



## Response to Pre-Bid Queries

TPNODL/OT/2021-22/210

### Tender Description: Rate Contract for Supply of 3 Phase Meter with Box

The pre-bid queries as received against the referred tender enquiry and TPNODL's responses on the same are placed below:

S. No.	Tender Reference	Bidder's Pre-Bid Query	TPNODL's Response
01.	Page 18  The meter shall keep records for the minimum last 600 events (occurrence + restoration) for above abnormal conditions. Each event shall be logged with date and time of occurrence/restoration with snapshot of voltage, current, power factor and active energy (except cover open and, power on-off).	The meter shall keep records for the minimum last 501 events (occurrence + restoration) for above abnormal conditions.	OK
02.	Page No 19  <b>LOAD SURVEY: -</b> Following parameters shall be made available for last 180 days with integration period of 30 min: · Active forwarded energy · Reactive lag energy · Reactive lead energy · Apparent forwarded energy · Phase wise voltage · Phase wise current · Temperature	We shall provide Load survey of 160 days with IP of 30min. · Active forwarded energy · Reactive lag energy · Reactive lead energy · Apparent forwarded energy · Phase wise voltage · Phase wise current	Following parameters shall be made available for last 180 days with integration period of 30 min excluding Temperature
03.	6  Thickness of box (Base and Cover) Base-3mm (minimum) Cover-2.5mm (Minimum) Tolerance + 0.02mm	Thickness of box (Base and Cover):- Overall 2mm & with rib at load bearing side 2.5mm. Please accept.	As per our spec.



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04.	10(f) Sealing Arrangement polycarbonate extension for sealing and latch with concentric sealing holes on U shaped latches:- 4 Numbers of Min. 30mm length (Two on opening side and one at top and bottom side), Sealing hole diameter 3mm	2 nos U shaped latches with sealing arrangement on opening side, latch length 25mm. Latch length 25mm & sealing diameter 2.5mm. Please accept.	As per our requirement
A	10(g) U shaped GI latches: 4 number GI U shape latches having 1.2mm thick and Min. 25mm long with sealing hole	2 number of GI U shape latches having 1.2mm thick and Min. 25mm long with sealing hole. Please accept.	As per our requirement
06	10(j) Cover overlapping on base: a) Inside- 25 mm overlapping at hinges sides, top and bottom side and 20 mm overlapping at pad lock side. b) Outside overlapping 20mm throughout border	Overall overall cover overlapping on base: 2mm from inside & 10mm from outside. Please accept.	As per our requirement
07	10(k and r) A. Size of incoming & outgoing gland hole A. 35mm	PG 36 or 29 size gland will be provided. Please accept.	As per our requirement



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	B. location of hole from bottom side B. around 40mm		
08	10(m)  Hinges: 40mm long Stainless Steel (SS 304), both end riveted hinges, with following options: i. Two nos. of hinges with 3 screws in each ii. Three nos. of hinges with 2 screws in each	30mm long GI hinge  i) Two nos hinges with 2 screws ii) Not Possible.  Please accept.	As per our requirement
09	Page No 5  <b>NAME PLATE AND MARKING</b> The meter box shall be provided with durable and legible name plate, effectively secured against removal. The name plate shall be indelibly and distinctly marked with all essential particulars as per the relevant standards along with the following information: a) Manufacturer's name b) RC and RO/PO No. with date c) Item Code d) Serial number e) Month and Year of manufacturing (MM/YYYY) f) No supply number: g) Property of 'TPNODL'	a) Embossed b) Embossed c) Please clarify d) Inkjet Printing e) Inkjet Printing f) Please clarify g) Embossed.	OK
10	GTP Point ( 22 ) Page No 10	Optical readout option with optical washer and cover with sealing option will be given. Please accept.	As per our requirement



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	<b>D Port arrangement</b> Provision for fixing of 01 no of RS-232 serial port (DPort) with sealing arrangement must be provided for communication of meter with meter reading instrument without opening the door. Any other suitable arrangement for communication with the optical port of the meter without opening the seal is also acceptable.		
11	SCOPE AND OBEJECTIVE 1.0  Suitable for connection to LT single phase 2 wire, 240V system	Its manual mistake it should be LT three phase 4 wire, 240V system.	OK
12	4.11  The meter shall be able to continuously carry 90A load in all 3 phases maintaining its class	90A apply for 30 min.	OK
13	COMMUNICATION PORT  The optical port provided on the meter shall have the capability to transmit the data by connecting the external cable in all 360 degrees i.e. shall be insensitive to cable orientation.	not preferably 360 degree operation.	OK
14	DISPLAY OF MEASURED VALUE:  Universal active maximum demand with date	We will provide MD KW and KVA with date and time	OK



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	and time · Universal apparent maximum demand with date and time		
15	DISPLAY OF MEASURED VALUE: Date and time for maximum demand	It,s repeat parameter. Pls remove	OK
16	DISPLAY OF MEASURED VALUE: High resolution active forwarded energy (0.1 Wh resolution) High resolution reactive lag forwarded energy (0.1 VARh resolution) · High resolution reactive lead forwarded energy (0.1 VARh resolution) · High resolution apparent forwarded energy (0.1 VAh resolution)	We will provide high resolution parameters with 2+5 digit with Kwh unit.	As per our requirement
17	DISPLAY OF MEASURED VALUE: Cumulative status of current related tampers · Cumulative status of tampers other than current and potential · Cumulative status of potential related tampers	We will Provide Cum tamper count on meter display.	As per our requirement
18	DISPLAY OF MEASURED VALUE: Present status of current related tampers · Present status of potential related tampers · Present status of tampers other than current and potential	We will Provide present tamper status (any tamper)	OK



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19	<b>ABNORMAL EVENTS</b>  The meter should have features to detect the occurrence and restoration of, at least, the following common abnormal events Tamper Logics / Conditions & (Occurrence & Restoration) Persistence Time	We will provide tamper as per tamper logic sheet given in specification.	OK
20	<b>4.13 POWER CONSUMPTION</b>  Power Consumption - Less than 1 W & 4 VA per phase in voltage circuit, 2 VA in current circuit The active and apparent power consumption in each voltage circuit at reference voltage; temperature and frequency shall not exceed 0.5 W and 1 VA per phase respectively. - The apparent power consumption in each current circuit at basic current, reference frequency and reference temperature shall not exceed 0.1 VA per phase	We will provide Voltage CKT: - 1W and 4VA Current CKT: -2VA	As per requirement
21	<b>ABNORMAL EVENTS: n)</b>  A separate register is additionally required for defraud energy registration.	We will provide a defraud energy register which will be increased kwh register during magnet tamper.	OK



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22	<p>ABNORMAL EVENTS: I)</p> <p>The meter shall keep records for the minimum last 600 events (occurrence + restoration) for above abnormal conditions.</p>	<p>The meter shall keep records for the minimum last 200 events (occurrence + restoration) for above abnormal conditions.</p> <p>We will provide tamper compartment as per IS-15959.</p> <p>Voltage related =80 nos.</p> <p>current related = 80 nos.</p> <p>others events= 40 nos.</p>	<p>As per our requirement</p>
23	<p>ABNORMAL VOLTAGE/FREQUENCY DEVICE TEST</p> <p>The accuracy of the meter would not be affected with the application of abnormal voltage/ frequency generating device having spark discharge of approximately 35KV. The meter will be tested by feeding the output of this device to meter in any of the following manner for 10 minutes: <b>v) Spark on the optical and micro USB port.</b></p>	<p>35 KV applying on Rs232 Port (RJ 11) after that RS232 Port will not work. not USB.</p>	<p>Our concern point is on optical port &amp; micro USB port not for RS232.Please clarify our point.</p>
24	<p>LOAD SURVEY:</p> <p>Parameters shall be made available for last 180 days with integration period of 30 min.</p>	<p>We will provide load survey for last 90 days with 30 min. IP.</p>	<p>As per our requirement</p>



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25	<p><b>Tamper Logics / Conditions &amp; (Occurrence &amp; Restoration) Persistence Time</b></p> <p>Missing Potential – Phase wise</p> <p>Occurrence Vx &lt; 40% of Vref irrespective to any other phase voltage Ix &gt; 10% of Ib i.e. 1 Amp 5 min.</p> <p>Restoration Vx &gt; 75% Vref i.e. 180 V irrespective to any other phase voltage 5 min.</p>	<p>Occurrence Vx &lt; 40% of Vref Ix &gt; 10% of Ib i.e. 1 Amp 5 min.</p> <p>Restoration Vx &gt; 70% Vref i.e. 168 V 5 min.</p>	This should be as per our requirement
26	<p><b>Tamper Logics / Conditions &amp; (Occurrence &amp; Restoration) Persistence Time</b></p> <p>Current open –Phase wise</p> <hr/> <p>Occurrence All voltages &gt; 75 % of Vref Ir or Iy or Ib &lt; 1% of I basic 5 min</p>	<p>Occurrence Residual current &gt; 10% Ib Ir or Iy or Ib &lt; 1% of I basic 5 min</p> <p>Restoration Avg Line current &gt; 10% Ib and residual current &lt; 10% Ib 5 min</p>	As per our requirement





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	Restoration $I_r$ or $I_y$ or $I_b > 2\%$ of $I$ basic 5 min.		
27	Tamper Logics / Conditions & (Occurrence & Restoration) Persistence Time  Voltage  Unbalance  Occurrence $(V_{max} - V_{min}) > 20\%$ $V_{ref}$ $I_x > 10\%$ of $I_b$ For at least any one phase 5 min  Restoration $(V_{max} - V_{min}) < 10\%$ of $V_{ref}$	Occurrence All Voltage $> 0\%$ $V_{nom}$ $V_{max} - V_{min} > 20\%$ ( $V_{nom}$ ) 5 min  Restoration $V_{max} - V_{min} < 20\%$ ( $V_{nom}$ )	As per our Spec
28	<b>Tamper Logics / Conditions &amp; (Occurrence &amp; Restoration) Persistence Time</b>	Occurrence	Should be as per spec



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S. No.	Tender Reference	Bidder's Pre-Bid Query	TPNODL's Response
	<p>Current Unbalance</p> <p>Occurrence</p> <p><math>I_{max} - I_{min} &gt; 30\% I_{basic}</math> 5 min</p> <p>Restoration</p> <p><math>I_{max} - I_{min} &lt; 20\% I_{basic}</math> 5 Minutes</p>	<p><math>V_{max} - V_x &lt; 20\% V_{max}</math>, <math>I_x &gt; 10\% I_b</math> <math>I_{max} - I_x \geq 30\% I_b</math> 5 min</p> <p>Restoration</p> <p><math>V_{max} - V_x &lt; 20\% V_{max}</math> <math>I_x &gt; 10\% I_b</math> <math>I_{max} - I_x \leq 20\% I_b</math></p>	
29	<p><b>Tamper Logics / Conditions &amp; (Occurrence &amp; Restoration) Persistence Time</b></p> <p>Current reversal – Phase wise</p> <p>Occurrence</p>	<p>Residual Current limit (<math>I_r</math>) = 10% <math>I_b</math></p> <p><math>I_x &gt; 10\%</math> of <math>I_b</math>, direction of current reverse and PF value &gt; 0.2</p> <p>5 Minutes</p>	OK



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	All voltages > 75 % of Vref.  Ix > 10% of Ib, direction of current reverse and PF value > 0.2		
30	<b>Tamper Logics / Conditions &amp; (Occurrence &amp; Restoration) Persistence Time</b>  Current reversal – Phase wise  5 Minutes  Restoration Ip > 10% of Ib, direction of current forward and PF value > 0.2 5 Minutes	Restoration Ix = +ve	OK
31	<b>Tamper Logics / Conditions &amp; (Occurrence &amp; Restoration) Persistence Time</b>  Magnetic Influence	Whenever the meter functionality gets affected on account of magnetic field, meter log it as an event and recording starts on I <sub>max</sub> or it remains immune.	As per spec



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	Occurrence  1 min.  Restoration  1 min.	Same shall be logged with date & time stamp.  Persistence time: 30 seconds (approx) for occurrence and restoration	
32	Tamper Logics / Conditions & (Occurrence & Restoration) Persistence Time  Neutral  Disturbance    Occurrence	In case any spurious signal injected to the neutral of meter, then meter will be either immune or log the event in its memory. In case meter log the event then energy registration will be done on reference voltage, actual current & UPF.  Persistence time: 30 seconds (pprox.) for occurrence and 90 sec pprox.. for restoration	OK, This should be additional to our requirement



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	<p>Phase to Neutral voltage for any 2 phases &gt; 350V and remaining phase &lt; 50V. In any case Phase to Phase voltage should not more than 440V. Ix &gt; 10% of Ib 5 Minutes</p> <p>Restoration Phase to Neutral voltage for all the 3 phases &gt; 75 % Vref i.e 180 volts 5 Minutes</p>		
33	<p><b>Tamper Logics / Conditions &amp; (Occurrence &amp; Restoration) Persistence Time</b></p> <p>Low Voltage</p> <p>Occurrence Vx &gt; 40% of Vref &amp; Vx &lt; 60 % of Vref Ix &gt; 10% of Ib</p>	<p>Vx &lt;= 60% Vref (Limit for Occ) Vx &gt; 40% Vnom (Min threshold for Occ)</p> <p>Restoration Vx &gt; 70% Vref</p>	Should be as per our requirement



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	Restoration $V_x > 70\% V_{ref}$ 5 Minutes		
34	Tamper Logics / Conditions & (Occurrence & Restoration) Persistence Time  Occurrence $V_x > 115\% \text{ of } V_{ref}$ $I_x > 10\% \text{ of } I_b$ 5 Minutes  Restoration $V_x < 110\% \text{ of } V_{ref}$ 5 Minutes	Occurrence $V_x > 115\% \text{ of } V_{ref}$  Restoration $V_x < 110\% \text{ of } V_{ref}$	Should be as per our requirement
35	Tamper Logics / Conditions & (Occurrence & Restoration) Persistence Time  Occurrence All voltages $> 75\% \text{ of } V_{ref}$ . $I_r + I_y + I_b + I_n > 20\% I_{basic}$ 5 Minutes  Restoration $I_r + I_y + I_b + I_n < 10\% I_{basic}$	Occurrence $I_x > 5\% I_b \text{ and Residual current } > 10\% I_b$  Restoration Avg Line current $> 10\% I_b$ and residual current $< 10\% I_b$	Should be as per our requirement



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	5 Minutes		
36	<p>Tamper Logics / Conditions &amp; (Occurrence &amp; Restoration) Persistence Time</p> <p>Top cover Open At occurrence of Top Cover Open tamper, meter display shall show "Cover Open" permanently in auto mode during power ON and OFF both</p> <p>Conditions. No display parameter should scroll in auto mode. However meter shall continue to record energy and display parameter shall be available in push button mode.</p> <p>Immediate</p> <p>No restoration</p>	<p>Event will be logged in case of power failure also, "C open/legend" message will be activated on display at present status of other tampers also. Once the meter cover open display appears on screen, no other reading kwh, KVAh, demand etc. should be on display. However the reading shall be available on push button mode.</p> <p>Event is not resettable. Once occurred the event will be there permanently on display. However</p> <p>Icon/legend will restored after electronic meter reading subjected to no other tamper persist during reading.</p>	As per our spec.

**Note: - This document shall form an integral part of tender and should be submitted along with the tender document.**