



A **dhi** Company

**Notice for Inviting
Expression of Interest (EoI)
For
Carrying out Proof of Concept (POC) on Lithium-Ion Batteries**

23rd June, 2023

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Notice Inviting for Expression of Interest

For

“Carrying out POC on Lithium Batteries”

Ref. No.: BTL/OP/EOI/2023/

Dated 23rd June, 2023

This EOI Document is being published by Bhutan Telecom Ltd. (BTL) for carrying out the POC on Lithium-Ion Batteries which is in line with the Digital Roadmap of the company to replace traditional SMF VRLA batteries with Lithium-Ion batteries, not only to help improve the network reliability but also due to many advantages over the SMF VRLA batteries.

BTL invites the leading vendors to participant in carrying out POC on Lithium batteries based on the technical specifications and other compliances mentioned in the table 1 as annexure 1.

Introduction

About BTL

Bhutan Telecom Limited (BTL) is the leading provider of telecommunications and Internet services in the Kingdom of Bhutan. Besides fixed line telephony, it provides GSM, GPRS, EDGE, UMTS, LTE Mobile services under its flagship brand B-Mobile, and Internet Services under the brand name of DrukNet. It is the leading provider of both mobile telephony and Internet services in the country, and the only fixed line telephony services provider in the country. In addition, 5G will be introduced soon to the customer.

BTL came into existence on 1 July 2000 as a fully state-owned company, with the corporatization of the erstwhile Department of Telecommunications which was established in 1970. The first rudimentary works in building a telecommunication network in the country was taken up in 1963 to aid development works of the First Five Year Plan for modern economic development of the country. Since then, BTL has come a long way from its humble beginnings and today boasts of a fully digital microwave and optical fiber backbone network covering the length and breadth of the country.

BTL has left no stone unturned in its efforts towards fulfilling both its commercial and social mandates. Today, BTL's revenue and customer base are growing at a sustained pace. B-Mobile has taken its services to even the remotest corners of the country where commercial viability is out of the question and its network has covered all 205 Gewogs (Blocks) in the country.

Vision: "To be the company of choice"

Objective

The demand for Lithium-ion Battery is rising at an exponential rate and to meet the unprecedented demand of network connectivity to the customer, reliable and efficient network is must which will be driven by reliable power system:

1. Better and efficient higher autonomy capacity.
2. Meet global standards on Reliability of 99.99%.
3. Minimum cost option for Capital expenditure and Operating expenditure.
4. Minimum service disruption during deployment.

Technical & Commercial evaluation process

The proposals will be evaluated in two stages. In the first stage, i.e. Technical Evaluation, the bidders will be shortlisted, based on bidder's responses. In the second stage, the commercial bids would be evaluated.

During the period of evaluation, bidders may be asked to provide more details and explanations about information provided in the proposals. Bidders should respond to such requests within the time frame indicated in the letter/e-mail seeking explanation. The resources offered should meet all the technical requirements mentioned in scope of work and technical requirement of Bhutan Telecom. Non-compliance to any of the technical specification may attract rejection of the proposal without assigning any reason and without any cost or compensation therefore.

Commercial Bids of bidders, who qualified in the technical evaluation stage, will be considered for commercial evaluation. The lowest commercial quote after qualification in technical evaluation would be identified as lowest evaluated bid (L1). Bhutan Telecom might recognize the L1 bidder for signing the contract for the scope of work defined within the RFP document.

Terms & Conditions

1. POC duration shall be for a period of 2 months from the date of installation and commissioning.
2. If POC becomes successful, then Batteries shall be retained and 100% payment shall be released within 10 days from the date of submission of POC result. However, if unsuccessful, then the same shall be returned to the vendor on SOR basis at the vendor's cost.
3. Batteries must be supplied as per the specifications, catalogs, datasheet furnished during the bid submission.

Annexure 1: Technical Specifications

Item	Description
Brand Name	Vertiv, Leoch, Exicom, Vision, BSMC
Nominal Voltage	48V DC
Capacity	100 Ah
Max. Charging / Discharging Current Limited	100A
Cycle life	Min 3000 cycles
Design Life	15 years
Charging System	Should be compatible with any SMF VRLA SMPS telecom battery chargers such as Vertiv, Exicom, Delta, Huawei or with any other normal SMPS telecom chargers.
Remote Monitoring System	Should be compatible with Huawei NetEco Smart Monitoring Solutions.
Maximum Module in Parallel	16 Nos with BMS
Terminal Type	M8
Enclosure Protection	IP20
Operating Temperature	-10 Deg C – 60 Deg C
Protection and Alarm	Over temperature, overcurrent, short circuit, overcharge, over discharge, etc.
Weight	< 45 kg per module
Dimension	Should be able to fit perfectly in 19” cabinet
Status Indicator	State of Charge, Alarm, Run, etc
Communication Ports	RS485, RS232, dry ports, Modbus protocol data, etc
Certification/Standard compliance	CE, UN38.3
Documentation	Datasheet, Catalog, testimonials, etc

Annexure 2: Bill of Material

Sl.No	Item Name	Qty	UoM	Rate	Amount
1	Li-Ion Batteries, Capacity: 48V/100 Ah with racks and all other accessories as per the technical specifications provided in Annexure 1	26	Nos		
2	Installation & Commissioning Charges	2	sites		
	Total				

Installation and commissioning charges for only two sites Damji and Thrumshingla.

Annexure 3: Site Details

SN	Sites	PC	Battery Qty	Distance from PC Office	Headload (Without Load)
1	Damji	Gasa	5	64 KM from Punakha	5mins
2	Thrumshingla	Bumthang	5	86 KM	0
3	Lungsila		8		
4	Beldro		8		

