नॉर्थ ईस्टर्न इलेक्ट्रिक पावर कॉरपोरेशन लिमिटेड
NORTH EASTERN ELECTRIC POWER CORPORATION LIMITED
(MINI RATNA CATEGORY-I , A GOVT OF INDIA ENTERPRISES)
(Website: www.neepco.co.in ::CIN:U40101ML1976GOI001658)
AN ISO: 9001:2015, 14001: 2015 and 45001: 2018 CORPORATION

CORRIGENDUM-1 Dated: 16.07.2020

NIT NO. KHEP/C&P/2020/358 Dt. 08.07.2020

For

Supply, Delivery, Demonstration/Testing of one number Offline Overhead Distribution Line Fault Locator and Analyzer at Kopili Hydro Electric Plant, NEEPCO Ltd, Umrongso, Dima Hasao, Assam-788931

The detail technical specification of the item shall be as following:

TECHNICAL SPECFICIATION:

Sl. No.	Specification/ Parameters	Equipment performance
1	Functional Requirement	The instrument will be useful to achieve Uptime, Safety and Disaster Management tool. Power Line Level 11kV to 33kV lines and be capable of analyzing all the three phases simultaneously. Parallel and Cross Over lines from up to 33kV capacity. Must be capable of suppressing induction interference up to 60 kV Must be capable of injecting a test voltage of 5 kV in the transmission line for appropriate performance. The kit must 1. Deliver optimum performance to operate with transmission lines which are highly inductive in nature. 2. Must be able to inject high frequency signals at high voltages to check in homogeneities for long distances without attenuation.
2	Type of Tests	1. Continuity Test 2. Phase Sequence Test 3. Signature analysis study of entire length of the Line 4. Line Healthiness analysis and diagnostics 5. Commissioning of new overhead transmission lines 6. Virtual Line Patrolling 7. Prediction of inhomogeneous points in the line 8. Overhead AC distribution Line Signature analysis 9. Offline Fault Locater to locate faults in Transmission lines
3	Type of Faults	The kit needs to be capable of locating and analysing all the faults across the length of line during the test till the point continuity is available across the line. 1. Open circuit fault 2. Short circuit faults (L-G, LL-G, LLL-G Faults) 3.Phase to Phase fault (LL, LLL Faults) 4. Decapping faults 5.Loose Jumpers, Open Spacers, Missing jumpers, Missing top earth wire, Tree encroachment etc. 6.Multiple Short Faults 7.Snapping of top earth wire 8.Detection of Clearance (Ground, phase)
4	Operation/Control	1. Need to be allow with Soft switch, strong Knobs and LED / LCD display. The system should be portable, user friendly and must be capable of functioning in remote places without power up to 6 hours. 2. The KIT should be connected to all 3 phases at a time and line connection need to take off only after completion of all test. Changing of phases in the line connection is not be done during testing to ensure accuracy. Suitable 3 Phase have duty adapter to arrest the induction should be part of the KIT.

5	Range of Operation	Up to 100 Kms
6	Measurement Mode	3 Phase Simultaneously
7	Accuracy	" +/- 50 M"
8	Operating Temperature	0^0C to +50^0C
9	Protection/Control	1. The device must be designed especially for overhead power lines which are majorly inductive in nature. 2. Capable of suppressing & measuring induction interference up to 60 kV around the line. 3. Capable of functioning efficiently across the length of the transmission line which covers high vegetation and hilly areas without any attenuation
10	Software	1. The output must be represented in Graphical and Tabular format for faster interpretation and analysis 2. The dynamic visual of the line must be transported accurately as a signature For accurate analysis
11	Self-Testing of the device before the test	Suitable to test using Simulator at remote site to ascertain health of the equipment and reading
12	Display	Laptop connectivity facility in the kit & LCD display with backlight should be allowed.
13	Data	The facility to load the data in the laptop & software need to analyze the data, predict the locations with severity & Phases accuracy
14	Earthing Loop Test	Light Indicator for safety of Operator
15	Environment	The test kit shall be compatible for EMI/EMC/safety environment requirement as per IEC.
16	Storage/Analysis	Preloaded operating MS Window 7 professional or better with latest version of application software required for storage analysis and record management.

GUARANTED TECHNICAL SPECIFICATIONS
OFF LINE OVER HEAD FAULT LOCATOR AND ANALYSER

Sl NO	Item	Specification
1	Working of the equipment:	Offline Microprocessor based Overhead Power Transmission Line fault locator and analyser
2	Scope	Fault identification and Analysis of the Power Transmission Line (up to 33kV) at a multiple of every 50 meters
3	Functional Requirement	The instrument needs to be suitable to detect, locate and analyse faults in multi circuit overhead Power transmission lines up to 33kV in Offline Mode.
4	Handling of the Equipment	Portable
5	Type of Power Line compatibility	The kit need to be capable of working up to 33kV, in Off Line mode.
6	Type of Tests	Need to perform the following tests a. Line Continuity b. Phase Sequence c. Locate inhomogeneous points in the line d. Line Length e. Circuit verification for double circuit lines
7	Type of Faults	The kit needs to be capable of locating and analysing all the faults across the length of line during the test till the point continuity is available across the line. a. Open circuit fault b. Short circuit faults (L-G, LL-G, LLL-G Faults) c. Phase to Phase fault (LL, LLL Faults) d. Decapping faults e. Loose Jumpers, Open Spacers, Missing jumpers, Missing top earth wire, Tree encroachment etc. g. Multiple Short Faults h. Snapping of top earth wire i. Detection of Clearance (Ground, phase)
8	Range of Operation	Upto100 km
9	Accuracy	+/-50 meters
10	Display of Fault Data	Direct reading in kilometres automatic
11	Measurement Mode	3-Phase Simultaneously – All the three phases to be detected and measured together.
12	Safety: Protection/Control of instrument & operator	1. Surge Protection - The kit must have alarm/cut-off features to protect the instrument & operator against short circuit, over voltage, improper ground connection, over load & transient surges 2. Protection from Induced Voltage: Capable of suppression of all induced voltages up to 100 kV from adjacent parallel, cross over and multi circuit lines. **The equipment must have provision to display induced voltage in the Power Transmission line to be tested.**
13	Connectivity	1. Parallel Port for Printer 2. USB 2.0 for Laptop"

14	Reporting during the test	The instrument needs to provide Real time input in Numerical And graphical format to locate and prioritize severity of faults during the test at the site.
15	Analysis and Storage of Data	The software should be capable of report generation and trend analysis at the test site. It must have facility to connect with windows-based computer for analysis and storage of the test data.
16	Self-Testing of the device before the test	Suitable to test using Simulator at remote site to ascertain health of the equipment and reading
17	Power Supply	Both Mains and Battery operated with built in battery and battery charger, (Both AC & DC operable). It shall work on single Phase 230VAC±10%, 50Hz±5% with supply with standard socket
18	Temperature	Temp- 0 to 50 Deg C.
19	Humidity	Max 90 % non-Condensing
20	Equipment Casing	IP 67 Rated enclosure
21	Earthing Loop Test	Light indicator for Safety of operator
22	Certifications	The test kit shall be compatible for EMI / EMC environment requirement as per relevant IEC. "Environment EMI/EMC 61000-4-2-2008, 61000-4-3-2010, 61000-4-4-2012, 61000-4-5-2014, 61000-4-6-2013, 61000-4-8-2009,61000-4-11-2004, IEC 60068-2-78, 2012, IEC 60068-2-6, 2007, IEC 60068-2-27, 2008, IEC 61010-1"

All Other terms & conditions of the BID Document of NIT shall remain unchanged.

DGM (E), C&P
KHEP, NEEPCO Ltd.
Umrongso, Dima Hasao, Assam.

Not to be published

Memo No. NEEPCO/KHEP/C&P /W-10/2020-21/ 1382-87 dated 16/07/2020.

Copy to –

1. The HOP, KHEP, Umrongso – for favour of kind information please.
2. **The GM (IT). NEEPCO Ltd., Shillong with a request to upload the corrigendum in the NEEPCO Website.**
3. The DGM (E/M), Kopili P.S & Utility KHEP NEEPCO. - for information please.
4. The DGM (F&A), KHEP, NEEPCO Ltd, Umrongso - for information.
5. The Sr. Manager (C), Vigilance, KHEP, NEEPCO Ltd, Umrongso. – for information.
6. Notice Board, Administrative building, KHEP, Umrongso.

DGM (E), C&P
KHEP, NEEPCO Ltd.
Umrongso, Dima Hasao, , Assam.