

# Terms of Reference

For

**Supply, Delivery, Installation, Commissioning and Testing of broadband services in designated locations of Basic Level Community Schools of Damak Municipality**

## 1. Background

**Damak Municipality** has signed a Memorandum of Understanding (MOU) with Nepal Telecommunications Authority (NTA) for Supply, Delivery, Installation, Commissioning and testing of broadband services in Basic Level Community Schools of **Damak Municipality**. Previously Nepal Telecommunications Authority (NTA) had provided broadband internet connectivity to all the Rural Municipality/Municipality, Ward Offices, Community Health Centers and Community High Schools of 74 districts excluding Kathmandu Valley using Rural Telecommunication Development Fund. Nepal Telecommunications Authority (NTA) is an autonomous telecommunications regulatory body established in February 1998 pursuant to Telecommunications Act, 1997 and Telecommunications Regulation, 1998. There are six voice operators/licensees, 128 Internet Service Providers (ISPs) and 16 Network Service Providers (NSPs) licensed by the Authority. The operators are providing telecommunications service including voice, Email and Internet as per their license terms and conditions throughout the nation. As per the MOU signed by our rural municipality/municipality, NTA shall provide fund-using RTDF to provide broadband internet connection to aforementioned sites with a free service period of 2 years. So **Damak Municipality** invites the illegible applicants for Supply, Delivery, Installation, Commissioning and Testing of broadband services in Basic Level Community Schools of **Damak Municipality**.

## 2. Sources of Funds

NTA is collecting 2% of the Gross Adjusted Revenue as a Rural Telecom Development Fund (RTDF) every year from Telecom operators as per the Telecommunication Act 2053 B.S. NTA plans to utilize this fund to provide financial subsidy to its ISP licensee(s) for commissioning of this project through Local Level Government.

## 3. Scope of Service

- a) The SLO shall provide at least 20 Mbps (Non-Dedicated Basis) broadband connectivity to the sites as listed in Annex-II.
- b) The SLO shall use ONT and Drop Optical Fiber Cable as per provided standard wherever deemed necessary.
- c) The SLO shall establish a mechanism to make complain for support/maintenance for its entire clients.
- d) Right of Way: The authorization to build the broadband connectivity Network includes the authorization to construct and use any required facilities for the provision of network access at the SLO's own cost, and under its own responsibility. NTA will issue recommendation letters to this effect to the concerned Government Department, Institution, or individual who owns the land, building, etc.

#### **4. Network Roll-out Requirements**

The SLO shall build broadband connectivity Network to connect all the Community Basic School wherever deemed necessary.

Installation of services shall be completed within Four Weeks of the effective date of the contract.

**Force Majeure:** If one or more events of force majeure prevented the installation, activation or operation of some of the broadband connectivity networks required under this TOR, then the obligations shall be modified accordingly; provided, however, that the responsibility of the ISP for the installation, activation and operation of the broadband connectivity network shall remain intact during the tenure of the contract, on improvement of the conditions giving rise to the event of force majeure. Failure to Meet Roll-out Requirements – Failure to meet the network roll-out requirements may result in the imposition of one or more of the following penalties:

- i) forfeiture of the Performance Security;
- ii) termination of the contract;
- iii) The forfeiture of all the equipment and other assets related to this service.

The penalties specified above shall not apply if the roll-out delay results solely from an event of force majeure.

**Rollout Obligation:** The SLO shall build broadband connectivity to all Community Basic schools and shall provide on demand broadband connectivity to the consumer of this Rural Municipality/ Municipality. The SLO shall provide service through Optical Fiber Network.

## 5. Account Separation and Service Obligations

**Account Separation:** To facilitate the NTA to make interventions as and when necessary, SLO shall keep accounts pertaining to all transactions accruing pursuant to the Project in a manner separate from other activities carried out by the ISP Licensee(s). Such account separation should clearly demonstrate the basis of charges levied by the SLO to its own affiliates, and also to other clients. Maintaining of accounts in this manner by the SLO can be helpful to the NTA to judge if any changes in tariffs would be desirable in the interest of the consumers and the Licensee(s) alike.

**Public Information:** SLO shall, within 3 months of completion of the network, bring out a publication clearly identifying the network established by them under the Project, and detailing the services offered thereof. Copy of such publication shall be submitted to the NTA, and also made public through distribution of hard copies, and posting at the Websites of the Licensee, and that of the NTA. SLO shall publish details of such broadband connectivity network & service at her disposal and offered by her, and update such information every three months. Licensee(s) shall also clearly enumerate conditions and procedures if any, for anyone to obtain access to its network & services. SLO shall ensure that all customers are connected with 1 Mbps internet speed in each terminal and publish the guaranteed speed on each terminal.

**Service Obligations:** Upon completion of the broadband access connectivity, the SLO shall invite each customer to handover the terminal and it's password and train them to operate the CPE (computer, smartphone etc.). Once the customer purchases/arranges her CPE then Licensee(s) shall provide the broadband connectivity without any discrimination.

SLO shall make its broadband connectivity network & services available to all the potential requesting clients so as to have immediate access after ordering. SLO shall not be allowed to refuse to provide such access to valid clients.

In case the SLO is unable to provide network or services as per the request, and intimates the reasons thereof to the requesting potential valid client, SLO shall, maintain record of each such case mentioning therein the reasons thereof and such records shall be maintained for all such cases for a period of two years beginning from the date of such intimation.

To ensure compliance of the Obligations of the SLO, the NTA or this Local Level shall inspect any of the records maintained, especially with regards to the Licensee's inability to provide network or services, and submit to NTA a report in respect of such inspection.

## **6. Rights and Obligations of Selected Licensed Operator**

The SLO shall build broadband connectivity to all Basic Level Community Schools within this local level area. The authorization will be issued on a non-exclusive basis. This authorization will not change the existing rights and obligations of SLO except providing additional rights and obligations as provided by this RFA. However, NTA will try and avoid duplication of infrastructure in areas where it has already been established through the use of RTDF fund.

## **7. Termination Standards**

SLO shall follow minimum technical specifications specified in Annex-2 for Optical Fiber and ONT. The SLO shall also meet the following standards:

### **a) Operation and Maintenance**

Operation and maintenance of the network shall be controlled and performed by the selected licensed operator and no extra payment shall be made for the same.

### **b) Services and Penalties**

The minimum service quality criteria shall be as follows:

- i. **Service Availability** - The SLO shall ensure that the broadband connectivity network is available 24hrs a day throughout a year to its customers.
- ii. **Service Obligation** - The SLO shall ensure that the services are made available through the installation, activation and operation of broadband connectivity access network lines through shared or dedicated leased optical cable to its customers that shall be retained and continued throughout the period of the authorization validity.
- iii. **Failure to meet service quality and availability obligations** – The failures of the SLO to meet the obligations specified in this section shall result in the imposition of penalties for breach of contract and other applicable penalties stipulated in the Act.

However, the penalties shall not apply if the failure results solely from an event of force majeure.

## **8. Infrastructure Sharing**

The SLO shall share its telecommunication infrastructure built under this project to other service providers. If there is already existence of optical fiber network of any service provider or NEA, the SLO shall use that network to provide the service under this project to minimize the duplication of telecommunication infrastructure.

## **9. Regulation of Other Internet Service Providers**

The network access to the other internet service providers shall be regulated by NTA to ensure that existing internet service providers do not abuse their possible dominant position. In particular, NTA will regulate other internet service providers to ensure that they do not unfairly discriminate against the SLO and do not grant anti-competitive preferences or cross-subsidize its own internet/data network leasing charge with other infrastructure.

## **10. Fees Payable by the SLO**

**Annual Royalty to be paid to GoN-** The SLO shall pay a royalty fee of 4% (four percent) of the SLO's adjusted gross annual revenues in each fiscal year. This Royalty is due 3 (three) months following the end of each fiscal year.

**Rural Telecommunications Development Fund ("RTDF")** - The SLO shall contribute 2% (two percent) of its adjusted gross annual revenues, to the fund established by the NTA pursuant to subsection 30(4) of the Act. This payment is due 3 (three) months following the end of each fiscal year.

## **11. Financial Incentives**

The following incentives shall be provided to the ISP Licensee, in order to promote GoN's policy of providing ICT access in the Service Area:

- (i) For each packages, payment of one time financial Subsidy spread over different tranches.

## **12. Regulation of SLO's Tariffs**

The tariff rates charged by the SLO to its customers for use of the Broadband Network will be subject to regulation by the NTA in accordance with Section 42 of the Telecommunication Act and Broadband act, as is the case with tariffs of other ISPs. SLO have to submit the details of the tariff structure to the NTA as and when requested, including cost breakdown. But Tariff should not higher than the average tariff available in Kathmandu Valley. All user charges shall be in accordance with approved rates under the guideline of NTA.

## **13. Authority to Construct and Use Facilities**

Subject to the other terms of the contract and Authorization, the SLO may construct all ICT facilities required to provide the broadband access connectivity services. The SLO may also use the facilities of licensed ISPs/telecommunications service providers or the facilities of any other Persons that are located in Nepal, for the purposes of providing the services. Use of such facilities may be obtained from the other operators or Persons by agreement with them.

The Qualified Applicant must submit the locations of its Backhaul/Access Points/nodes to be established.

Unless otherwise approved by NTA, all ICT facilities and equipment installed by the SLO in its ICT System shall be new when first installed and shall, so far as reasonably practicable, be state of the art technology that complies with internationally recognized standards. Interoperability and upgradability shall be ensured by SLO.

The SLO shall be free to procure the goods, works and services required for its internet/data network services using its own procurement procedures confirming to the existing laws of Nepal.

The SLO shall have rights of access to public and private lands, and the rights of inspection and entry set out in Sections 36 to 38 of the Telecommunication Act 2053 B.S.

The SLO shall communicate and co-operate with other ISP licensees with a view to provide compatible and consistent types and quality of service to internet/data users across Nepal.

## **14. Transfer of Control/Ownership of Authorization**

**Transfer of License/Authorization-** The SLO's ISP License/Authorization shall not be sold or transferred except with the approval of the NTA in accordance with the provisions of Section 27 of the Act.

**Change of Control-** During the first 5(Five) years after issuance of the Authorization, prior written consent of the NTA will be required for any change in the ultimate beneficial ownership of any shares of the SLO or for any change of Control of the Authorization. Except in extraordinary circumstances, the NTA does not intend to consent to any change in Control of Authorization in the first five years of SLO's operations. Prior written consent of the NTA will not be required in respect of changes in share holdings resulting from trades made through a stock exchange or changes that affect less than 25% (twenty five percent) of the shares of the SLO, provided that any such changes do not result in a change of Control of the Authorization and provided further that any such changes do not result in a change in the ownership interest of any member.

**Compliance with Law-**The SLO shall be required to comply with all the laws of Nepal applicable to its Services business at all times, including the Act, the Rules, all regulations, by-laws, orders, directives and guidelines issued under the Act (including any other instruments which may be made by the NTA) and the payment of all applicable taxes.

## **15. Terms of Authorization**

In accordance with the provisions of Section 25 of the Act, the initial term of the Authorization will be 5 (five) years, commencing from the effective date of the Authorization. Not less than 6 (six) months before the expiry of the relevant term, the SLO may apply for an additional term of 5 (five) years, and the NTA shall grant the Authorization renewals, provided that there are no material breaches of the Authorization, until a full license term of 25 (twenty-five) years is reached and the SLO has renewed its original license. However, the validity of authorization automatically ceases to exist in case the license of the SLO is terminated by NTA. In case the SLO cannot fulfill the requirements mentioned in the contract/Authorization, NTA may decide to terminate the contract/authorization. In such case, the ownership of the broadband connectivity infrastructure laid by the SLO will automatically come under NTA.

## **16. Monitoring, Evaluation and Certification:**

Rural Municipal Office or NTA or NTA appointed Independent Consultant shall perform Monitoring, Evaluation and Certification of the works as per the scope of works under the contract.

### **17. Payment Schedule**

1. First Tranche: The SLO shall be paid amount of Cost of ONT, Drop Fiber, Installation charge and one year service charge for internet upon supply, delivery, installation and commencement of broadband service after being verified and certified by RMCPL or NTA or NTA appointed independent Consultant.
2. Last Tranche: The SLO shall be paid remaining amount of one year service charge upon completion of one year from date of supply, delivery and installation and commencement of broadband service and after being verified and certified by RMCPL or NTA or NTA appointed independent Consultant.

## **Required Forms and Documents**

- Letter of Technical Application
- Technical Proposal
- Financial Statements of last 3 years
- Projected Financial Statements for 3 years
- Bid Security/Bank Guarantee
- Company registration Certificate
- VAT registration Certificate
- Valid ISP License
- Tax Clearance Certificate/Tax return submission evidence/evidence of time extension for F/Y 2077/78 and Royalty Fee, RTDF and Frequency Fee (If applicable) for 2077/78
- Power of Attorney of signatory
- Bank Voucher for cost of Application document

\*Documentary evidence citing time extension for payment of tax, royalty Fee, RTDF and Frequency Fee (If applicable)

## **Eligibility Criteria**

- Must have a valid ISP License from Nepal Telecommunications Authority.
- Must have cleared royalty Fee, RTDF, Frequency Fee (If applicable) and Tax clearance/Tax Return till 077-78.\*
- Minimum of **50 Km. of optical fiber network in operation.**
- Minimum of **1000 internet or data subscribers.**
- Preference should be given to the Internet Service Provider having network and subscribers in corresponding district.
- Must have Positive Net worth at least for a year within last 3 years.
- Copy of Company Registration Certificate
- Copy of PAN/VAT Registration Certificate
- Average annual turnover of **NPR 5 Million** (Average of Best 3 yrs within last 7 years)
- An Applicant/bidder declared blacklisted and ineligible by the GoN are not eligible. (Shall submit Declaration letter.)

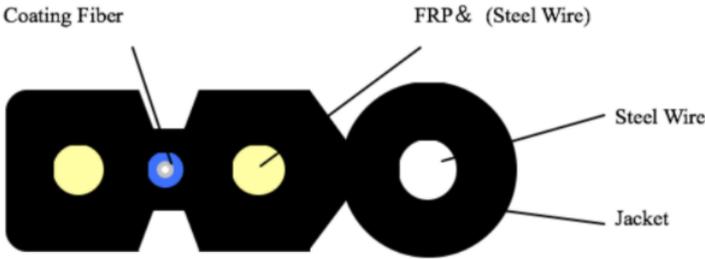
\*Documentary evidence citing time extension for payment of tax, Royalty Fee, RTDF and Frequency Fee (If applicable).

Note:- Eligibility Criteria can be modified in coordination with NTA.

### **Bill of Material (BoM)**

<b>S. No.</b>	<b>Item</b>	<b>Quantity</b>	<b>Rate (Rs)</b>	<b>Line Total (Rs)</b>
1.	ONT			
2.	Drop Fiber			
3.	Installation Charge			
4.	20 Mbps (Non- Dedicated) Broadband Service for 2 years			
Total:				
VAT (13%):				
Grand Total:				

## Technical specification

<b>Last Mile Drop Wire Specification</b>			
<b>1.1</b>	Two core G.647A1 outdoor black fiber should be used to provide last mile connection from Distribution splitter to ONT		
<b>1.2</b>	Fiber Cross Section 		
<b>1.3</b>	<b>Items</b>	<b>Unit</b>	<b>Specification G657A1</b>
	Mode Field Diameter	1310nm	9.0±0.4
		1550nm	10.1±0.5
	Cladding Diameter	μm	124.8±0.7
	Cladding Non-Circularity	%	≤0.7
	Core-Cladding Concentricity Error	μm	≤0.5
	Coating Diameter	μm	245±5
	Coating Non-Circularity	%	≤6.0
	Cladding-Coating Concentricity Error	μm	≤12.0
	Cable Cutoff Wavelength	nm	$\lambda_{cc} \leq 1260$
	Tension (Long Term)	N	300
	Tension (Short Term)	N	600
	Crush (Long Term)	N/10cm	1000
	Crush (Short Term)	N/10cm	2200
	Min. Bend Radius (Dynamic)	mm	30
	Min. Bend Radius (Static)	mm	15
	Operating Temperature	°C	-20~+70
	Storage Temperature	°C	-20~+70
	Attenuation(max.)	1310nm	dB/km    ≤0.35
		1550nm	dB/km    ≤0.21
	Macro-Bending Loss	1turn×10mm radius	dB    ≤0.75

		@1550nm 1turn×10mm radius @1625nm	dB	≤1.5
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<b>2.0</b>	<b>GPON Optical Network Terminal (ONT)</b>
2.1	The ONT should belongs to proposed Vendor's of OLT
2.2	The ONT should support 4 x 10/100/1000 Mbps interface over RJ45,1*POTS,1*USB and 2.4G/5G WIFI
2.3	The ONT should support Wi-Fi capability such as b/g/n
2.4	Should support Bridge/Routed
2.5	IP-v4 and IP-v6 support
2.6	The throughput of the Ethernet port shall be wire speed for different frame size
2.7	The ONT should support Bridging of 802.1q tagged Ethernet frames between its LAN and WAN interfaces
2.8	The ONT should have local LAN DHCP server to provide IP assignment to end device
2.9	The ONT should support remote software download and upgrade
2.10	The ONT should support Bridging of 802.1q tagged Ethernet frames between its LAN and WAN interfaces
2.11	The ONT should support PPPoE over the encapsulated Ethernet , Bridge IP over Ethernet
2.12	Should support Multiple WAN interfaces for Internet, IPTV, including TR069 for Management
2.13	The ONT should support NAT/Firewall/DMZ with port forwarding
2.14	The ONT shall support smart public Wi-Fi hotspot for public usage over different VLAN, and invisible for family users (Hidden SSID).
2.15	The ONT should support Wi-Fi user security such as WPA-PSK/WPA2
2.16	The ONT should support IEEE 802.1q virtual LAN (VLAN)
2.17	The ONT should support Class of Service (CoS) based on VLAN-ID, IEEE 802.1p bit
2.18	ONT must be manageable through Network Element manager of OLT
2.19	ONT must be zero touch auto provisioning through TR069 using DHCP options from ACS
2.20	Remotely software image download over OMCI, as well as activation and reboot/reset functionality along with auto re-provisioning in case of factory reset by customer
2.21	Should support the AES security mechanism defined in G.984.3
2.22	Fully manageable from NMS using OMCI from OLT
2.23	Must support L2 loop detection feature on the LAN side with auto port shut feature upon loop detection as an action

LIST OF SCHOOLS:

क्रस	नाम	ठेगना	क्रस	नाम	ठेगना
१	जनता आ.वि.	दमक-८	७	जनचेतना प्रा.वि.	दमक-४
२	महालक्ष्मी आ.वि.	दमक-९	८	सरस्वती आ.वि.	दमक-२
३	विद्योदय आ.वि.	दमक-४	९	चुलाचुली आ.वि.	दमक-३
४	जनता प्रा.वि.	दमक-१०	१०	दिपिनी आ.वि.	दमक-५
५	जनज्योती प्रा.वि.	दमक-३	११	पशुपति आ.वि.	दमक-१०
६	तारावारी आ.वि.	दमक-४	१२	सगरमाथा प्रा.वि.	दमक-१०