shall ensure that all circuits installed, maintained and used throughout the duration of the Project, conform to such specifications, standards, and ITU-T recommendations as prescribed by the NCC.
- ALHERI shall ensure that the technical standards, specifications and project scope agreed upon between itself and TCN conform with the statements and representations made in its application for the NLDL. In the event of any variations thereto, ALHERI shall ensure that (in addition to obtaining the consent and approval of TCN), it obtains a written approval of such variations from NCC in accordance with the conditions of the NLDL.
- 5.5 ALHERI shall ensure that its network equipment and site are approved in accordance with the terms of the NLDL before commencement of operations.



- 5.6 In constructing and equipping the network to specifications as stated above, ALHERI shall ensure that the Network Management Systems have the following features:
  - (a) Operator's window to sites and links.
  - (b) Centralized network control system.
  - (c) Configuration of network parameters.
  - (d) Auto commissioning of additional links on the network.
  - (e) Statistics and status report capabilities.
  - (f) Graphical network management capabilities.
  - (g) Real time traffic monitoring.
  - (h) Component level redundancy for a more assured performance.
  - (i) Dynamic capacity allocation and redistribution.

These features and system capabilities shall be installed and implemented in accordance with standard telecommunications industry norms and practices

5.7 Following the Completion Date, the telecommunications facility shall be capable of operating within the Operating Parameters set out in the First Schedule hereto.

# 6. New Works

- 6.1 Before undertaking any new work in the project, ALHERI shall submit to TCN a completed Notice of New Works that shall include a plan showing the proposed location of the New Works on TCN Property, details of the New Works, and the programme for such works.
- Occupied to the Notice of New Works, respond in writing, either granting its approval for the New Works, or requesting further information, or suggesting a modification of ALHERI's plan, provided that TCN's approval shall not in any case be unreasonably withheld. Where ALHERI does not receive a response to its notice to TCN for new works after the expiration of the fourteen days, it shall be deemed that TCN approval has been granted for the new work.



- 6.3 ALHERI shall ensure that all New Works carried out in the course of the Project shall be in accordance with good industry standards and all ALHERI staff and contractors involved in the project shall be subject to best industry practices.
- 6.4 ALHERI shall, upon completion of any New Works, make good any damage caused by it to TCN property to the reasonable satisfaction of TCN and so far as practicable, restore the TCN property to its condition before such works were commenced.
- 6.5 Notwithstanding anything contained in this Article, ALHERI shall be entitled to enter TCN property in furtherance of the business of the project, without prior notice to, or approval of TCN in the case of emergencies, accidents or other unexpected incidents that might affect the Project adversely.

### 7. Network Roll-Out

- 7.1 ALHERI shall commence the operation of its network not later than six months from the Commencement Date of this Agreement.
- 7.2 In pursuance of its obligations under Condition 25 of the NLDL, ALHERI shall implement and comply at all times with a Network Roll-out programme as determined by the NCC. ALHERI shall also submit to the NCC, on the 15<sup>th</sup> day of January of each calendar year of its operation after the effective date of the NLDL, a Report of the Network Roll-Out achieved in compliance with the implementation timetable.
- 7.3 In pursuance of its obligations under Condition 29 of the NLDL, ALHERI shall provide the NCC within 90 days of the effective date of the NLDL, details of its Points of Presence as well as its routing arrangements. ALHERI must obtain the written consent of the NCC before undertaking any alterations to the location of its Points of Presence or routing arrangements.
- 7.4 ALHERI shall ensure that it submits to NCC for approval within 90 days from the effective date of its NLDL its form of Service Agreement containing the terms and conditions for the provision of services to the prospective customers in accordance with the provisions of the NLDL.
- 7.5 Copies of the information submitted to NCC pursuant to Clauses 7.2, 7.3 and 7.4 shall be submitted to TCN on the same dates.



## Obligations of ALHERI

ALHERI shall be responsible for:

- The construction and operation of the ALHERI Network, and shall cause the design, development, expansion, construction, completion, testing and commissioning of the network, capable of operating at a level within the Operating Parameters and in accordance with the Specifications and Project Scope contained herein;
- 8.2 the procurement, installation and commissioning of the ALHERI Network in the project phases specified;
- 8.3 the procurement, installation and commissioning of Network Management Centre;
- importation and transportation of equipment to site, the obtaining of building, construction, operating and other permits, licences and approvals for the all aspects of the Project, and of visas and work permits for foreign personnel, the recruitment of local labour and compliance with all local and other regulations including the payment of all fees and costs thereof.
- \*8.5 Financing all aspects of the developed and upgraded network, and all the new works constituting the entire telecommunication infrastructure under its designated part of the network.
  - 8.6 Integration of the backbone network to existing communications sub-systems of commercial clients, subject to contract.
  - 8.7 Education, training and manpower development of local TCN staff and local content capacity building to enable TCN understand ALHERI's operational systems, network performance and attributes, to efficiently oversee and monitor the operations of ALHERI during the term of this Agreement.
  - 8.8 Ensuring that at all times, there is complete compliance with all its obligations under the Conditions of the NLDL. Accordingly, ALHERI shall ensure strict compliance with dates for performance, payment of fees, preparation and submission of financial records, notification deadlines, procedures for implementation of variations, and all other obligations as required by the NLDL, the NCA, the WTA and regulations issued by the ITU-T and prescribed by the NCC from time to time.
  - 8.9 Maintenance and repairs of the ALHERI Network.



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## Obligations of TCN

- 9.1 TCN shall inform ALHERI, and keep ALHERI periodically updated by quarterly written reports of all additions to or depletions from its portfolio of land, building and infrastructure forming the TCN Property and those of its Holding company and/or predecessors-in-title, particularly:
  - 9.1.1 the acquisition or construction of new Electricity Infrastructure.
  - 9.1.2 the acquisition of new Sub-station sites.
  - 9.1.3 The acquisition of any new TCN land.

that may be utilized in the Project or may reasonably be expected to be required by ALHERI for the purpose of the Project.

- 9.2 TCN shall ensure that all its Property are satisfactorily maintained to good industry standards so as to enable TCN fulfill its obligations to ALHERI hereunder, and to enable ALHERI exercise the rights granted to it by TCN in this Agreement.
- 9.3 TCN shall ensure that it will throughout the term of this Agreement use its best endeavours to ensure the safe custody of all fixtures and equipment installed in, on, under or over TCN Property and that it will not maliciously interfere with the reception and transmission of signals to and from such fixtures and equipment and shall use its best endeavours to ensure that no other person shall damage, interfere or tamper with such fixtures and equipment.
- 9.4 TCN shall grant to ALHERI, an unfettered access to ALHERI's Point of Presence where the latter occurs in sub-station environments and shall provide ALHERI electricity supply to power associated telecommunications equipment and facilities upon the terms stated herein.
- 9.5 TCN shall at its own costs use its best endeavour to obtain all requisite consents, releases and agreements from relevant third parties, where applicable, to facilitate the grant by TCN to ALHERI of the rights set out herein, and the exercise of the rights authorized by this Agreement.



### 10 Testing and Completion

- 10.1 The testing of the telecommunications facility shall be in accordance with the Second Schedule, and in the presence of representatives of each of the parties to this Agreement.
- 10.2 ALHERI shall give to TCN not less than 14 days' notice or such lesser period as the parties hereto may agree, of its intention to commence any testing.
- 10.3 TCN shall ensure that there is made available for any testing, electricity, if required, for the proper and effective carrying out of such testing, the cost of which shall be to the account of TCN.
- 10.4 ALHERI shall test all the Fibres in accordance with the procedures specified in the Second Schedule to verify that the Fibres are installed and operating in accordance with the specifications described in the First Schedule. Fibre Acceptance Testing shall progress span by span along each Segment to be constructed hereunder as cable splicing progresses, so that the results may be reviewed in a timely manner.
- 10.5 In the event that the results of the tests of the Fibres show the Fibres not to be operating within the Parameters of the applicable Specifications, TCN shall notify ALHERI in writing that some or all portions of the ALHERI Fibres are unacceptable. Thereupon, ALHERI shall expeditiously take such action as shall be reasonably necessary, with respect to such portion of the ALHERI Fibres as do not operate within the Parameters of the applicable Specifications, to bring the operating standards of such portion of the Fibres within such Parameters.
- 10.6 If and when ALHERI notifies TCN that the test results of the Fibre Acceptance Testing are within the Parameters of the Specifications herein, within an entire Segment, TCN shall provide ALHERI with a written notice accepting the Fibres. If TCN fails to notify ALHERI of its acceptance or rejection of the final test results with respect to the Fibres comprising a Segment within ten (10) days after TCN's receipt of notice of such test result, TCN shall be deemed to have accepted such Segment. The date of such notice of acceptance (or deemed acceptance) of all ALHERI Fibres for each Segment shall be the "Acceptance Date" for such Segment

### 11 Alteration and Relocation of Apparatus

11.1 ALHERI shall not make any construction changes or material alterations to the interior or exterior portions of TCN property or



premises, including building of walls or partitions, perimeter fencing, plumbing or any electrical distribution of power supplies for equipment, without the prior notice and express approval of TCN, such approval not to be unreasonably withheld, and the cost of any such changes or alterations so approved shall be to the account of ALHERI.

- 11.2 In the event that TCN desires to carry out any development, repairs, maintenance, alteration or improvement of any part of its property which houses ALHERI equipment or fixtures, and is prevented from so doing, or such work is rendered materially less convenient, by reason of the location of ALHERI's equipment or fixtures, TCN may serve on ALHERI a Diversion Notice, requiring any part of the equipment or fixtures to be moved, altered, re-routed or diverted within a reasonable timeline determined by both parties
- 11.3 Upon service of the Diversion Notice above, TCN will use its best endeavours to identify and permit ALHERI to divert the equipment and/or fixtures to an alternative route within TCN Property and to permit new works to proceed on that basis.
- 11.4 The cost of all removal and relocation upon the service of a Diversion Notice as stated above, shall be to the account of ALHERI.

# 12 Maintenance and Repairs

- 12.1 ALHERI shall at all times be responsible for the maintenance and repairs of all the equipment, fixtures and infrastructure constituting the ALHERI Network, and shall bear all costs and expenses incurred in the performance of this obligation.
- 12.2 ALHERI shall ensure that the maintenance and repairs mentioned above are carried out by duly qualified personnel of the company or contractors who are technically qualified to carry out such tasks, and that all industry standards and norms are met in the performance of this obligation.

## 13 Payment Terms

13.1 In consideration of the rights granted to ALHERI under this Agreement, ALHERI agrees to pay to TCN such amounts as are stated in the Fourth Schedule hereto, and under the heads stated in Article 13.2 below.

- 13.2 (a) A fixed sum of \$40,000,000.00 (forty million dollars) payable throughout the duration of the Agreement, in instalments to be agreed to by the parties hereto, for the right of access and use of TCN's infrastructure. The first instalmental payment shall be due eighteen months after the Commencement Date, and thereafter, subsequent payments shall be made on each anniversary date of the first payment.
  - (b) ALHERI shall also pay or cause to be paid to TCN such sums as shall represent 2 ½% (two and one half per centum) of its gross revenue from its operation of the ALHERI Network, as Royalty. The computation of payments on this head shall be based on the volume of traffic recorded on the Network, according to industry norms. For this purpose, ALHERI shall open its operational records to TCN's officials to confirm traffic recorded and where there is a conflict as to sums due to TCN, an independent financial consultant shall be jointly appointed by the parties to determine the sums due to TCN. Such determination shall be binding on the parties.
- 13.3 The payments due to TCN above shall be paid net of Value Added Tax, Withholding Tax, and any other taxes or other outgoings.

### 14 Duration

14.1 This Agreement shall take effect on the Effective Date and shall be in force for a fixed term of Fifteen (15) Years subject to such earlier termination as provided for herein, and the same may be renewed for a further term of Five (5) Years if TCN is satisfied with the performance by ALHERI of its obligations in this Agreement. The parties hereto may commence negotiations for the renewal of this Agreement at least six months before the expiration of the first term hereby created.

# 15 Management and Operation of FOC Network

- 15.1 ALHERI shall, at its own cost, be responsible for the management, operation, maintenance and repair of the ALHERI Network during the term of this Agreement and shall use its best endeavours to ensure that the Network is in good operating condition within the Operating Parameters.
- 15.2 In pursuance of its obligations under Article 16.1 ALHERI shall have full right to:



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- 15.2.1 enter into contracts for the supply of materials and services, including, contracts with TCN;
- 15.2.2 appoint and remove consultants and professional advisers;
- 15.2.3 purchase replacement equipment;
- 15.2.4 appoint, organize and direct staff, to manage and supervise the ALHERI Network;
- 15.2.5 establish and maintain regular inspection, maintenance and inspection procedure; and
- 15.2.6 do all other things necessary or desirable for the operation of the ALHERI Network within the Operating Parameters.
- 15.3 **TCN** shall ensure that all infrastructural requirements and utilities necessary for the operation of the ALHERI Network within the Operating Parameters are made available in a timely manner and accordingly shall at its own cost, inter alia:
  - (a) ensure that there is provided within ALHERI's sphere of operation, when required, electricity, the cost of utilization of which shall be to the account of ALHERI.
  - (b) maintain and repair all transmission lines to ensure that at all times, it is capable of operating within the specifications set out in the 1<sup>st</sup> Schedule hereto.
- 15.4 TCN and ALHERI shall, from time to time, meet and discuss and agree to safety guidelines for the operation of the Alheri Network within the Operating Parameters and following such agreement ALHERI shall operate same within such guidelines.
- 15.5 ALHERI shall operate the ALHERI Network in accordance with all environmental and other laws and regulations in force as at the date of this Agreement and shall comply with any changes in such laws and regulations provided that if to comply with such changes or new laws and regulations would:
  - (a) result in the Alheri Network being unable to operate in accordance with the Specifications or within the Operating Parameters; or
  - (b) result in ALHERI's reasonable expectation of its economic return on its investment being materially reduced, prejudiced or otherwise adversely affected,



then the parties shall meet and endeavour to agree on amendments to this Agreement and if after 60 days no such agreement has been reached the provisions of Article 27.1 shall apply.

### 16 Network Control

- 16.1 The network performance and attributes shall be monitored remotely from a Network Control Center.
- 16.2 The control of the network shall remain with the Network Control Center at all times, except, where;
  - 16.2.1 there is catastrophic failure of the Network Control Center;
  - 16.2.2 the Network Control Center is taken down for routine maintenance;

in which respective case, ALHERI shall detail the handover sequence.

# 17 Relationship Management

- 17.1 The parties shall set up a committee made up of representatives of both companies for the effective day to day management of the relationship between TCN and ALHERI in the course of this Agreement.
- 17.2 The committee shall meet on a quarterly basis to review the relationship between the two companies, and share information relating to the plans and operations of both companies as they may impact on the Project.
- 17.3 The parties hereto shall at all times view this project as a collaborative effort, and shall mutually assist each other to ensure that their respective obligations are carried out effectively to the overall success of the project.

### 18 Insurance

ALHERI shall be responsible to ensure that there is effected insurance as provided in the Fifth Schedule and shall provide TCN with copies of all policies of insurance effected by it, and the proceeds of claims from such insurances, except third party liability and workmen's compensation insurance, with respect to damage or other casualty to the telecommunications infrastructure shall be applied by ALHERI to the



extent necessary to repair or restore the network to its previous condition.

# 19 Indemnity

- 19.1 Subject to the provisions of Article 21, TCN hereby releases and agrees to indemnify, defend, protect and hold harmless ALHERI, its employees, officers, directors, agents, shareholders and affiliates, from and against, and assumes liability for:
  - 19.1.1 Any injury, loss or damage to any person, tangible property or facilities of any person or entity to the extent arising out of or resulting from the negligent acts or omissions of TCN, its officers, employees, servants, agents or licensees in connection with the performance of its obligations under this Agreement;
  - 19.1.2 Any claims, liabilities or damages arising out of any violation by TCN of regulations, rules, statutes or court orders of any local, state or federal governmental agency, court or body in connection with the performance of its obligations under this Agreement; and
  - 19.1.3 Any claims, liabilities or damages arising out of any interference with or infringement of the rights of any third party as a result of ALHERI's use of the Rights granted by TCN in accordance with terms of this Agreement.
  - 19.2 Subject to the provisions of Article 21, ALHERI hereby releases and agrees to indemnify, defend, protect and hold harmless TCN, its employees, officers, directors, agents, shareholders, and affiliates, from and against, and assumes liability for:
    - (a) Any injury, loss or damage to any person, tangible property or facilities of any person or entity to the extent arising out of or resulting from the negligent acts or omissions of ALHERI, its officers, employees, servants, affiliates. agents, contractors, licensees, invitees or vendors in connection with the performance by ALHERI of its obligations in this Agreement.
    - (b) Any claims, liabilities or damages arising out of any violation by ALHERI of regulations, rules, statutes or court orders of any local, state, or federal governmental agency, court or body in connection with the performance by ALHERI of its obligations in this Agreement,



- (c) Any claims, liability or damages arising out of any interference with or infringement of the rights of any third party as a result of TCN's use of the ALHERI network.
- 19.3 The Parties hereby expressly recognize and agree that each party's said obligation to indemnify, defend, protect and save the other harmless is not a material obligation to the continuing performance of the other party's other obligations, if any, hereunder. In the event that a party shall fail for any reason to so indemnify, defend, protect and save the other harmless, the injured party hereby expressly recognizes that it's sole remedy in such event shall be the right to bring about conciliatory or arbitration proceedings pursuant to the terms of this Agreement against the other party for its damages as a result of the other party's said failure to indemnify, defend, protect and save harmless. These obligations shall survive the expiration of this Agreement.
- Nothing contained herein shall operate as a limitation on the right of either party hereto to bring an action for damages against any third party, including indirect, special or consequential damages, based on any acts or omissions of such third party as such acts or omissions may affect the construction, operation or use of the telecommunications infrastructure; provided, however, that each party hereto shall assign such rights or claims, execute such documents and do whatever else may be reasonably necessary to enable the other party to pursue any such action against such third party.

### 20 Warranties

- 20.1 Each party represents and warrants that:
  - 20.1.1 It has the full right and authority to enter into, execute, deliver and perform its obligations under this Agreement;
  - 20.1.2 It has taken all necessary corporate action to approve the execution, delivery and performance of this Agreement;
  - 20.1.3 This Agreement constitutes a legal, valid and binding obligation enforceable against such party in accordance with its terms, subject to bankruptcy, insolvency, creditors' rights and general equitable principles; and
  - 20.1.4 Its execution of and performance under this Agreement shall not violate any applicable existing regulations, rules,



statutes or court orders of any local, state or federal government agency, court or body.

20.2 ALHERI warrants and represents that the Segments of the ALHERI Network that it has constructed or will construct either have been or shall be designed, engineered, installed, and constructed in material compliance with any and all applicable building, construction and safety codes for such construction and installation, and in accordance with the Conditions of its NLDL, as well as any and all other applicable governmental laws, codes, ordinances, statutes and regulations.

### 21 Liabilities

- 21.1 In the event that, in breach of its obligations hereunder, ALHERI fails to construct and develop the ALHERI Network, ALHERI shall reimburse and indemnify TCN for all costs and liabilities incurred by TCN in respect of TCN's obligations hereunder.
- 21.2 ALHERI's liability to TCN arising from any breach of this Agreement or otherwise in connection with the design, construction and operation of the ALHERI Network shall be limited to payments as provided in Article 24 herein.
- 21.3 Save and except as is otherwise stated in this Agreement, the duties, obligations and liabilities of the parties hereto are intended to be several and not joint or collective and nothing contained in this Agreement shall be construed to create an association, trust, partnership or joint venture amongst the parties hereto and each party shall be liable individually and severally for its own obligations under this Agreement.

# 22 Benefit of Agreement

22.1 TCN may not assign or transfer all or any part of its rights, benefits or obligations hereunder, without the express approval of ALHERI, PROVIDED and it is hereby agreed that if in the course of the Nigerian Government Reforms and/or Privatisation of the Energy Sector, TCN undergoes a merger, consolidation or privatization, the surviving entity shall be entitled to an assignment and transfer of all TCN's rights and benefits hereunder, and it shall adopt and become fully liable to perform TCN's obligations hereunder.





23.4 TCN shall be responsible for all costs and expenses (including legal fees) incurred in connection with transfer referred to in this Article 23, and shall at its own cost obtain or effect all governmental and other approvals, licences, registrations and filings and take such other action as may be necessary for the transfer contemplated in this Article 23, and reimburse ALHERI on demand for such costs and expenses incurred by ALHERI in respect of such transfer.

### 24 Event of Default

- 24.1 With respect to all payments required to be made by ALHERI hereunder, ALHERI shall be in default hereunder if such payment is not paid on the date due and payable hereunder, and from and after such date such unpaid amount shall bear interest until paid at the rate of 15% per annum. With respect to non-payment obligations, ALHERI shall be in default under this Agreement thirty (30) days after TCN shall have given ALHERI written notice of such default unless ALHERI shall have cured such default or such default is otherwise waived within such thirty (30) days; provided, however, that where such default cannot reasonably be cured within such thirty (30) day period, if ALHERI shall proceed promptly to cure the same and prosecute such curing with due diligence, the time for curing such default shall be extended for such period of time as may be necessary to complete such curing. Events of default also shall include, but not be limited to, the making by ALHERI of a general assignment for the benefit of its creditors, the filing of a voluntary petition in bankruptcy or the filing of a petition in bankruptcy or other insolvency, protection against ALHERI which is not dismissed within ninety (90) days thereafter, or the filing by ALHERI of any petition or answer seeking, consenting to, or acquiescing in reorganization, arrangement, adjustment, composition, liquidation, dissolution or similar relief. Any event of default by ALHERI may be waived under the terms of this Agreement at TCN's option. Upon the failure by ALHERI to timely cure any such default after notice thereof from TCN, TCN may (i) take such action as it determines, in its sole discretion, to be necessary to correct the default and (ii) pursue any legal remedies it may have under applicable law or principles of equity relating to such breach. Notwithstanding the above, if ALHERI certifies in good faith to TCN in writing that a default has been cured, such default shall be deemed to be cured unless TCN otherwise notifies ALHERI in writing within fifteen (15) days of receipt of such notice from ALHERI.
  - 24.2. With respect to all payments required to be made by TCN hereunder, TCN shall be in default hereunder if such payment is not paid on the date due and payable hereunder, and from and after such date such unpaid amount shall bear interest until paid at the rate of 15% per annum. With respect to all non-payment obligations, TCN shall be in

default under this Agreement thirty (30) days after ALHERI shall have given TCN written notice of such default unless TCN shall have cured such default or such default is otherwise waived within such thirty (30) days; provided, however, that where such default cannot reasonably be cured within such thirty (30) day period, if TCN shall proceed promptly to cure the same and prosecute such curing with due diligence, the time for curing such default shall be extended for such period of time as may be necessary to complete such curing. Events of default shall also include, but not be limited to, the making by TCN of a general assignment for the benefit of its creditors, the filing of a voluntary petition in bankruptcy or the filing of a petition in bankruptcy or other insolvency protection against TCN which is not dismissed within ninety (90) days thereafter, or the filing by TCN of any petition or answer seeking, consenting to or acquiescing in reorganization, arrangement, adjustment, composition, liquidation, dissolution or similar relief. Any event of default by TCN may be waived under the terms of this Agreement at ALHERI's option. Upon the failure by TCN to timely cure any such default after notice thereof from ALHERI, ALHERI may (i) take such action as it determines, in its sole discretion, to be necessary to correct the default, and (ii) pursue any legal remedies it may have under applicable law or principles of equity, relating to such breach.

Notwithstanding the above, if TCN certifies in good faith to ALHERI in writing that a default has been cured, such default shall be deemed to be cured unless ALHERI otherwise notifies TCN in writing within fifteen (15) days of receipt of such notice from TCN.

### 25 Termination

# 25.1 TCN's Right of Termination.

- 25.1.1 TCN has the right to terminate all or any portion of the Agreement without any penalty or payment obligation (other than undisputed outstanding payment obligations as of the date of any such termination, with disputed payment obligations being subject to the dispute resolution provisions of Section 31) upon the occurrence of any ALHERI event of default (each, a "ALHERI Event of Default") set forth below. References to "ALHERI" in this Article 25.1.1 shall include ALHERI and any assignee of ALHERI. The occurrence of any one of the following shall constitute a ALHERI Event of Default:
  - (a) ALHERI (i) is insolvent, (ii) files a voluntary petition in bankruptcy or has an involuntary petition in bankruptcy filed against it that is not dismissed within thirty (30) days of such involuntary filing, (iii) admits the material allegations of any petition



in bankruptcy filed against it, (iv) is adjudged bankrupt, or (v) makes a general assignment for the benefit of its creditors, or a receiver is appointed for all or a substantial portion of its assets and is not discharged within thirty (30) days after his appointment;

- (b) ALHERI commences any proceeding for relief from its creditors in any court under any insolvency statutes;
- (c) ALHERI disregards or violates material Applicable Laws or material Applicable Permits;
- (d) ALHERI persistently fails to timely correct Defects and Deficiencies in accordance with the terms of the Agreement;
- (e) ALHERI persistently fails to fulfill its obligations with respect to the network scope, specifications and operating parameters as set forth in Article 5 hereof;
- performance of the Work (except as a result of an event of Force Majeure or a casualty for which TCN is fully covered by insurance or as to which other provisions reasonably acceptable to TCN are being diligently pursued.
- (g) ALHERI fails to pay to TCN any material amount due not otherwise disputed in good faith by the date required for such payment;
- (h) ALHERI otherwise materially breaches any provision of the Agreement; or
- (i)  $\qquad \qquad \text{ALHERI fails to fulfill its obligations as } \\ \text{contained in the NLDL}.$
- 25.1.2 If any of the ALHERI Events of Default exists, TCN may, without prejudice to any other rights or remedies of TCN in the Agreement or at law or in equity, terminate the Agreement upon notice to ALHERI; provided, however, that TCN shall have first provided to ALHERI the following periods of notice and opportunity to cure:
  - (a) in the case of a ALHERI Event of Default specified in the foregoingArticle 25.1.1 (a), (b)



- and (c), TCN shall have provided thirty days prior written notice to ALHERI, and ALHERI shall have failed to remedy such breach entirely by the end of such thirty day period;
- (b) in the case of a ALHERI Event of Default specified in the foregoing Article 25.1.1 (j) and (i), TCN shall have provided fourteen days prior written notice to ALHERI, and ALHERI shall have failed to remedy such breach entirely by the end of the fourteen day period;
- (c) in the case of any other ALHERI Event of Default, TCN shall have provided seven days prior written notice, and ALHERI shall have failed (A) to commence to cure the default within seven days after receipt of such notice, and (B) to diligently pursue such cure and remedy the breach entirely by the end of a fourteen day period.
- 25.1.3 If TCN elects to terminate the Agreement, TCN may, without prejudice to any other rights or remedies of TCN in the Agreement or at law or in equity, do one or more of the following:
  - (a) Take possession of all engineering and design data, manufacturing data, construction and erection data, start-up and testing data, materials, and Products that shall become part of the Network, or the Project, pursuant to the provisions of Article 27 herein, whether any of the same is in a partial state of completion or completed condition (if not already vested in TCN by the provisions of the Agreement);
  - control of all of ALHERI's installation equipment, machinery, and ALHERI's materials, supplies, Software and any and all tools at any project site including, but not limited to, any Network Location, within the Network that in TCN's opinion, are necessary to finish the Work, subject to any enforceable licenses related thereto or any confidentiality restrictions otherwise contained in these General Terms;
  - (c) Direct that ALHERI assign its Subcontractor agreements to TCN without any change of price or conditions therein or penalty or payment therefore to the full extent permitted by such agreement or agreements; or



(d) Take over and finish the Work by whatever reasonable methods TCN may deem expedient;

provided, that nothing contained in (a) through (d) above shall require ALHERI to relinquish to TCN any of its manufacturing facilities, specific Product designs (other than such designs previously provided to TCN pursuant to the terms of this Agreement), trade secrets or proprietary information not previously provided or made available to TCN, supplies, inventories, tools, software, engineering and/or designs that are not integral or relevant to the completion of the Work and the said provisions shall be subject to Article 27 herein.

- 25.1.4 Upon such notification of termination, ALHERI shall immediately discontinue all of the Work (unless such notice of termination directs otherwise), and, deliver to TCN copies of all data, drawings, specifications, reports, estimates, summaries, and such other information, and materials as may have been accumulated by ALHERI in performing the Work, whether completed or in process. Furthermore, ALHERI shall assign, assemble and deliver to TCN all purchase orders and Subcontractor agreements (and in connection with such agreements, to the full extent permitted by such agreements) requested by TCN.
- In the event TCN terminates the Agreement pursuant to Article 25.1.2, ALHERI shall not be entitled to receive further payment, other than payments due and payable under the Agreement and not subject to dispute prior to such termination (with disputed payment obligations being subject to the dispute resolution provisions of Article 30), and payments determined by the operation of Article 27 herein. Notwithstanding anything herein to the contrary, TCN may withhold payments, if any, to ALHERI for the purposes of offset of amounts owed to TCN pursuant to the terms of this Agreement until such time as the exact amount of damages due to TCN from ALHERI is fully determined.

## 25.2 ALHERI's Right of Termination.

ALHERI shall have the option to suspend or terminate the Agreement without any penalty or payment obligations, other than undisputed outstanding payment obligations relating to the Work performed by ALHERI as of the date of any such termination (with disputed payment obligations being subject to the dispute resolution provisions of Article 30) pursuant to the terms of this Agreement if:

- Dankruptcy or has an involuntary petition in bankruptcy or has an involuntary petition in bankruptcy filed against it that is not dismissed within sixty (60) days of such involuntary filing, (ii) admits the material allegations of any petition in bankruptcy filed against it, (iii) is adjudged bankrupt, or (iv) makes a general assignment for the benefit of its creditors, or if a receiver is appointed for all or a substantial portion of its assets and is not discharged within sixty (60) days after his appointment, and any such filing, proceeding, adjudication or assignment as described herein above shall otherwise materially impair TCNs's ability to perform its obligations under this Agreement;
- 25.2.2 TCN commences any proceeding for relief in any court under any insolvency statutes; or
- 25.2.3 TCN fails and/or refuses to fulfill its obligations as contained in Article 9 herein and/or refuses to give effect to the grant of rights stated in Article 4 herein.

# 25.3 Survival of Continuing Obligations

Notwithstanding anything to the contrary in this Agreement termination or expiration of the Agreement for any reason (i) shall not relieve either Party of its obligations with respect to the confidentiality of the Proprietary Information as set forth in Article 29, (ii) shall not relieve either Party of any obligation that expressly or by implication survives termination, and (iii) except as otherwise provided in any provision expressly limiting the liability of either Party, shall not relieve either Party of any obligations or liabilities for loss or damage to the other Party arising out of or caused by acts or omissions of such Party prior to the effectiveness of such termination or arising out of its obligations as to portions of the Work already performed or of obligations assumed by ALHERI prior to the date of such termination

# 26 Force Majeure

Neither party shall be in default under this Agreement to the extent that any delay in such party's performance is caused by any of the following conditions, and such party's performance shall be excused and extended during the period of any such delay: act of God; fire; flood; war or civil disorder; coup d'etat; failure of a third party to grant a required permit easement, or other required authorization for use of the intended right-of-way (provided that such required authorization was sought and pursued on a timely and reasonable best efforts basis), or any

other cause beyond the commercially reasonable control of such party.

- 26.2 The party invoking Force Majeure shall:
  - 26.2.1 notify the other party as soon as reasonably possible by facsimile or by electronic mail, of the nature of the Force Majeure and the extent to which the Force Majeure suspends the affected party's obligations under this Agreement, and
  - 26.2.2 resume performance of its obligations as soon as possible after the Force Majeure condition no longer exists.
- 26.3 The parties hereto shall consult with each other and shall take all reasonable steps to minimize the losses of either party resulting from Force Majeure.

### 27 Buy Out

- 27.1 If the circumstances set out in Article 15.5, Article 25, or Article 28 arise, or if ALHERI is incapable of completing the Project within the Completion Date or such other date as is agreed to by the parties, or if ALHERI is in default of the terms of payment contained herein, or if the corporate, technical or financial status of ALHERI is so materially altered that it is incapable of meeting its obligations herein, then, upon TCN giving not less than 90 days notice requiring ALHERI to sell out to TCN, TCN shall have the right to purchase all ALHERI's right, title and interest in and to the ALHERI Network and thereupon all ALHERI's obligations hereunder shall cease.
- 27.2 In the event of a buy out by TCN pursuant to Article 27.1 above, the provisions of Articles 23.3 and 23.4 shall apply thereto.
- 27.3 Subject to the provisions of Article 23.4, the purchase price payable by TCN in the event of a buy out pursuant to Article 23.1 shall be such sums determined by an independent accountant, jointly appointed by the parties, taking into account the costs incurred by ALHERI in building the network, including the cost of funds, revenue accruing to ALHERI during the period of its operation of the network , and any sums of money owed by ALHERI to TCN, which shall be discounted from the determined buy out price.
- 27.4 If the provision of Article 27.1 applies prior to the Completion Date, the purchase price payable shall be the aggregate of all costs, expenses and liabilities incurred by ALHERI in connection



with the Project as estimated by an independent accountant jointly appointed by both parties, provided that any existing debts or other liabilities owed to TCN by ALHERI as at the date of the buy out shall be discounted from the purchase price.

- 27.5 Completion of a buy out pursuant to Article 27.1 shall take place on the date of the expiry of the notice specified therein at which time TCN shall pay to ALHERI the purchase price calculated in accordance with Article 27.3 or, as the case may be, Article 27.4 and ALHERI shall warrant that following the buy out, the ALHERI Network shall be free from any lien or encumbrance created by ALHERI.
- 27.6 In the event that the provisions of Article 27.1 apply due to force majeure then there shall be deducted from the sum payable pursuant to Article 27.4 an amount equal to the value, if any, of any insurance proceeds received by ALHERI in respect of the event of force majeure.

# 28 Change in Circumstances

In the event that as a result of any laws or regulations of Nigeria, or any agency or other body under the control of the Government of Nigeria or any State or Municipal authority thereof, coming into effect after the date hereof, or as a result of any such laws or regulations (including any official interpretation thereof which ALHERI has relied upon in entering this Agreement) in force at the date hereof being amended, modified or repealed , the interest of ALHERI in the Project or ALHERI's reasonable expectation of economic returns on its investment is materially reduced, prejudiced or otherwise adversely affected then the parties hereto shall meet and agree to amendments to this Agreement, with a view to easing the burden of the change in circumstance on ALHERI, and if after 90 days, no such agreement has been reached, the provisions of Article 27.1 shall apply.

# 29 Confidentiality

29.1 If either party acquires confidential information of the other, in the course of the performance of this agreement, such receiving party shall maintain the confidentiality of the disclosing party's Confidential Information, shall use such Confidential information only for the purpose for which it is furnished, and shall not reproduce or copy it in whole or in part, except for use as is authorized in this agreement. Confidential Information shall mean all information of the disclosing party which it treats as confidential or proprietary. Confidential information shall not include information which is or hereafter becomes generally available to others without restriction or which is obtained by the



receiving party without violating the disclosing party's right under Article 29 or any other obligation of confidentiality. The terms and conditions of this Agreement shall constitute Confidential Information.

- 29.2 With respect to all Confidential Information, the parties' rights and obligations under this Article shall remain in full force and effect following the termination of this Agreement.
- 29.3 All materials and records which constitute Confidential Information, other than service orders and copies of this Agreement, shall be and remain the property of, and belong exclusively to, the disclosing party, and the receiving party agrees either to surrender possession of and turn over or to destroy all such confidential Information which it may possess or control upon request of the disclosing party or upon the termination of this Agreement. PROVIDED THAT all Confidential information relating only to the newly built and/or developed FOC telecommunications infrastructure shall upon transfer of ownership to TCN pursuant to Articles 23 and 27 of this Agreement be deemed to belong exclusively to TCN.
- 29.4 The parties acknowledge and agree that, in the event of a breach or threatened breach by any party of any aspect of this Article 29, the other party will have no adequate remedy in money or damages and, shall be entitled to an injunction against such breach. However, no specification in this Section of a specific legal or equitable remedy shall be construed as a waiver or prohibition against any other legal or equitable remedies in the event of a breach of this Article of this Agreement.
- 29.5 Each party shall be released from its obligations under this Article 29 with respect to information which such party is required to disclose to others pursuant to obligations imposed by law, provided, however, that prior to any such required disclosure, if practicable, such party provides written notice to and consults with the other party.

# 30 Dispute Resolution

30.1 Throughout the term of this Agreement, representatives of the parties hereto, at a senior management level shall meet regularly at quarterly intervals, to discuss the progress of the Project and the operation of the communications network in order to ensure that the arrangements between the parties hereto proceed on a mutually satisfactory basis.

30.2 The parties hereto agree that in the event that there is any dispute or difference between them arising out of this Agreement or in the interpretation of any of the provisions hereof they shall endeavour to meet together at senior management level in an effort to resolve such dispute by discussion between them and in the event that a settlement of any such dispute is not reached pursuant to this Sub-Article, then the provisions of Article 31 shall apply.

#### 31 Arbitration

- 31.1 In the event that any dispute between the parties hereto is not resolved in the manner prescribed in Article 30 above, the same shall be referred to arbitration by an arbitral tribunal consisting of three arbitrators: one each nominated by the Parties and the third chosen by the two arbitrators nominated by the Parties. The arbitration shall be governed by the provisions of the Arbitration and Conciliation Act, Cap. A18, Laws of the Federation of Nigeria, 2004.
- 31.2 The Parties agree that any award of the arbitral tribunal shall be final and binding on them and shall be enforceable in any court of competent jurisdiction.
- 31.3 Notwithstanding any dispute under the Agreement, the Parties shall continue to perform their undisputed obligations under the Agreement without prejudice to any right of termination or suspension in the Agreement.

# 32 Rules of Interpretation

- 32.1 This Agreement constitutes the entire understanding between the parties regarding the Project and supersedes all previous written and oral representations, agreements or arrangements regarding the Project.
- 32.2 Any amendment, addition or variation to this Agreement shall be valid and binding only if in writing and only if signed by the authorized representatives of both parties.
- 32.3 If any part or parts of this Agreement shall be declared invalid by any competent arbitration tribunal or court, the other parts shall remain valid and enforceable.



#### 32.4 In this Agreement;

- 32.4.1 references to Articles and Appendices are, unless the context otherwise requires, references to Articles of, and Appendices to this Agreement;
- 32.4.2 unless the context otherwise requires, references to party and parties are references to party and parties to this Agreement.
- 32.4.3 Unless otherwise provided herein, whenever a consent or approval is required by one party from the other party, such consent or approval shall not be unnecessarily withheld or delayed;
- 32.4.4 In carrying out its obligations and duties under this Agreement, each party shall have an implied obligation to act in good faith;
- 32.4.5 A reference for any period of time to a given number of days means calendar days.
- 32.4.6 Reference to days, weeks, months and years are references to days, weeks, months and years of the Gregorian calendar;
- 32.4.7 A requirement that a payment be made on a day which is not a Business Day shall be construed as a requirement that the payment be made on the next following Business Day;
- 32.4.8 The words "include" and "including" shall be construed at all times as being followed by the words "without limitation" unless the context otherwise requires;
- 32.4.9 References to agreements are to agreements as enumerated and to appendices thereto; and
- 32.4.10 References to "maintain" and "maintenance" shall be construed at all time as including "repair" and "replacement".

## 33 Operative Law

This Agreement shall be governed by and construed in accordance with Nigerian law.



#### 34 Jurisdiction

Subject to Articles 30 and 31 of the Agreement, the parties hereto submit to the exclusive jurisdiction of Nigerian Courts of competent jurisdiction for the hearing and determination of any action or proceeding arising out of or in connection with this Agreement.

#### 35 Waiver

Unless otherwise specifically provided by the terms of this Agreement, no delay or failure to exercise a right resulting from the breach of this Agreement shall impair such right or shall be construed to be a waiver thereof, but such right may be exercised from time to time as may be deemed expedient. All waivers shall be in writing and signed by the party waiving its rights. If any representation, warranty or covenant contained in the Agreement is breached by either Party and thereafter waived by the other Party, such waiver shall be limited to the particular breach so waived and not be deemed to waive any other breach under the Agreement.

#### 36 Acknowledgements

- 36.1 Nothing contained in this Agreement shall have the effect of limiting and/or restricting TCN in any way whatsoever from carrying on its principal undertaking and/or exercising its statutory powers as a transmitter of electric power.
- The Parties hereto acknowledge for the avoidance of doubt, that their relationship as set forth in this Agreement is not, and shall not be construed as a legal partnership.
- 36.3 ALHERI acknowledges that the rights granted to it by TCN pursuant to Article 4 are subject to:-
  - 36.3.1 all public and other rights of way, light, air and other easements or quasi-easements of any kind whatsoever (if any) whether or not continuous, apparent or reasonably necessary in under or over TCN Property as are subsisting at the Effective Date.
  - 36.3.2 any other legal or equitable rights that may have been granted by TCN or its Holding company, or any other predecessor-in-title prior to the Effective Date or which may have accrued in favour of third parties prior to the Effective Date in respect of TCN Property.
- 36.4 All TCN Property shall remain the property of TCN at all times and ALHERI shall not encumber or charge or otherwise deal with



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- any property of TCN in any manner inconsistent with TCN's ownership rights and title.
- 36.5 Any new equipment and fittings installed by ALHERI in the performance of this Agreement, on TCN Property shall remain the moveable property of ALHERI during the term of this Agreement.

#### Notices 37

Any notice, request, consent, waiver or other communication required or permited hereunder shall be effective only if it is in writing and shall be deemed received by the Party to which it is sent;

- 37.1.1 upon delivery when delivered by hand.
- Three days after being sent, if sent with all sending 37.1.2 expenses pre-paid, by an express courier with a reliable system for tracking delivery;
- When transmitted, if sent by confirmed facsimile or 37.1.3 electronic mail, or
- Fourteen days after the date sent, if sent by certified or registered mail, postage pre-paid, return receipt requested, addressed as follows:

IT TO I CN:			



If to ALHERI:	

IN WITNESS WHEREOF the Parties hereto have hereunto caused their respective Common Seals to be affixed hereto the day and year first above mentioned.

THE COMMON SEAL of the within named **TCN** was affixed hereto;

In the presence of

DIRECTOR

SECRETARY

THE COMMON SEAL of the within named **ALHERI** was affixed hereto;

In he presence of

DIRECTOR

SECRETARY

# FIRST SCHEDULE

# SPECIFICATIONS, SCOPE AND OPERATING PARAMETERS

# NETWORK DESIGN (PHASE 1)

#### 1.1 General Overview

Alheri intends to commence the construction of a long distance telecommunications network in the Federal Republic of Nigeria in accordance with the licence to be re-awarded to NEPA by the Nigerian Communications Commission (NCC) within 2 months of being awarded this contract.

The proposed network will be primarily fibre optic based and will use the power line infrastructure belonging to NEPA, to carry externally attached fibre optic cables.

The planned network will be extensive and, when completed, will provide reliable, high speed digital telecommunications services throughout the length and breadth of Nigeria. The span of the fully developed network will include all state capitals, major commercial centres and, ultimately, all other cities of economic significance in Nigeria.

# 1.2 Network Design Considerations

The following considerations were taken into account when designing the network:

- Existing NEPA infrastructure that would need extensive rehabilitation
- Immediate customers & backbone/transmission and access networks are required to achieve industry standard for commercial network
- Infrastructure requirements are numerous but are largely available with the NEPA corporation. Alheri will treat all such NEPA infrastructure deployed for network rollout as an income "leased asset" from NEPA.
- Future customer backbone infrastructure requirements



- Possible future expansions
- Equipment and Infrastructure costs
- Reliability
- Services availability
- Equipment availability
- Network flexibility, scalability and connectivity
- Redundancy and Self healing
- Cost and cost recovery imperatives
- Network security

### 1.3 Network Solution

The Transmission Carrier Network system will allow Carrier services via Optical Fibre and Microwave systems to its customers.

It is very important that the transmission network must have the capacity to provide sufficient and guaranteed bandwidth services at all times for fee paying clients. In line with this, the backbone equipment will be based on the Huawei's DWDM equipment (OptiX BWS 1600G) solution, which is more cost effective to deploy than SDH equipment, and has the capacity to carry signal up to 1600G.

The DWDM transmission network will provide E1, STM-1, LAN, ATM, etc services for customers.

The design target is to carry up to 2.5G between the nodes of the network and will be gradually upgraded to 1600G.

# 1.3.1 Network Topology

The network topology is ring in accordance with sites available, capacity requirement, power budget, constraints, fiber distances among sites, fiber parameters and client signal.

The design target as mentioned earlier is to carry up to 2.5G between nodes in the network and can be upgraded to 1600G. This capacity easily meets customer requirements.



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The network is as illustrated.

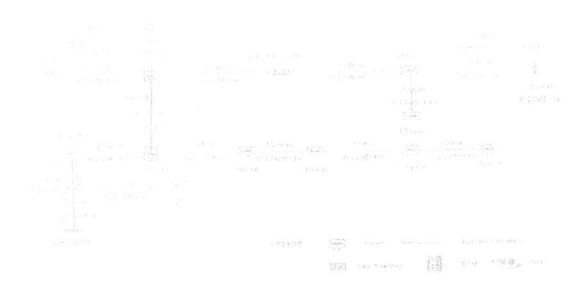


Figure 1.1: Network configuration diagram for NEPA



The highlight of this solution is that the price of upgrading capacity is very cheap when compared to SOH implementation as SOH solution has a lower capacity than OWOM and more expensive.

The SOH network topology is illustrated below

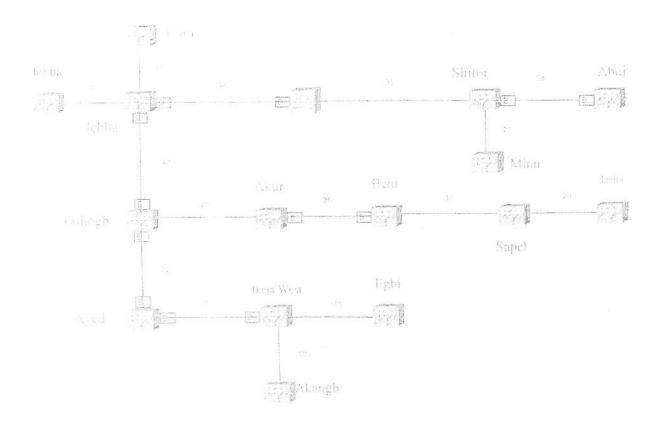


Figure 1.2: NEPA SOH Overview

The SDH solution is not in accordance with the present NEPA vision. The capacity is lower than DWDM solution and the price of upgrading is higher than DWDM solution.



The comparison chart between the two solutions is illustrated below:

Parameter	DWDM SYSTEM	SDH SYSTEM E1, 155Mbps	
Present Service	GE, 2.5Gbps		
Cost of increase 63*E1	\$4,000.00	\$32,000.00	
Profit of lease 63*E1	N3,339,000	N3,339,000 \$75,000.00 N534,240.00	
Cost of increase 2*2.5G	\$6,000.00		
Profit of lease	N534,240.00		

From the above it is evident that DWDM solution is better than the SDH solution and yields more revenue. Alheri will build a DWDM based network that is more futuristic and meets next generation network requirements.

#### 1.3.2 Advantages of DWDM Solution

- The capacity is 2.5G between each two inter-points, and 2\*1 G between big cities.
- ♦ The system capacity can easily be upgraded up to 1600G.
- ♦ The solution is competitive with the price and capability.
- ♦ E1, STM-I and LAN interface have been configured in present design.
- No connectivity problem with other third party network
- NMS can manage the DWDM equipment and the equipment.

# 1.3.3 Network Design Details

The network has been designed for an initial capacity of STM 16 (2.5Gbps) backbone transmission and STM 4 (622 Mbps) for the spurs. These capacities are field upgradeable as Network



demands and increases to multiples of STM 64, STM 16 and STM 4 streams.

DWDM (Dense Wavelength Division Multiplexing) is the preferred transport protocol for the backbone network while SDH (Synchronous Digital Hierarchy), PDH (Pleisiochronous Digital Hierarchy) and possibly LMDS (Local Multipoint Distribution System) technologies are to be widely deployed throughout the access networks.

The primary network will initially be installed as a single wavelength system operating at a capacity of STM -16 (2.5 Gb/s). A single wavelength system has been selected as the most cost effective means to accommodate both immediate and near future capacity requirements.

ADMs (Add Drop Multiplexers) are to be installed at selected sites to provide interconnectivity and accommodate customer interface requirements.

Both PDH and SDH Microwave point-to-point radios are used to provide last mile access. Should the requirement exceed 16x2 Mbit/s tributaries at the Last Mile Access point, SDH radios are to be used and associated multiplex equipment installed at the customers' premises.

Where equipment is to be installed at the customer's premises (SDH Radios, PDH Radios and/or ADM Equipment) the customer will provide the following:

- Mounting space on tower, mast or pole for radio antennas and radio outdoor equipment
- Feeder cable entry facilities into equipment room or shelter
- Equipment mounting space in cabinet of at least 6U height
- O DC feed supply of -48VDC
- ♦ Tributary termination points on DDF minimum of 21 x E1 tributaries

# 1.3.3.1 Power Budget

One of the fundamental constraints when engineering STM-16 network is optical attenuation. According to the fiber



specification, launch power is +5dBm in both G.652 and G.655 fibers.

#### 1.3.3.2 Network Capacity Expansion

The network is designed to minimize electronic regenerator at maximum capacity. The network capacity can be expanded up to 1600G for the future demands.

#### 1.3.3.3 Engineering Order Wire

Each DWDM systems can provide three engineering order wires, using E1, STM-1 and GE of the OSC channel.

The interworking of DWDM order wire systems is realized by external connection of the OSC and DCC channel.

The functions provided by order wire telephone are as follows:

- Site addressing call
- Telephone conference function

Outgoing subnet connection function provides the interconnection between the order wire telephones of two adjacent subnets without optical fibre connection

# 1.3.3.4 Equipment Configuration

Each of DWDM network nodes is composed of one rack. Each sub-rack can be configured as various types by inserting different boards.

# 1.3.3.5 Synchronization

A PRC (Primary Reference Clock) shall be established at a yet to be determined location. This Location will be selected to give symmetrical alternate synchronization distribution routes and will be equipped with a Caesium oscillator, as well as a GPS-receiver input. A TIE meter will also be installed to monitor the quality of the signal.

Where possible the clock signal will be distributed via alternate routes, using the SOH aggregate signals, to SSUs (Synchronization Supply Units) at approximately 12 sites.



The PRC Synchronization Network will only be implemented late in Phase 1.

#### 1.4 OPTIX BWS 16006 DWDM SYSTEM

OptiX BWS 1600G DWDM equipment is a large capacity, long distance and next generation DWDM equipment developed on the basis of Huawei's years of experience in optical transmission field. It is scalable

#### 1.4.1 Features

- ♦ Long haul (4000km) non-regenerative transport.
- Low cost Provides 3 high-quality timing transmission channels embedded with optical supervisory channel.
- Perfect equipment redundancy timing protection
- Provides DWDM layer protections such as OMSP, OCHP
- Modular architecture making it easier to upgrade from 40 channels (400Gbit/s) to 160 channels (1.6Tbit/s)
- Equipment for Next Generation
- Multi-rate and multi-service access making the equipment accessible to STM-1/0C-1 to STM- 64/0C-192 SDH/SONNET signals, Fast Ethernet, Gigabit Ethernet and PDH signals at different bit rates
- Allows transmission of mix services on one wavelength, with TMUX function to improve bandwidth utilization ratio
- Compact design
- Intelligent optical power management
- Advanced amplifier technology
- © Enhanced Forward Error Correction (FEC) function
- Scalable OADM, which allows OptiX BWS 1600G to support scalable wavelength adding/dropping. Each OADM station can add/drop from 2 to 40 channels
- Maintainability



### 1.4.2 Specifications

## OptiX BWS 1600G Specifications

S/N	PARAMETER	CAPABILITY
1	System Capacity	1608, Modular growth up to 1.6 Tbps
2		ESCON
		FICON
		Fiber channel
		OC-3c/STM - 1
	Service Interface	OC-12c/STM-4/ - 4c
		OC-48c/STM-16/ - 16c
		OC-192c/STM-64c
		GE/ FE
		X-Rated 934Mb/s - 2.5Gb/s
3	TMUX	GE: 2.5G
		155M/622M: 2.5G
		2.5G: 10G
4	Protection	OMSP
		OCHP
		1:8 OUT protection
5	OADM	2 – 40 channels
6	Channel spacing	0.4nm compliant with ITU-T
		G.692
7	Application fiber	G.652/G. G.653/G.655
8	Dimension (mm) (HxWxD)	625 x 495 x 291
9	Power Supply	Dual feeds: -48V∀20% (DC)
		Voltage:38V72v
10	EMC	ETSI EN300 386-1.2.1 (2000)
	3830.030	CISPR55022 (199)

## 1.5 FIBER OPTIC CABLE

# 1.5.1 Choice of Fiber Cable

The choice of fiber optic cable is based on the site inspections of the existing lashed installation between Lagos and Abuja, cost



and the anticipated rollout speed. Essentially the existing lash technology whilst being the lowest cost and fastest rollout technology has proven unsuitable (see Site inspection report).

OPGW is undoubtedly the best and longest lasting technology. However it is unsuitable for the TCN roll out for the following reasons;

- High cost of material (admittedly offset by the need to replace ground conductors in places where they are missing or require replacement).
- Slow rollout under live line conditions. (Current world record is 100km per month and the teams achieving this are in India fully employed. This would imply at best 1200km per year, which does not meet the SOOOkm/year requirement of TCN. Further it is unlikely that these record rates would be exceeded or even met in this circumstance.
- Dead line installation will not be suitable for much of Nigeria due to lack of redundancy and concomitant inability to switch out the power lines.

ADSS (All Dielectric Self Supporting) can generally only be used at 132kV and lower due to dry band arcing constraints and so is not suitable for application in the initial phase of TCN project which will be built largely on 330kV lines.

Alheri therefore plans to use the All-dielectric ground wire wrap technique the best example of which is marketed under the trademark SkyWrap. This technique is more expensive than ADLash but significantly lower cost than OPGW and can be deployed on live lines at higher speeds than OPGW.

It is a fundamentally more sound deployment technology than Lash as the actual fiber optic cable is wrapped around the ground conductor and is not dependent on tapes to secure it in position. However it requires heavier installation equipment than ADLash.



Alheri recommendation will involve the replacement of the existing lashed fiber (ADLash) with wrapped fiber (SKYWrap). The new fiber will be terminated at the substations. All installed fibre and new fiber is to be G.652 SMF.

This specification will completely satisfy the spirit and intent of **Phase 1 of the project** — Rehabilitation and upgrading of existing FOC network, extension of network span to 10,000 Km, implementation of network management centres and commercialization of network within 24 months from Effective Date of Contract.

The system will be designed using the following fiber parameters:

TABLE 1.2: AVERAGE LOSS CALCULATION BASIS

0.22	
0.075	
2	
1	
1dB/50km	

The system offered shall be a 2-fibre system. There is no requirement for single fibre operation.

# 1.5.2 Skywrap Fiber Cable

SkyWrap<sup>TM</sup> is a technology developed for quick and costeffective means of installing a fiber optic cable along an existing over-head electrical power line.

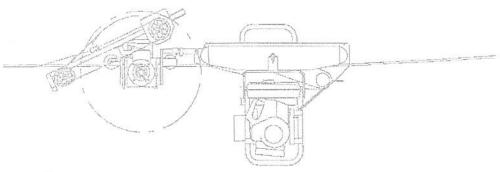
Over five hundred thousand (500,000) kilometers of SkyWrap<sup>TM</sup> have been installed since it was invented by AFL Telecommunications engineers in the early 1980's, and SkyWrap<sup>TM</sup> is now operating successfully in all environmental conditions from desert heat to arctic cold.



SkyWrap<sup>™</sup> helically attached, wrapped fibre optic cable is usually installed onto the earth-wire of an overhead transmission line operating at any system voltage, or on phase conductors operating at 150kV system voltage or below.

SkyWrap<sup>™</sup> offers a wide range of benefits including live line installation on earth-wires at higher system voltages and fast rates of installation.

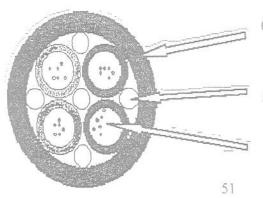
The SkyWrap<sup>TM</sup> installation equipment comes in four different sizes and helps to ensure straightforward and cost effective installations, making the system ideal for installation over rivers, urban and other difficult or mountainous area.



S kyWrap<sup>™</sup> Self-propelled, Remote controlled installation equipment

A crew of 6 to 8 persons can install about 4Km or more per day. The equipment can easily be transported to site using a helicopter, Landrover, Donkey, Horse, boat, etc.

A typical SkyWrap cable has up to 72 fibers positioned inside 4 gel-filled tubes with aramid strength members providing a strain-free environment for the fibers at all times. A tough cross-linked sheath provides environmental protection.



Cross-linked outer sheath

Strength members



### SkyWrapTM Cable design (typical diameter is 7mm)

#### 1.5.2.1 Skywrap Features

- Designed for earth-wire (ground-wire) or phase conductors.
- Fully qualified fittings and splice enclosures.
- Specialist installation equipment.
- Live line installations on the earth-wire.
- Fast installation rates.
- Low installed cost.
- Zero fibre strain under all service conditions.
- ♦ Up to 72 fibres per cable.
- Double SkyWrapTM installations provide 120 fibres
- ♦ SkyWrap<sup>TM</sup> can be installed onto OPGW to increase capacity on existing networks.
- Obesigned to withstand the aggressive environment encountered on overhead lines.
- Cable and accessories are resistance to lightning and fault current effects, electric field effects, vibration, icing, sunlight, rain and pollution effects.

#### 1.5.3 OPTIC FIBER DUCT SYSTEM

Duct fiber optic cable will be supplied and installed to be able to connect the equipment containers to the line cable. This will include any trenching that may be required and fibre optic cable



integration. 24-core fibre cable will be installed from the Optical Termination point to the container. Where applicable, Optical Fiber draw pits will be provided.

#### 1.5.3.1 Fiber Duct Cable Specifications:

#### Fiber Duct Cable Standards

The following standards/recommendations are applicable, all being the latest revision, except where otherwise noted:

ITU-T G.652: Characteristics of a Single Mode Optical

Fibre Cable.

ITU-T G.655; Characteristics of a non-zero dispersion

shifted Single Mode Optical Fibre Cable

IEC 60793-1: Optical fibres - Part 1:

Generic Specification

IEC 60793-2: Optical fibres - Part 1:

Product Specification

IEC 60794-1: Optical fibre cables -Part 1:

Generic Specification

EIA/TIA 598-A: Colour Coding of Fibre Optic Cables

#### Fibres

- All fibres shall have a cladding diameter of 125 micrometers and shall comply with ITU-T Recommendation G.652 or G.655 for single mode fibres. The G.652 fibre shall be capable of operating in both the 1300nm and 1550nm wavelength regions. (Single mode, dual window 1300/1550nm.)
- Full details of primary, secondary and tertiary coatings (if used), shall be supplied. A suitable stripping device shall be specified.



- The fibres shall be marked by a coloured coating with 12 different colours according to EIA/TIA 598. The Optical fibre colours shall be stable during temperature cycling and not subject to fading smearing onto each other or into the gel filling material. Colours shall not cause fibers to stick together.
- All optical fibres shall be sufficiently free of surface imperfections and inclusions to meet the optical, mechanical, and environmental requirements of this specification.
- Optical fibre splices within individual cable lengths shall not be permitted.

#### Cable Configuration

- The cable must contain no metallic elements unless armouring is specified. Where armouring is called for, the longitudinal corrugated steel tape configuration is preferred. A circular cross section is preferred and the optical element must be watertight.
- The required number of loose buffered single mode fibres to be incorporated in the cable is specified in Schedules A and A/B. Each fibre shall be uniquely identified in an approved manner.
- The buffer tube shall be filled with a non- hygroscopic, non-nutritive to fungus, electrically non-conductive, homogenous gel. The gel shall be free from dirt and foreign matter. The gel shall be readily removable with conventional non-toxic solvents.
- ♦ The fibers shall not adhere to the inside of the buffer tube.
- Full details of cable construction shall be provided, as shall the measures taken to minimise hydrogen absorption in the fibres.

- The jacket is to be smooth and of a constant thickness with external markings as detailed in section 7.
- Cables shall be resistant to ultra violet radiation from the sun and details are to be provided as to the measures taken to attain the necessary immunity to ensure a guaranteed design lifetime of at least 25 years.
- As the cable is intended to be drawn into ducts or pipes, it shall have a tensile strength in excess of a load value given by 0,6 x 9,81 x M x 2 Newtons, where M is the mass of 1km of cable in kilograms. This load shall not produce a strain exceeding 0,2% in the fibres, nor cause any damage or deformation to the component parts of the cable or cable sheath.
- Armoured cable shall have a minimum bending radius of no greater than 250mm while metal-free cable shall have a minimum bending radius of no greater than 150mm.
- Armoured cable have sufficient crush shall resistance capability to withstand a load of 3000N when tested as per clause 6.2.2 of this specification. Metal-free cable shall withstand a compressive load of 1000 N without deformation.

#### Environmental

The performance of the fibre optic cables shall not be degraded under the following ambient conditions:

(a) Temperature: -10° to 50°C in the shade

(b) Altitude: 0 to 2500 metres (ASL)

(c) Relative Humidity: 100%

(d) Barometric Pressure: 76 -104 kPa





#### 1.2 Mechanical

The mechanical tests called for in this specification are considered as type tests. The Employer is prepared to review the results of similar tests which the supplier may have performed in the past and possibly waive the requirements for one or more of the tests specified in this document.

#### Tensile Strength

The cable shall be tested according to IEC standard 60794-1-E1. The load (specified in schedule A/B items) shall be applied for 10 minutes and the strain of the fibre monitored. The maximum cable break strength must be at least twice the maximum cable load during installation.

The fibre must not be subjected to any damage when the cable is tested up to 50% of the maximum break strength of the cable.

#### Crush Resistance

The fibres and components parts of the cable shall not suffer permanent damage when subjected to a compression stated in clause 4.10. The load shall be applied for 1 minute and no cable damage or attenuation change shall take place after the test has been performed. The test is to be performed as described in IEC Standard 60794-1-E3.

#### Impact Resistance

The cable shall be tested as per IEC Standard 60794- I-E4. The anvil radius is to be 25mm. The armoured cable is to withstand one impact of 75 Nm without any change to the optical transmission performance of any fibre while metal-free cable shall be able to withstand a single 50 Nm impact without impairment.



#### Cable Bending

The fibre and component parts of the cable must not suffer permanent damage when the complete cable is repeatedly wrapped and unwrapped four complete turns for ten complete cycles at room temperature around a mandrel. The mandrel shall be of a 250mm diameter for armoured cable and a diameter of 150mm for metal free cable.

#### Temperature Cycling

The cable shall be subjected to a minimum temperature of -20°C and a maximum temperature of +70°C. The test shall be performed in accordance with IEC 60794-1-F1. To simulate the behaviour under operating conditions, the cable shall be wound on a steel drum during the test with a certain tension, so that the cable elongation is between 0.1% and 0.2%. The change in fibre attenuation shall not be greater than the uncertainty of measurement.

#### 1.3 Water Penetration

The cable, when tested between the core and inner sheath, shall fulfill the requirements of the water penetration test detailed in IEC Recommendation 60794-1-FS. (1m, 24h, optical element only, no water drip.)



THIRD SCHEDULE

# Redacted

1h

















aighauna.

Name: M.U. Galadinia: AM (Comms)

Signatura

### FOURTH SCHEDULE

#### CO-LOCATION AND FACILITIES MANAGEMENT SERVICES AGREEMENT

#### WHEREAS:

- 1. The parties have entered into an agreement for the development of TCN's telecommunications Infrastructure by Alheri on a Design, Build, Operate and Finance basis (hereinafter called the "main agreement").
- 2. It is necessary for the proper performance of its obligations in the main agreement that Alheri co-locates its equipment and fixtures on TCN property.
- 3. TCN has agreed to grant and Alheri has agreed to accept the right to use and occupy such space on TCN property as may be required for the performance of the main agreement (hereinafter called the "Equipment Space"), upon the terms and conditions hereafter contained.

**NOW THEREFORE** in consideration of the mutual covenants and agreements hereinafter set forth, and in consideration of the foregoing recitals, each of which is incorporated in and made a part of this Agreement, the parties hereto hereby agree as follows:

#### 1. Permissible Use

TCN hereby grants and Alheri hereby accepts a licence to use the Equipment Space upon and subject to the terms, covenants, rentals and conditions herein set forth for the purpose locating Alheri equipment and fixtures required for the proper performance of Alheri's obligations in the main agreement.



#### 2. Utilities and Technical Undertakings

- 2.1 At all times during the term of this Agreement, TCN shall provide, maintain or cause the maintenance of the electrical system and equipment, back-up generator where provided, ventilating and air-conditioning system and equipment, (hereinafter collectively called "Utility Systems") serving the Equipment Space in good condition and repair, adequate at all times to provide all of the services described in this Agreement.
- 2.2 TCN currently employs technical staff to maintain and manage technical facilities. Upon Alheri's request, TCN's technical staff shall perform necessary technical work related specifically to Alheri owned or leased equipment and/or provide technical services to Alheri's facilities on a "time and material" basis as set forth in Exhibit A.

# Additional Terms Governing the Use of the Equipment Space; Installation of Equipment

- a. Alheri shall not make any construction changes or material alterations to the interior or exterior portions of the Equipment Space or Premises, including building of walls or partitions, drop ceilings, lighting, plumbing or any electrical distribution or power supplies for equipment. TCN shall exclusively perform and manage any construction or material alterations within the Equipment Space and Premises at rates to be negotiated between the parties hereto, which rates shall not exceed the generally prevailing market rate that is then being charged to perform such services. Alheri's use of the Equipment Space, installation of Equipment, and
- b. access to the Premises shall at all times be subject to Alheri's adherence to generally accepted industry standards for facility security and rules of conduct provided, however, Alheri shall be permitted to use the Equipment Space and shall have access through the Premises to the Equipment Space, twenty-four (24) hours per day, three hundred sixty-five (365) days per year.
- c. Alheri shall not market, license or sell co-location services in the Equipment Space to any third party such that Alheri is using the Equipment Space to compete with TCN, except that Aheri is permitted, subject to TCN's prior written consent, to allow its vendors and customers to co-locate within the Equipment Space if



such co-location is needed for purposes of permitting the vendor or customer to connect to Alheri's network. However Alheri may not market, license or sell co-location services in the Equipment Space to other local, inter-exchange, long distance carriers, or Internet service providers, or other such service providers or carriers for the purpose of such carriers or service providers utilizing the Premises or the Building as a point of presence from which the service provider or carrier would provision interconnect services to other users within the Premises or the Building. If Alheri should provide or attempt to make available to any third party use of the Equipment Space without obtaining the prior written consent of TCN, Alheri shall be in breach of this Agreement and TCN may pursue any legal or equitable remedy it is entitled to pursue under Paragraph 9 of this Agreement.

#### PAYMENT

- a. Alheri shall pay TCN a monthly recurring fee for use and occupancy of the Equipment Space (the "Occupancy Fee") as set forth in the attached Exhibit A. If Alheri requests that TCN provide services not delineated herein or in Exhibit A, Alheri agrees to pay TCN's then current standard charge for such service in effect at the time such service was rendered or such charge as the parties may mutually agree upon prior to the delivery of the service.
- b. Commencing on the Commencement Date, monthly installments of the Occupancy Fee shall be payable in advance on the first day of each calendar month.
- c. Both TCN and Alheri agree to reimburse the other for all reasonable repair or restoration costs associated with damage or destruction caused by their own personnel, agents, suppliers, contractors or visitors or as a consequence of any removal of Equipment or other property installed in the Equipment Space or the Premises. Such reimbursement shall be made within thirty (30) days of the damage or destruction.
- d. The monthly charges for all services used shall be payable in U.S. dollars within thirty (30) days from the date of TCN's invoice. Payment shall be remitted to TCN at the address set forth in Paragraph 13 and will not be deemed to have been made until the funds are received by TCN.



e. Any payment (including monthly service charges due under this Paragraph or any other amount due hereunder) not made when due will be subject to a late charge or one and one-half percent (1.5%) per month.

#### Hourly Rates for Additional Services

When TCN technical support assistance is requested by Alheri resolution or coordination of problems, Alheri agrees to pay TCN a per hour rate set forth in Exhibit A. TCN will inform Alheri in advance, if any services to be performed by TCN for Alheri are billable and TCN will provide Alheri with a reasonable estimate prior to performance of the services.

#### 6. Interconnect Services

- a. ALHERI shall negotiate and bind itself to an interconnectivity agreement with PHASE 3 Telecom Limited for the purpose of interconnecting the Aheri Network with the Fibre Optic Cable Network operated by PHASE 3 Telecom Limited.
- b. Alheri shall provide all interconnect services required for its interconnectivity with its customers and other networks.

# 7. Force Majeure

Neither party shall be liable for any failure or delay in performance to the extent caused by causes beyond its reasonable control, including, without limitation, labor disputes, fires or other casualties, weather or natural disasters, damage to facilities, or the conduct of third parties ("Force Majeure").

# 8. Emergencies and Interruptions

a. In case of an interruption or failure of any of the services furnished hereunder, including but not limited to power, back-up power and transmission (the "Services"), TCN shall use commercially reasonable efforts to restore service as soon as possible. If TCN elects, it may substitute a reasonably equivalent service. TCN's liability for all mistakes, errors, omissions, interruptions, delays or defects in Services occurring in the course of engineering, installation and operation of its system or the provision of Services shall in no event exceed the charges paid by Alheri for the Services



- during the two months preceding the outage. In no event shall TCN be liable for any special, consequential or incidental damages.
- b. In the event Alheri experiences an interruption of power services for any cause within TCN's control, which results in the loss of Alheri's service for a period of twenty-four (24) hours or more in any single event or for more than ninety-six (96) hours in any consecutive six (6) month period, or if TCN fails to promptly commence or diligently pursue restoration of any interrupted power services, Alheri shall have the right to terminate this Agreement upon ten (10) days notice to TCN.
- c. In the event Alheri experiences an interruption of back-up power which is the direct result of TCN's Landlord's negligence or willful misconduct, TCN shall pay to Alheri, it's proportionate share (based upon the ratio of the gross area of the Equipment Space to the gross area of the Premises) of any damages collected by TCN from its Landlord for such interruption of back-up power.
- d. In the event Alheri experiences an interruption of transmission services for reasons other than Force Majeure which results in the loss of Alheri's service for a period of seventy-two (72) hours or more in any single event or for more than one hundred sixty-eight (168) hours in any consecutive six (6) month period, Alheri shall have the right to terminate this Agreement upon ten (10) days notice to TCN.

#### DEFAULT

a. Either party shall be in default if it fails to timely perform its material obligations under this Agreement or becomes the subject of any voluntary proceedings under any bankruptcy or insolvency laws, or becomes the subject of any involuntary proceedings under any bankruptcy or insolvency laws which are not dismissed or withdrawn within sixty (60) days after the filing thereof. Upon such default by a party (other than a service interruption as described in Paragraph 9 hereof), the other party shall provide written notice to the defaulting party within ten (10) days of such default, allowing thirty (30) days for the default to be cured. If the default is not cured within that thirty (30) days, the non-defaulting party may, upon ten (10) days notice to the other, terminate this Agreement, and pursue all other available remedies at law and in equity, all of which shall be cumulative.

- b. If this Agreement or any addendum is terminated by TCN during the Term as a result of Alheri's material default or is terminated by Alheri in the absence of a material default hereunder by TCN (in either case, an "Alheri Termination"), Alheri shall be liable to TCN for liquidated damages (due to the difficulty in projecting and establishing actual damages) for the terminated Services, as provided for below:
  - i. If an Alheri Termination occurs within twenty-four (24) months from the Commencement Date, then, Alheri shall pay to TCN forty (40%) percent of the monthly Occupancy and related Fees for the remainder of the Term.
  - ii. An Alheri Termination occurs after twenty-four (24) months but prior to forty-eight (48) months from the Commencement Date, then, Alheri shall pay to TCN twenty (20%) percent of the monthly Occupancy and related Fees for the remainder of the Term.
  - iii. If an Alheri Termination occurs after forty-eight (48) months but prior to sixty (60) months from the Commencement Date, then Alheri shall pay to TCN ten (10%) percent of the monthly Occupancy and related Fees for the remainder of the Term.
- c. In the event of an Alheri default and subsequent to a TCN termination of the Services for cause, the parties shall agree upon the amount of any reconnect charges, increase in service rates and/or security deposit required hereunder, prior to any reinstatement of the Services by TCN; it being understood, however, that in the event of a termination by TCN for cause, TCN may sell the Services to others.
- d. Upon termination or expiration of the Term of this Agreement, Alheri agrees to remove the Equipment and other property which was installed by Alheri or Alheri's agents. Alheri shall promptly reimburse TCN for all costs associated with the repair and restoration of the Equipment Space, the Premises and the Building affected by the removal of such Equipment. In the event such Equipment or property has not been removed within fifteen (15) days following the effective termination or expiration date, TCN shall have the right to remove, relocate, or otherwise store such Equipment or property at Alheri's expense.



### 10. Term Of This Agreement

The term (the "Term") of this Agreement shall be for a period of fifteen (15) years commencing on the effective date of this Agreement (the "Commencement Date") provided that this Agreement shall immediately terminate upon the earlier termination of the main agreement, notwithstanding that the above term remains unexpired.

#### 11. Approvals

Alheri shall be responsible to obtain and maintain all approvals and permits necessary for Alheri's use of the Equipment Space.

#### 12. Indemnification

The parties shall indemnify each other against all losses, claims damages, expenses and liabilities (including reasonable attorneys' fees and court costs) to extent caused by a willful or negligent act or omission of such party.

### 13. Notices and Other Communications

a. Documentation and coordination regarding exchange of technical information relating to local interconnects, and notification for assistance, resolution or coordination of service, and other notices under this Agreement shall be sent to:

If to Alheri:		



#### 14. Insurance

Alheri agrees to maintain, at Alheri's expense, during the entire time this Agreement is in effect for the Premises (i) Comprehensive General Liability Insurance in an amount not less than one million dollars (\$1,000,000.00) per occurrence for bodily injury or property damage, (ii) Employer's Liability in an amount not less than one million dollars (\$1,000,000.00) per occurrence, (iii) Worker's Compensation in an amount not less than that prescribed by statutory limits, and (iv) adequate insurance coverage to protect Alheri owned Equipment and property installed within the Equipment Space. Under no circumstances shall TCN be obligated to provide insurance coverage for any Alheri owned Equipment or property installed within the TCN Premises

#### MISCELLANEOUS

- This Agreement may not be assigned by either party in whole or in а. part without the written consent of the other party; such consent shall not be unreasonably withheld, except that TCN and Alheri shall have the right to assign this Agreement to an affiliate or division, provided that TCN or Alheri exercise management control over and/or own a controlling interest in or are under common control with such affiliate or division. Notwithstanding the foregoing restriction on the assignment of this Agreement, (i) any direct or indirect transfer of the share capital of TCN or Alheri shall not be considered an assignment of this Agreement, and (ii) both TCN or Alheri shall have the right subject to the prior notice to the other, to assign its rights and obligations under this Agreement to any individual, corporation or other business entity which acquires all or substantially all of its shares or assets and upon such assignment, the assigning party shall be released of all of its obligations under this Agreement arising from and after the date of such assignment.
- b. The terms and provisions of this Agreement may only be waived, modified or changed by an amendment in writing signed by both parties hereto. No failure by either party to insist upon the other's performance of any obligation hereunder shall constitute a waiver of the obligation unless in writing.
- c. If any provision of this Agreement shall be determined to be invalid or unenforceable, the remainder of the Agreement shall continue in full force and effect.



- d. This Agreement and the rights and obligations of the parties hereto shall be governed in all respects by the laws of Nigeria. The parties hereby solely subject themselves to the jurisdiction of the Courts of Nigeria, for the resolution of any dispute arising hereunder and agree that venue in any suit filed in those courts shall be proper, subject to the mediation, conciliation and arbitration clauses in the main agreement.
- e. This Agreement may be executed in two or more counterparts, each of which shall be an original, and all of which, taken together, shall constitute one and the same Agreement.
- f. Both TCN and Alheri each represent and warrant to the other that the person executing this Agreement (or any amendments and changes) on its behalf is its duly authorized representative.
- g. This Agreement and any documents attached hereto constitute the entire Agreement between the parties and supersede all prior agreements, whether written or oral, with respect to the subject matter contained herein. In case of any conflict between this Agreement and the terms of any documents attached hereto, the terms of the documents attached shall control insofar as the services covered thereby are concerned.



IN WITNESS WHEREOF the parties hereto have hereunto caused their respective Common Seals to be affixed hereto the day and year first above written.

THE COMMON SEAL of the within-named TCN was affixed hereto:

In the presence of;

DIRECTOR

**SECRETARY** 

THE COMMON SEAL of the within-named ALHERI was affixed hereto:

In the presence of;

DIRECTOR

SECRETARY

### **Exhibit A- RATES**

CO-LOCATION AND FACILITIES MANAGEMENT SERVICE AGREEMENT

CLIENT: Alheri Engineering Company Limited Address of Co-location Center: 1. ...... Initial Space Allocation: 2. ...... Initial Term: Fifteen (15) years. 3. Monthly Recurring Occupancy Fees: 4. ..... 5. Additional Occupancy Fees: Payable at the times and in the amounts as agreed by TCN and Alheri when additional services are requested by Alheri. Dispatch Labor Charges: 6.



apply to work done on Alheri's behalf on Alheri equipment located in the Equipment space ("Dispatch Labor Charges").

- a. Normal TCN business hours (Mon. Fri. 8:00 a.m. to 5:00 p.m. except public holidays) will be billed to Alheri at the rate of \$\_\_\_\_ per hour with a one (1) hour minimum.
- b. Off-hour support shall be billed at a rate of \$\_\_\_\_ per hours with a two (2) hour minimum (All other times and public holidays).
- c. Dispatch Labor Charges apply only if Alheri requests and authorises dispatch of TCN personnel to perform work on 'Alheri's behalf. TCN reserves the right to accept or reject any such requests. TCN dispatch of personnel to work on Alheri's equipment is also premised on Alheri furnishing instruction to TCN prior to commencement of any work.



#### FIFTH SCHEDULE

#### **INSURANCE**

#### INSURANCES DURING CONSTRUCTION

From the Effective Date until the commissioning of the Netawok, Alheri shall, at its own expense, obtain and maintain in force the following insurances:

- a. Marine insurance in respect of plant and equipment to be imported into Nigeria;
- b.

  Il Risks "Builder's Risk Insurance" to cover the entire works from any and all kinds of damages arising out of any cause whatsoever;
- Third Party Liability Insurance" to cover injury to or death of persons (including those TCN) or damages to property caused by the works or by Alheri's vehicles, tools and/or equipment or personnel including its sub-contractors; and
- d. "Workmen's Compensation Insurance" as required under the laws of Nigeria.

#### 2. INSURANCE DURING TERM OF THE AGREEMENT

During the Cooperation Period, Alheri shall at its own expense keep the Telecommunication Network insured against accidental damage from all normal risks and to level normal for prudent operators of facilities similar to the Network. In addition, Alheri shall secure adequate insurance cover for its employees as may be required by law.

3. The insurances effected shall be no less favourable to the insured in terms of risks covered than that normally effected by TCN in respect of its own similar operations.

