

TECHNICAL SPECIFICATION FOR CABLE FAULT LOCATION SYSTEM SUITABLE FOR UPTO 11 KV POWER CABLES.

Note: Party shall provide all the essential requirements as sought in this annexure. The offers with incomplete information against this annexure shall be treated as technically disqualified and no more correspondence shall be made in this regard.

Sl. No	Descriptions	Requirement	Vendor Remarks	
			Confirmation	Deviation
A	General Information			
1	Name, Address and contact number of the Bidder			
2	Quoted Make & Model (vendor to specify)			
PQC				
C	Financial			
1	Average annual financial turnover during last 3 years ending 31 st March of the previous financial year, shall be at least Rs 19.1 Lacs.			
D	Technical			
1	The Bidder Shall be OEM or Authorized Dealer of OEM			
2	The bidder should submit at least one PO copy of cable fault locator of offered make suitable for 11kV or higher cable supplied after 01-Jan-2013. Equipment must be sold either by OEM or by authorized dealer of OEM:	Necessary document shall be submitted by party along with the offer		
3	One performance certificate of the equipment supplied in clause 3.2 after minimum 1 year of successful operation.			
E (Technical Suitability)				
1	Descriptions	The equipment shall be suitable for locating & pinpointing conductor and insulation faults of low and high resistance, intermittent or flashing nature in PILCA and XLPE HT and LT underground/overhead power cables of the ratings up to 11kV. The fault locating kit shall all consist of Pre-locator, Surge Generator and Pinpointing Set. It may be a single unit or combination of different units, however pinpointing set must be lightweighted & hand held type.		
2	System Features	a Shall be effectively applicable on cable upto 10 Km.		
		b Shall be able to calculate the total length of cable from any healthy core.		
		c Shall be capable of locating all types of permanent and transient faults viz, Core-earth, C-C, C-C-E, high impedance faults, core breaks, flashovers etc.		
		d Shall be capable of locating faults in all types of U.G. / Overhead power cables with all types of insulation up to rating of 11kV and below.		
		e Shall be capable for DC testing(High Pot) of Cables		
		f shall have limited burning of fault facility in surge itself.		
		g Shall be capable for pinpointing the fault location.		
		h Shall be capable for detecting multiple faults on single cable.		
3	Prelocator	a Pulse Echo Method/TDR		
		b Impulse Current Method		
		c ARC Reflection Method		
		d Decay Method		
7	Surge Generator	a 0-16 kV in 3 selection or continuous selection range		
		b Limited burning current up to 200mA		
		c 5 to 15 seconds surge interval variable		
		d Energy Minimum upto 1000 Joules at 0-4kV, 0-8kV, 0-16kV.		
		e Shall produce suitable thumping for pinpointing of fault.		
		f Thumping shall be auto and manual both for minimum 5-15 second cycle.		
		g Shall be suitable for continuous thumping up to 4 hrs.		
		h Voltmeter and ammeter of suitable range shall be provided to monitor the applied voltage and leakage current.		
		i Provision for Emergency Push Button for complete disconnection of power supply of the equipment.		
		a Portable hand held type.		
b Shall have suitable GUI for pinpointing the fault.				

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8	Pinpointing Set	c	Probe shall have acoustic and magnetic sensor.		
		d	Digital Display for fault location indication.		
		e	Coincidence figure/distance measurement		
		f	Able to detect minimum 2.5 meter depth.		
		g	Pin point radius 500 mm.		
		h	Probe must be robust and concealed upto IP65.		
		i	Probe must be suitable for uneven surface.		
		j	Probe shall be used in standing position.		
		k	Shall have provision for clear identification of faulty cable by audio visual indications.		
		l	Inbuilt Noise cancellation for more accurate results		
9	Accuracy (maximum allowed)	m	Battery Indication		
		a	Fault Per Locator $\pm 1\%$ of total cable length		
10	Measurement records	b	Pinpointer within 500 mm radius		
		a	Equipment shall have capability to maintain a record of atleast previous 50 faults/cases.		
		b	Fault location records shall be available on GUI for analysis and reference purpose.		
11	Input Power Supply		1 ph 230 V $\pm 10\%$, 50 hz		
12	Warranty		Minimum 2 yr including accessories from the date of commissioning.		
13	Demonstartion of equipment		Party shall demonstartate the offererd or similar feature equipment free of cost at BHEL bhopal. If already demonstrated in last 5 years then proof of same shall be submitted for technical acceptance. Sample cable shall be provided by BHEL for demonstartion purpose.		
14	Product DataSheet		Party shall submit along with offer.		
15	Calibration Certificate		Party shall submite the calibration certificate from govt accredited Lab for instrument and probes, along with supply.		
16	High Voltage Equipment Certificate		Party shall submite the certificate issued by any GOVT/NABL/ILAC Lab for withstanding and use for high voltage up to 16 kV, along with supply.		
17	Trainig, demo and assistance during fault situation.	a	At least 5 days full day training with live demonstartion for 5 nos BHEL personals at BHEL bhopal plant after supply of equipmet, this may be extended for further 7 days as per requirement		
		b	Party has to provide his assistance during 02 faulty conditions that may occure after equipment supply in HT/LT network, this will be up to 01 year of equipment supply.		
18	Mandatory Accessories				
18a	Battery		Along with Equipment		
			Battery shall be replacebale at site and shall not be of propritary nature.		
18b	Data analysys software and connecting cables		PC interface with software for data downloading and analysis of fault records etc		
18c	Voltage & Earthing probes (02 set)		Flexible voltage probes (minimum 15 mtrs) with alligator clips. (Test certificate is also required as per 16)		
18d	Discharge Rod		For discharging the circuit after test, minimum 3 mtr length.(Test certificate is also required as per 16)		
18e	Hand gloves (02set)		As per relevent IS to suit minimum 16kV working voltage.(Test certificate is also required as per 16)		
18f	Rescue Rod (01 Nos)		As per relevent IS to suit minimum 16kV working voltage.(Test certificate is also required as per 16)		
18g	Head Phone for Pin Pointer unit		There shall be a provision of volume adjustments, shall be of reputed company.		
18h	Carry case		for all small hand held devices, and probes shall be sturdy and robust.		
18i	Carry Trolly		Shall be heavy duty, shock proof, with minimum 10" wheels set.		
19	Warranty card & manual		Warranty card + descriptive mannual (Along with supply)		
20	Inspection		At suitable location in India only, before supply.		
21	Erection & Commissioning		At BHEL Bpl in scope of supplier.		