

**BHARAT HEAVY ELECTRICALS LIMITED, JHANSI**

**DESIGN, MANUFACTURING, TESTING, PACKING AND SUPPLY OF L.T.PANEL**

SPECIFICATION NO.	SP/ELEC/9311
LOCATION	New sub-station
QUANTITY	one
INCOMER	2 Nos.
OUTGOING	14 Nos.

**NOTE :**

- VENDOR must submit complete information against clause No. 9.0 (Qualifying condition). The offer meeting this clause would only be processed.
- The " offered" Column and where applicable, the " Deviations" Column of this format shall be filled in by the Vender and submitted along with the offer. Technical details also submitted with the offer. Inadequate / incomplete, ambiguous, or unsustainable information against any of the clauses of the specification / requirements shall be treated as non - compliance.
- The offer and all documents enclosed with offer should be in English language only.

**SPECIFICATION CUM COMPLIANCE CERTIFICATE OF L.T.PANEL**

S.NO.	DESCRIPTION FOR BHEL REQUIREMENT	OFFERED	DEVIATIONS
<b>1.0 SCOPE</b>			
1.1	This specification governs the quality requirements of design, manufacturing, testing, packing at supplier works and delivery of L.T. panels complete in all respect.	VENDER TO CONFIRM	
<b>2.0 REQUIREMENT</b>			
2.1	Air insulated metal clad totally enclosed rigid floor mounting free standing cubicle type manually operated L. T. Panel for incoming/ outgoing circuits.. The panel shall comprise of suitable length of 2400 Amp. TPN Bus bar chamber with aluminum Bus bar with rupturing capacity 31 MVA at 415 Volt. It should be similar and matched with existing panel installed in sub-station. Size of panel shall be 2140 mm Height, 1620 mm Length and 530 mm Width (Approx.).	VENDER TO CONFIRM	
<b>3.0 INCOMER L.T. PANEL :</b>		VENDER TO CONFIRM	
<b>3.1 QUANTITY – 2 Nos</b>		VENDER TO CONFIRM	
3.2	1 No. 1600 Amp. Triple pole trip free draw out type air circuit breaker. Make of breaker should be L&T (model – U.Power) /GE power control (model – Mpro M Pack or Entelliguard)/Siemens (model – 3WL) / ABB (model – Emax) only.	VENDER TO CONFIRM	
3.3	The breaker should have following features-	VENDER TO CONFIRM	
3.3.1	Inbuilt over current and earth fault release.	VENDER TO CONFIRM	
3.3.2	Converter using 485 to 232 converter for communication with last 10 fault history.	VENDER TO CONFIRM	



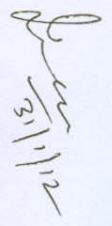


**SPECIFICATION CUM COMPLIANCE CERTIFICATE OF L.T.PANEL**

<b>S.NO.</b>	<b>DESCRIPTION FOR BHEL REQUIREMENT</b>	<b>OFFERED</b>	<b>DEVIATIONS</b>
3.3.4	1600 Amp. Rating fixed and insulating device complete with automatic safety shutters.	VENDER TO CONFIRM	
3.3.5	Shut release trip coil suitable for 30 volt D.C.	VENDER TO CONFIRM	
3.3.6	8 Way Auxiliary Switch with 4 NO+4NC contacts.	VENDER TO CONFIRM	
3.3.7	3 Nos. ring type epoxy molded CT with 15 VA burden and 15 T10 class of accuracy with CTR 1600-800/5 for instrument and protection.	VENDER TO CONFIRM	
3.3.8	3 Nos ring type epoxy molded CT with 15 VA burden 15 T10 class of accuracy and ratio 1600-800/5 mounted on outgoing bus bar just before cable termination.	VENDER TO CONFIRM	
3.3.9	Set of cable termination suitable for 4 nos 3 ½ core 300 mm2 Al. Conductor PVC/XLPE cable with suitable cable gland.	VENDER TO CONFIRM	
3.3.10	0-800-1200 dual range 144 mm2 with 1.5 class accuracy flush mounting type ammeter with ammeter selector switch.	VENDER TO CONFIRM	
3.3.11	0-500 volt rang 144 mm2 with 1 class accuracy flush mounting voltmeter with voltmeter selector switch.	VENDER TO CONFIRM	
3.3.12	Multifunction KWH meter for 3 phase 4 wire 415 volt 50 HZ system suitable for balance and unbalance load condition (details to be given Make, model etc).	VENDER TO CONFIRM	
3.3.13	Red and green indication lamp for ON/OFF indication.	VENDER TO CONFIRM	
3.3.14	Independent manual spring closing mechanism complete with mechanical on and off indication.	VENDER TO CONFIRM	
3.3.15	The copper earth bus bar of suitable capacity shall be provided inside the panel and insulating barrier shall be supplied.	VENDER TO CONFIRM	
3.3.16	Extension pieces Along with hardware and insulating Barrier shall be supplied.	VENDER TO CONFIRM	
3.3.17	Operating handle shall be supplied.	VENDER TO CONFIRM	
4.0	<b>OUT GOING L.T. PANEL</b>	VENDER TO CONFIRM	
4.1	<b>QUANTITY – 14 NOS.</b>	VENDER TO CONFIRM	
4.2	1 No. 800 Amp. Triple pole trip draw out type air circuit breaker. Make of breaker should be L&T (model – U.Power) /GE power control (model – Mpro M Pack or Entelliguard)/Siemens (model – 3WL) / ABB (model – Emax) only.	VENDER TO CONFIRM	
4.3	The breaker should have following features-	VENDER TO CONFIRM	
4.3.1	Inbuilt over current and earth fault release.	VENDER TO CONFIRM	
4.3.2	Converter using 485 to 232 converter for communication with last 10 fault history.	VENDER TO CONFIRM	
4.3.3	Bolted type neutral link.	VENDER TO CONFIRM	
4.3.4	800 Amp. Rating fixed and insulating device complete with automatic safety shutters.	VENDER TO CONFIRM	

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<b>S.NO.</b>	<b>DESCRIPTION FOR BHEL REQUIREMENT</b>	<b>OFFERED</b>	<b>DEVIATIONS</b>
4.3.5	Shut release trip coil suitable for 30 volt D.C.	VENDER TO CONFIRM	
4.3.6	8 Way auxiliary switch with 4 NO+4NC contacts.	VENDER TO CONFIRM	
4.3.7	3 Nos. ring type epoxy molded CT with 15 VA burden and 15 T10 class of accuracy with ratio 800/400/5 for instrument and protection.	VENDER TO CONFIRM	
4.3.8	3 Nos ring type epoxy molded CT with 15 VA burden 15 T10 class of accuracy and ratio 800/400/5 mounted on outgoing bus bar just before cable termination.	VENDER TO CONFIRM	
4.3.9	Set of cable termination suitable for 2 nos 3 ½ core 300 mm2 Al. Conductor PVC/XLPE cable with suitable cable gland.	VENDER TO CONFIRM	
4.3.10	0-800-1200 dual range 144 mm2 with 1.5 class accuracy flush mounting type ammeter with ammeter selector switch's	VENDER TO CONFIRM	
4.3.11	0-500 volt rang 144 mm2 with 1 class accuracy flush mounting voltmeter with voltmeter selector switch.	VENDER TO CONFIRM	
4.3.12	Multifunction KWH meter for 3 phase 4 wire 415 volt 50 HZ system suitable for balance and unbalance load condition.	VENDER TO CONFIRM	
4.3.13	Red and green indication lamp for ON/OFF indication.	VENDER TO CONFIRM	
4.3.14	Independent manual spring closing mechanism complete with mechanical on and off indication.	VENDER TO CONFIRM	
4.3.15	The copper earth bus bar of suitable capacity shall be provided inside the panel and insulating barrier shall be supplied.	VENDER TO CONFIRM	
4.3.16	Extension pieces Along with hardware and insulating Barrier shall be supplied.	VENDER TO CONFIRM	
4.3.17	Operating handle shall be supplied.	VENDER TO CONFIRM	
<b>5.00 DRAWING</b>			
5.1	All the drawing including outline general arrangement shall be submitted to us in Triplicate for approval before commencement of work.	VENDER TO CONFIRM	
<b>6.0 INSPECTION</b>			
6.1	At least 15 day advance information should be given to enable us to depute our Representative for inspection / testing. Dispatch shall be affected only after inspection	VENDER TO CONFIRM	
<b>7.0 GURANTEE</b>			
7.1	The equipment shall be guaranteed in respect of material construction and operation against any manufacturing and design defect for a period of 24 month after supply.	VENDER TO CONFIRM	
<b>8.0 GENERAL REQUIREMENT</b>			
8.1	The panel shall be complete light, stream line dust and vermin proof.	VENDER TO CONFIRM	

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8.2	The equipment should be confirmed to relevant IS/BS.	VENDER TO CONFIRM	
8.3	Aluminum anodized name plate for outgoing circuit shall be screwed in front and back of the panel.	VENDER TO CONFIRM	
8.4	Offer shall be sent with complete literature and necessary details.	VENDER TO CONFIRM	
8.5	Notwithstanding the details in this specification if anything else is required for its functioning the same should brought in the notice and included in the offer.	VENDER TO CONFIRM	
8.6	The offer should be in duplicate with complete technical details.	VENDER TO CONFIRM	
8.7	The instructing and maintenance manual should be sent along with the equipments.	VENDER TO CONFIRM	
8.8	The panel finish should be with Aircraft Grey to ISS shade-693.	VENDER TO CONFIRM	
<b>9.0</b>	<b>QUALIFYING CONDITION</b>		
9.1	Only those venders, who are in the line of panel manufacturing or authorized agents of Panel manufacturer & supplied at least five no. or more similar type of panel in last five years (P.O. & despatch documents to be submitted), shall quote. The following information's are to be submitted with the offer. This is required from vender for qualification of their offers.	VENDER TO SUBMIT	
9.2	Name of the panel manufacturer and company profile.	VENDER TO SUBMIT	
9.3	Detail of manufacturing facilities available at manufacturer works.	VENDER TO SUBMIT	
9.4	Details of test facilities available at manufacturer works.	VENDER TO SUBMIT	
<b>10.0</b>	<b>BHEL reserves the right to information's submitted by vender. In case the information is found to be false/ incorrect, the offer shall be rejected.</b>	VENDER TO CONFIRM	
	<p align="center">                       Y.K. Dhingra                      SR. Eng (WEX)                 </p>	<p align="center">                       ARJUN SINGH                      Manager (WEX)                 </p>	<p align="center">                       INDER MATHUR                      Sr. Manager(WEX)                 </p>
	<p align="center">                       A.K. Shivpuri                      Sr. Mgr(WEX)                 </p>	<p align="center">                       S.J. Chakraborty                      Sr.D.G.M.(WEX)                 </p>	

**(एस.डी.जी.एम. द्वारा)**  
**वर्क पर महाप्रबंधक**  
**कार्य उपाययुक्त एवं सेवा**  
**परिचालन एवं, शासी**