

ANNEXURE-A

Sr. No.	Points related to	Points as per Technical Specification	Queries raised by the Bidder	Clarification/Comments
1	Numerical Protection Relays	<p>Under clause no. 5.2 General Technical Requirements for Numerical Relays: For Line B/U Relay Point No. 1K Distance Relay Point No. 17 Transformer Differential relay Point No. 17 Transformer B/U relay Point No. 14 High Impedence REF Relay Point No. 14 Tee Differential Relay Point No. 8</p> <p>Relay shall have front port for local communication so that all setting parameters, configuration, logic and fault event data/disturbance recorder can be quickly access and rear port for Remote communication/station communication.</p>	<p>Relay shall have front USB/RS232 port for local communication so that all setting parameters, configuration, logic and fault event data/disturbance recorder can be quickly access & rear redundant RJ45/FO ports for Remote communication on IEC61850 supporting Parallel redundancy protocol (PRP). Goose transmission time between two IED's shall be <10msec.</p>	No change.
2	Numerical Protection Relays	<p>Under clause no. 5.2 General Technical Requirements for Numerical Relays: For Line B/U Relay Point No. 7 Distance Relay Point No. 18 Transformer Differential relay Point No. 13 Transformer B/U relay Point No. 10 High Impedence REF Relay Point No. 10 Tee Differential Relay Point No. 4 NDR Point No. 20</p> <p>The relay shall have GPS time synchronization via IRIG-B or via binary input or via the communication protocol of SCADA/ Protection system or direct fibre connectivity (using SNTP and PTP).</p>	<p>The relay shall have GPS time synchronization via IRIG-B or via binary input or via the communication protocol of SCADA/ Protection system or direct fibre connectivity (using SNTP OR PTP).</p>	No change.

Sr. No.	Points related to	Points as per Technical Specification	Queries raised by the Bidder	Clarification/Comments
3	Numerical Protection Relays	<p>Under clause no. 5.2 General Technical Requirements for Distance relay Point 12: for Line Backup Relay:Point 2: for NDR Point 19: One set of (copiable) software required for relay Parameterization and retrieving data from the relay along with associated cables, connectors, etc. shall be offered free of cost for each of the substation where retrofit work will be executed. The list/break-up of such software/cables/connectors/other hardware included in the scope shall be furnished in the offer.</p>	needs clarity.	Since this is a e-tender for supply of spare the bidder shall supply the relays to the concerned MSETCL's store offices along with one set of relay configuration software and associated cables/hardware per testing division and one for T&C circle (i.e. total 4 numbers) in each zone.
4	Numerical Protection Relays	<p>Under clause no. 5.2 General Technical Requirements: for Line B/U Relay GTP Point No. 27 for Transformer Differential GTP point no. 28 for Trnaformer B/U Relay GTP Point No. 20 for High Impedence REF GTP point No. 23 for TEE Differential Protection Relay Point No. 25 for NDR relay Point no. 24. Whether supervised & replaceable battery back-up is provided for internal real time clock & all records</p>	Whether supervised battery or capacitor back-up is provided for internal real time clock.	No Change

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5	Numerical Protection Relays	As per Qualifying Requirement Clause No. 14.1.1: The Tenderer should have proven experience of not less than 5 years in Design, manufacture, supply, and testing at works for the equipment/ material tendered of equal or higher voltage class. The tendered equipment/material by the Tenderer should be in successful operation at least for 2 years as on the date of submission of the Tender.	The Tenderer should have previously supplied equipment for similar application to power utilities and same should be in successful operation atleast for two years as on the date of submission of the Tender.	No change.
6	Numerical Protection Relays	Under clause no. 5.0 General Technical Requirements: 5.1) Scope of Work: Point No. 5.1.1 Supply of IEC-61850 compliant (site selectable IEC 61850 Edition 1&2 compliant) various type of Numerical Protection Relays as critical spares in MSETCL.	In the tender proposal we request to accept Edition 2.0. pl note that there is no laboratory available that can certify Edition 1.0 since this Edition 1.0 standard is obsolete and replaced by Edition 2.0. Moreover, as per the latest guidelines by MoP, IEC61850 Ed2.0 needs to be used. However, in case any integration with existing Ed1.0 system is envisaged, we will provide necessary ICD files that is compatible for Ed1.0 system	Accepted.
7	Numerical Backup Protection Relays	As per GTP Point No. 21: For Backup Protection Relay Point 18: Number of programmable bi-stable inputs available: Minimum 10	Number of programmable bi-stable inputs available: Minimum 19BI	No Change
8	Numerical Backup Protection Relays	As per GTP Point no. 23: For Backup Protection Relay Point 19: Number of configurable output LEDs available: Not less than 8	Number of configurable output LEDs available : Not less than 7 and fixed LED's not less than 2	No Change.

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9	Numerical Disance Protection Relays	Under clause no. 5.2 General Technical Requirements for Distance Protection Relay Point no. 4: The distance protection shall have minimum four directional zones (three forward zones and one reverse zone). It shall be possible to set the reach setting of each zone independently. Operating time for faults in the first zone shall be instantaneous and shall not exceed 40 milliseconds including the trip relay timing.	Operating time for faults in the first zone shall be instantaneous and typically shall not exceed 20 milliseconds i.e. subcycle tripping	No change
10	Numerical Disance Protection Relays	As per GTP For Distance Protection Relay Point 19: Number of output LEDs available: minimum 12 (8 Programmable + 4 fix)	Number of user programmable LED's available not less than 14	No Change
11	Numerical Transformer Differential Relay	Under clause no. 5.2 General Technical Requirements Point No. 4: Have an operating time not greater than 40 milliseconds at 2 times setting, 35 milliseconds at 5 times setting.	Have an operating time not greater than 30 milliseonds at 5 times setting.	No Change
12	Numerical Transformer Differential Relay	Under clause no. 5.2 General Technical Requirements Point No. 7: Be suitable for Auto transformers (ICTs) & two or three winding Transformers.	Be suitable for Auto Transformers (ICTs) & two or three winding transformers and shall be offered as per requirement.	No Change
13	Numerical Transformer Differential Relay	As per GTP For Differential Protection Relay Point 19: Number of programmable bi-stable inputs available: minimum 24	Number of programmable bi-stable inputs available: minimum 20	No change.
14	Numerical Transformer Differential Relay	As per GTP For Differential Protection Relay Point 20: Number of output LEDs available: minimum 8	Number of output programmable LEDs available: minimum 14	No change.

Sr. No.	Points related to	Points as per Technical Specification	Queries raised by the Bidder	Clarification/Comments
15	Numerical Transformer Differential Relay	As per GTP For Differential Protection Relay Point 21: No. of trip contacts and Bi-stable outputs available: Minimum 16	No. of programmable trip contacts available: minimum 12	No change.
16	Numerical Transformer Backup Protection Relay	Under clause no. 5.2 General Technical Requirements Point No. 5 Shall have three over current and one earth fault element(s) for HV and MV/LV side which shall be either independent or composite unit(s) and shall be IEC 61850 compliant (site selectable IEC 61850 Edition 1&2 compliant).	Shall have three over current and one earth fault element(s) for HV or MV/LV side	No change.
17	Numerical Transformer Backup Protection Relay	As per GTP For Transformer Backup Protection Relay Point 18: Number of programmable bi-stable inputs available : Minimum 10	No. of programmable inputs available: minimum 19BI	No change.
18	Numerical Transformer Backup Protection Relay	As per GTP For Transformer Backup Protection Relay Point 19: Number of configurable output LEDs available: Not less than 8	Number of configurable output LEDs available : Not less than 7 and fixed LED's not less than 2	No change.
19	Numerical Restricted Earth Fault Protection Relay (REF)	As per GTP For REF Relay Point 18: Number of output LEDs available Not less than 8	Number of configurable output LEDs available : Not less than 7 and fixed LED's not less than 2	No change.
20	Numerical Restricted Earth Fault Protection Relay (REF)	As per GTP For REF Relay Point 19: No. of trip contacts and Bi-stable outputs available	No. of Trip contacts output available : Not less than 6	No change.

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21	Numerical Restricted Earth Fault Protection Relay (REF)	Additional Point	Operating time shall be less than 30msec for 3 times setting	No change.
22	Neutral Displacement Relay	Under clause no. 5.2 General Technical Requirements Point No. 16: The relay should have a front USB port for local communication for relay settings, extraction & analysis of fault/event/disturbance records from a Laptop and a Rear RS 485 for remote communication to SCADA system. It shall also have copper & fibre ports for communication to SCADA.	Relay shall have front USB/RS232 port for local communication n so that all setting parameters, configuration, logic and fault event data/disturbance recorder can be quickly access & rear redundant RJ45/FO ports for Remote communication on IEC61850 supporting Parallel redundancy protocol (PRP). Goose transmission time between two IED's shall be <10msec.	The relay shall have front port for local communication so that all setting parameters, configuration, logic and fault event data/disturbance recorder can be quickly accessed & rear port for Remote communication/station communication.