



भारत हेवी इलेक्ट्रिकल्स लिमिटेड

(भारत सरकार का उपक्रम)

BHARAT HEAVY ELECTRICALS LIMITED

(A Govt. of India Undertaking)

TCN - 03

Ref: PSER:SCT:PAL-I1263:TCN-03

Date: 02/11/2011

Sub	Tender change notice (TCN) - 03	
Job	Erection, testing, commissioning etc of complete C&I system including all max system & panels , MMI system for GT, Static starting system of GT, STG, HRSG and station C&I, controls and C&I of balance system/item for 2X363.3 MW units at Palatana, Tripura.	
Ref	1.0	Tender no PSER:SCT:PAL-I1263:11
	2.0	BHEL's NIT, vide ref no Ref: PSER:SCT:PAL-I1263:11 Dated 13/10/2011
	3.0	BHEL's TCN-01, vide reference no PSER:SCT:PAL-I1263:TCN-01, dated 25-10-2011.
	4.0	BHEL's TCN-02, vide reference no PSER:SCT:PAL-I1263:TCN-02, dated 28-10-2011.
	5.0	Other references (if any).

With reference to above, following points, relevant to tender, may please be noted and complied with while submitting offer.

- 1.0 Due date of submission of offer is extended from 02/11/2011 to **08/11/2011** at 1400 hrs.
- 2.0 **BOQ cum price schedule format VOL-III A, PRICE SCHEDULE, REV-1** has been revised as **VOL-III A- PRICE SCHEDULE, REV-02** which is enclosed herewith. As such you are requested to consider the revised BOQ/price schedule only and quote your price accordingly. Offer from bidders in superseded price schedule (Vol-III, REV-1) shall not be considered. Bidders are also requested to submit a declaration in techno-commercial offer that they have submitted their price bid in sealed envelope as per **REVISED price schedule format (VOL-III A , PRICE SCHEDULE , REV-02)**.
- 2.0 Revised 'No deviation certificate' is attached. Bidder to submit 'No deviation certificate' as per attached Format only.
- 3.0 All other terms & conditions shall remain unchanged.

Thanking you,

Yours faithfully,
for BHARAT HEAVY ELECTRICALS LTD

ENGR (SCT)

Encl

- 1.0 Revised 'No deviation certificate' format.
- 2.0 Revised BOQ cum price schedule format (**VOL-III A , PRICE SCHEDULE , REV-02**)

पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय)

POWER SECTOR EASTERN REGION, DJ-9/1, SALT LAKE CITY, KOLKATA - 700 091

फैक्स/Fax : (033) 23211960 फोन/Phone : बोर्ड/EPABX : 23211798/ 1691

FORMAT FOR NO DEVIATION CERTIFICATE
(To be submitted in the bidder's letter head)

BHARAT HEAVY ELECTRICALS LIMITED,
Power Sector - Eastern Region,
Plot no 9/1, DJ Block, Sector – II, Salt Lake City,
Kolkata – 700 091

Sub	No Deviation Certificate.	
Job	Erection, testing, commissioning etc of complete C&I system including all max system & panels , MMI system for GT, Static starting system of GT, STG, HRSG and station C&I, controls and C&I of balance system/item for 2X363.3 MW units at Palatana, Tripura..	
Ref	1.0	Tender no PSER:SCT:PAL-I1263:11.
	2.0	BHEL's NIT, vide ref no Ref: PSER:SCT:PAL-I1263:11 Dated 13/10/2011
	3.0	BHEL's TCN-01, vide reference no PSER:SCT:PAL-I1263:TCN-01, dated 25-10-2011.
	4.0	BHEL's TCN-02, vide reference no PSER:SCT:PAL-I1263:TCN-02, dated 28-10-2011.
	5.0	BHEL's TCN-03, vide reference no PSER:SCT:PAL-I1263:TCN-03, dated 02-11-2011.

Dear Sirs,

With reference to above, this is to confirm that as per tender conditions, we have visited site before submission of our offer and noted the job content & site conditions etc. We also confirm that we have not changed/ modified the tender documents as appeared in the website/ issued by you and in case of such observance at any stage, it shall be treated as null and void.

We hereby confirm that we have not taken any deviation from tender clauses together with other references as enumerated in the above referred NIT. We hereby confirm our unqualified acceptance to all terms & conditions, unqualified compliance to technical specification, Integrity Pact (If applicable) and acceptance to reverse auctioning process.

In the event of observance of any deviation in any part of our offer at a later date whether implicit or explicit, the deviations shall stand null & void.

We confirm to have submitted offer in accordance with tender instructions and as per aforesaid references.

Thanking you,

Yours faithfully,

(Signature, date & seal of authorized
representative of the bidder)

**VOLUME-III
PRICE SCHEDULE, REV-2**

Job : Erection, testing, commissioning etc of complete C&I system including all max system & panels , MMI system for GT, Static starting system of GT, STG, HRSG and station C&I, controls and C&I of balance system/item for 2X363.3 MW units at Palatana, Tripura

TENDER DOCUMENT NO - PSER:SCT:PAL-I1263:11

PREAMBLE

01	This preamble forms part of tender document and schedule of items. The tenderer should read this preamble carefully in rates for various items. Clauses under this preamble shall be read in conjunction with various volumes of tender as per NIT together with subsequent changes/modifications etc thereto as applicable as on date of submission of price offer.
02	The work shall be carried out strictly as per specifications, description of the items in these schedule and / or engineer's instructions.
03	Items of work provided in this schedule but not covered in this specification shall be executed strictly as per instruction of the engineer.
04	Unless specifically mentioned otherwise in the tender document, the tenderer shall quote for the finished items and shall provide for the complete cost towards power, fuel, tools, tackles, equipment, constructional plants, temporary works, labour, dismantling of all temporary piping, structures, valves, pumps, tanks & other misc equipment, strengthening of roads/culverts/bridges etc including arranging all clearances etc required for carrying out different activities & tests, materials, levies, taxes (taxes, duties shall be as per tender terms, Vol- IF) , transport, layout, repairs, rectification, maintenance till handing over, supervisions, colonies, shops, establishments, overheads, profits and all incidental items not specifically mentioned but reasonably implied and necessary to complete the work according to the tender document and this schedule.
05	The rates quoted shall be inclusive of cleaning of site of any grass , making benchmarks etc. required for commencement of site activities. No separate payment will be made towards the same.
06	The quantities of the various items mentioned in this schedule of items are approximate, based on very preliminary information and may vary to any extent or be deleted altogether. The quoted rates of each item will remain firm throughout the period of execution including extension, for reasons whatsoever, as long as variation in the total value of work executed under any part of this contract including extra items, if any but excluding any price variation remains, within thirty percent ($\pm 15\%$) of the awarded price as per LOI.
07	Rates shall be quoted in figures and in words in clear legible writing. No overwriting is allowed. All scoring and cancellations should be countersigned and in case of illegibility the interpretation of engineer shall be final. All entries shall be in English.
08	The tender shall be deemed to have visited site and made himself aware of all the site conditions, studied the specifications and details of work to be done within the time schedule attached and to have acquainted himself of the conditions prevailing at site.
09	Engineer's decision shall be final and binding on the contractor regarding clarification of items in the schedule with respect to the other sections/volumes of the contract.
10	The final payment shall be on the basis of actual quantity erected and all payment shall be made on the basis of unit rates. The unit rate for identical item shall be same in all places of BOQ/ Rate schedule.

11	The rebate, if any offered by the bidder shall apply to all unit rate prices and unit rate prices quoted by the bidder shall be reduced proportionately, unless specified otherwise by bidder.
12	All works item wise shall be measured upon completion and paid for at the rates quoted and accepted as per BHEL approved payment schedule/billing break-up.
13	Note : Bidders to note the following for quoting their rates.
	Only authorised persons of bidder having power should sign in the price bid. All the pages must be signed.

**VOLUME-III
PRICE SCHEDULE, REV-2**

Job: Erection, testing, commissioning etc of complete C&I system including all max system & panels , MMI system for GT, Static starting system of GT, STG, HRSG and station C&I, controls and C&I of balance system/item for 2X363.3 MW units at Palatana, Tripura.

TENDER DOCUMENT NO - PSER:SCT:PAL-I1263:11

SUMMARY

ITEM/SCHEDULE	TOTAL AMOUNT (₹)
Erection, testing, commissioning etc of complete C&I system including all max system & panels , MMI system for GT, Static starting system of GT, STG, HRSG and station C&I, controls and C&I of balance system/item for 2X363.3 MW units at Palatana, Tripura.	

VOLUME-III
PRICE SCHEDULE, REV-2

Job: Erection, testing, commissioning etc of complete C&I system including all max system & panels , MMI system for GT, Static starting system of GT, STG, HRSG and station C&I, controls and C&I of balance system/item for 2X363.3 MW units at Palatana, Tripura

Tender no. PSER:SCT:PAL-I1263:11

Sl. No.	Item Description	Quantity		Unit Price	Total Price	Billing schdl. Ref.
		Unit	Value	Rate	Value	
SEE Package Unit # 1 & 2						
A1	Static Excitaton Equipment (SEE) - comprising of followings	Set	2			6
	Regulation Cubicle - 1 set					
	Auxiliary Excitation Cubicle - 1 set					
	Thyristor and Trunking Cubicle - 1 set					
	Field Breaker Cubicle - 1set					
SEE Excitation Transformer Cubicle - 1 set						
DAVR Package Unit # 1 & 2						
A2	Digital Automatic Voltage Regulator (DAVR)	Set	2			6
A3. STG C&I Package Unit # 1 & 2						
A3.1	TSE / IPBP / GSPC / EHA Panels (Turbine Stress Evaluator / Intermediate Pressure Bypass / Gland Steam Pressure Control / Electro-Hydraulic Actuator - maxDNA Panels) - CJJ01, CJJ02 & CJJ03 - Suite of 3 Panels	Set	2			6
A3.2	LSR / LMU / Auto Sync Panels (Load Shedding Relay / Load Measuring Unit / Auto Synchroniser - non maxDNA Panel) - CJJ08 - Suite of 1 Panel	Set	2			
A3.3	LPBP / HP SU (Low Pressure By Pass / High Pressure Oil Supply Unit) & Trip Solenoid maxDNA Panels - CJJ11, CJJ12 & CJJ13 - Suite of 3 Panels	Set	2			
A3.4	EHTC TMR (Electro Hydraulic Turbine Controller Triple Modular Redundancy), EHTC Position Controller & TP/EHTC (Turbine Protection / Electro Hydraulic Turbine Controller) Common Station- CJJ21, CJJ22, CJJ23, CJJ24 & CJJ25 - Suite of 5 Panels - maxDNA Panels (except CJJ24 - non maxDNA)	Set	2			
A3.5	TP TMR (Turbine Protection Triple Modular Redundancy), Overspeed & Trip Solenoid - CJJ31, CJJ32, CJJ33, CJJ34 & CJJ35 - Suite of 5 Panels maxDNA Panels (except CJJ34, CJJ35 non maxDNA)	Set	2			

VOLUME-III A
PRICE SCHEDULE, REV-2

Job: Erection, testing, commissioning etc of complete C&I system including all max system & panels , MMI system for GT, Static starting system of GT, STG, HRSG and station C&I, controls and C&I of balance system/item for 2X363.3 MW units at Palatana, Tripura

Tender no. PSER:SCT:PAL-I1263:11

Sl. No.	Item Description	Quantity		Unit Price	Total Price	Billing schdl. Ref.
		Unit	Value	Rate	Value	
A3.6	ATRS SGC (Automatic Turbine Run-Up System Sub Group Control) Turbine - maxDNA Panels - CCA01, CCA02 & CCA03 - Suite of 3 Panels	Set	2			6
A3.7	ATRS SGC (Automatic Turbine Run-Up System Sub Group Control) Oil & Evacuation - maxDNA Panels - CCA04, CCA05 & CCA06 - Suite of 3 Panels	Set	2			
A3.8	Interposing Relay - non maxDNA Panel - CCA07 - Suite of 1 Panel	Set	2			
A3.9	GAMP (Generator Auxiliary Monitoring Panel) - maxDNA Panel (GTG) - CCA10 & CCA11 - Suite of 2 Panels	Set	2			
A4. Station C&I / BOP C&I & HRSG C&I Package Unit # 1 & 2						
A4.1	Functional Group Control maxDNA Panels - CRE01 & CRE02 - Suite of 2 Panels - GT Fuel Gas Conditioning	Set	2			6
A4.2	Functional Group Control maxDNA Panels - CRE03 & CRE04 - Suite of 2 Panels - HRSG HP CKT	Set	2			
A4.3	Functional Group Control maxDNA Panels - CRE05 & CRE06 - Suite of 2 Panels - HRSG IP CKT	Set	2			
A4.4	Functional Group Control maxDNA Panels - CRE07 & CRE08 - Suite of 2 Panels - HRSG LPP CKT	Set	2			
A4.5	Functional Group Control maxDNA Panels - CRE09 & CRE10 - Suite of 2 Panels - - Steam System	Set	2			
A4.6	Functional Group Control maxDNA Panels - CRE11 & CRE12 - Suite of 2 Panels - CPHRCP-A, CEP-A, HPBFP-A, LPBFP-A	Set	2			
A4.7	Functional Group Control maxDNA Panels - CRE13 & CRE14 - Suite of 2 Panels - CPHRCP-B, CEP-B, HPBFP-B, LPBFP-B, DEA	Set	2			6
A4.8	Functional Group Control maxDNA Panels - CRE15 & CRE16 - Suite of 2 Panels - CPHRCP-C, Hotwell	Set	2			
A4.9	Functional Group Control maxDNA Panels - CRE17 & CRE18 - Suite of 2 Panels - H/W M/U PMP-A, CWP-A, ACWP-A, DMCWP-A	Set	2			

VOLUME-III
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Tender no. PSER:SCT:PAL-I1263:11

Sl. No.	Item Description	Quantity		Unit Price	Total Price	Billing schdl. Ref.
		Unit	Value	Rate	Value	
A4.10	Functional Group Control maxDNA Panels - CRE19 & CRE20 - Suite of 2 Panels - H/W M/U PMP-B, CWP-B, ACWP-B, DMCWP-B	Set	2			6
A4.11	Functional Group Control maxDNA Panels - CRE21 & CRE22 - Suite of 2 Panels - H/W M/U PMC-C, CWP-C, CT FAN	Set	2			
A4.12	Functional Group Control maxDNA Panels - CRE23 & CRE24 - Suite of 2 Panels - Dosing System & Analyser DAS	Set	2			
A4.13	Functional Group Control maxDNA Panels - CRE25 & CRE26 - Suite of 2 Panels - Electrical System 1	Set	2			
A4.14	Functional Group Control maxDNA Panels - CRE27 & CRE28 - Suite of 2 Panels - Electrical System 2	Set	2			
A4.15	Interposing Relay - non maxDNA Panel - CTE01, - Suite of 1 Panel	Set	2			
A4.16	Interposing Relay - non maxDNA Panel - CTE02 - Suite of 1 Panel	Set	2			
A4.17	Interposing Relay - non maxDNA Panel - CTE03 - Suite of 1 Panel	Set	2			
A4.18	Functional Group Control maxDNA Panels - CRE29 & CRE30 - Suite of 2 Panels - Electrical Common & Common System - Common for Units 1 & 2	Set	1			
A4.19	Functional Group Control maxDNA Panels - CRE31 & CRE32 - Suite of 2 Panels - Plant Water System (RWP, DM PMP, SW PMP, CW M/U PMO) - Common for Units 1 & 2	Set	1			
A4.20	Functional Group Control maxDNA Panels - CRE33 & CRE34 - Suite of 2 Panels - Flue Gas Booster Compressor - Common for Units 1 & 2	Set	1			
A4.21	Functional Group Control maxDNA Panels - CRE35 & CRE36 - Suite of 2 Panels - Flue Gas Booster Compressor 1 - Common for Units 1 & 2	Set	1			
A4.22	Transducer & AVT non maxDNA Panel - CFA01 - Suite of 1 Panel - Unit 1 & 2	Set	2			

VOLUME-III
PRICE SCHEDULE, REV-2

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Tender no. PSER:SCT:PAL-I1263:11

Sl. No.	Item Description	Quantity		Unit Price	Total Price	Billing schdl. Ref.
		Unit	Value	Rate	Value	
A4.23	Unit Control Panel (CWD01) - Unit 1 & 2	Set	2			6
A4.24	Electrical Control Panel (CWB01) - Unit 1 & 2	Set	2			
A5. HMI Package - DCS - Unit # 1 & 2						
A5.1	max Engineer Station : Intel Core 2 Duo processor or equivalent, 1 GB DDR memory, 146 GB SATA hard disk, 16X DVD RW, 24" WIDE TFT MONITOR MAX RESOLUTION - 1280 x 1024 PIXELS, 10/100 Base-T Ethernet NIC with RJ45 port, Graphics Port, ASCII keyboard & Mouse, Microsoft Windows XP Professional	No.	2			6
A5.2	max Storian Station: Intel Core 2 Duo processor or equivalent, 1 GB DDR memory, 146 GB SATA hard disk, 16X DVD RW, 24" WIDE TFT MONITOR MAX RESOLUTION - 1280 x 1024 PIXELS, 10/100 Base-T Ethernet NIC with RJ45 port, Graphics Port, ASCII keyboard & Mouse, Microsoft Windows XP Professional	No.	2			
A5.3	Performance Calculation Stations: Intel Core 2 Duo processor or equivalent, 1 GB DDR memory, 146 GB SATA hard disk, 16X DVD RW, 24" WIDE TFT MONITOR MAX RESOLUTION - 1280 x 1024 PIXELS, 10/100 Base-T Ethernet NIC with RJ45 port, Graphics Port, ASCII keyboard & Mouse, Microsoft Windows XP Professional	No.	2			
A5.4	max Operator Stations: Intel Core 2 Duo processor or equivalent, 1 GB DDR memory, 146 GB SATA hard disk, 16X/48X DVD-ROM Drive, 24" WIDE TFT MONITOR MAX RESOLUTION - 1280 x 1024 PIXELS(dual TFT), 10/100 Base-T Ethernet NIC with RJ45 port, Graphics Port, ASCII keyboard & Mouse, Microsoft Windows XP Professional	Nos.	6			6
A5.5	max LVS Station: Intel Core 2 Duo processor or equivalent, 1 GB DDR memory, 146 GB SATA hard disk, 16X/48X DVD-ROM Drive, 10/100 Base-T Ethernet NIC with RJ45 port, Graphics Port, ASCII keyboard & Mouse, Microsoft Windows XP Professional	Nos.	4			
A5.6	max Link Station (Offsite System View): Intel Core 2 Duo processor or equivalent, 1 GB DDR memory, 146 GB SATA hard disk, 16X/48X DVDROM Drive, 24" WIDE TFT MONITOR MAX RESOLUTION – 1280 x 1024 PIXELS, 10/100 Base-T Ethernet NIC with RJ45 port, Graphics Port, ASCII keyboard & Mouse, Microsoft Windows XP Professional	No.	2			6

VOLUME-III
PRICE SCHEDULE, REV-2

Job: Erection, testing, commissioning etc of complete C&I system including all max system & panels , MMI system for GT, Static starting system of GT, STG, HRSG and station C&I, controls and C&I of balance system/item for 2X363.3 MW units at Palatana, Tripura

Tender no. PSER:SCT:PAL-I1263:11

Sl. No.	Item Description	Quantity		Unit Price	Total Price	Billing schdl. Ref.
		Unit	Value	Rate	Value	
A5.7	Colour Laserjet Printer - A3 Size, 20 ppm(approx),600 dpi	Nos.	4			6
A5.8	Black Laserjet Printer - A4 Size, 20 ppm(approx),,600 dpi	No.	2			
A5.9	Dot Matrix Printer - 132 col, 300 cps draft	Nos.	2			
A5.10	Network Panel DCS-A with Ethernet Switches - NWPAA01 - Suite of 1 Panel	Set	2			
A5.11	Network Panel DCS-B with Ethernet Switches - NWPAA02 - Suite of 1 Panel	Set	2			
A5.12	Network Panel DCS-HMI with Ethernet Switches - NWPAA03 - Suite of 1 Panel	Set	2			
A5.13	MIS Station - Intel Core 2 Duo processor or equivalent, 1 GB DDR memory, 146 GB SATA hard disk, 16X/48X DVD-ROM Drive, 24" WIDE TFT MONITOR MAX RESOLUTION – 1280 x 1024 PIXELS, 10/100 Base-T Ethernet NIC with RJ45 port, Graphics Port, ASCII keyboard & Mouse, Microsoft Windows XP Professional - Common for Units 1 & 2	Set	1			
A5.14	Unit Incharge station: Intel Core 2 Duo processor or equivalent, 1 GB DDR memory, 146 GB SATA hard disk, 16X/48X DVD-ROM Drive, 24" WIDE TFT MONITOR MAX RESOLUTION – 1280 x 1024 PIXELS, 10/100 Base-T Ethernet NIC with RJ45 port, Graphics Port, ASCII keyboard & Mouse, Microsoft Windows XP Professional - Common for Units 1 & 2	Set	1			6
GT C&I Package Unit # 1 & 2 (Mark-VI) :						
A6	GT C&I Mark VI					
A6.1	GT CONTROL PANELS (All panels Inclusive for the set)	Set	2			6
A6.2	Gas Booster Control Panels (All Panels inclusive for the set)	Set	2			6
A6.3	PC for Engg Station / Operator station Unit 1&2	Nos.	4			

VOLUME-III
PRICE SCHEDULE, REV-2

Job: Erection, testing, commissioning etc of complete C&I system including all max system & panels , MMI system for GT, Static starting system of GT, STG, HRSG and station C&I, controls and C&I of balance system/item for 2X363.3 MW units at Palatana, Tripura

Tender no. PSER:SCT:PAL-I1263:11

Sl. No.	Item Description	Quantity		Unit Price	Total Price	Billing schdl. Ref.
		Unit	Value	Rate	Value	
A6.4	Printer for Engg / Operator Station Unit 1&2	Nos.	4			
A6.5	Vibration Monitoring Panels (All Panels for GT)	Sets	2			
B1	Impulse Pipes (BHEL Portion) - Unit 1 & 2 - Details given Below :					
B1.1	IMPULSE PIPE A106 GR C 1/2" NB SCH 160 WITH VALVES AND FITTINGS	Mtrs	1000			4
B1.2	IMPULSE PIPE A106 GR C 1/2" NB SCH 80 WITH VALVES AND FITTINGS	Mtrs	8,500			
B1.3	Impulse pipe A335 P22 1/2" NB XXS WITH VALVES AND FITTINGS	Mtrs	600			
B2	Impulse Pipes (non-BHEL Portion) - Unit 1 & 2 - Details given Below :					
B2.1	IMPULSE PIPE A312 TP 316 1/2" NB SCH 160 WITH VALVES AND FITTINGS	Mtrs	1500			4
B2.2	IMPULSE PIPE A312 SS 316 PIPE 1/2" SCH 80 WITH VALVES AND FITTINGS	Mtrs	2,800			
B2.3	G.I PIPE 1/2" WITH VALVES AND FITTINGS	Mtrs	700			
B2.4	G.I PIPE 1" WITH VALVES AND FITTINGS	Mtrs	200			4
B3	Steam and Water Analysis System (SWAS) - Unit 1 & 2 :					
B3.1	Steam and Water Analysis System (SWAS) - Sample Handling System - Comprising of details below :	Set	2			6
	SWAS Sample handling system wet panel - 1 set					
	SWAS Sample handling system dry panel - 1 set					
	SWAS Chiller Panel - 1 set					
	SWAS Primary Racks - 7 set					
B3.2	Steam and Water Analysis System (SWAS) - Analysers - Unit 1 - Comprising of details Below :	Set	2			6
	Conductivity Analyser - 19 nos.					
	pH Analyser - 7 nos.					
	Dissolved Oxygen Analyser -4 nos.					
	Sodium Analyser - 1 no.					
	Silica Analyser - 1 no.					

VOLUME-III A
PRICE SCHEDULE, REV-2

Job: Erection, testing, commissioning etc of complete C&I system including all max system & panels , MMI system for GT, Static starting system of GT, STG, HRSG and station C&I, controls and C&I of balance system/item for 2X363.3 MW units at Palatana, Tripura

Tender no. PSER:SCT:PAL-I1263:11

Sl. No.	Item Description	Quantity		Unit Price	Total Price	Billing schdl. Ref.
		Unit	Value	Rate	Value	
	Hydrazine Analyser -2 nos.					
	Conductivity Analyser (Withdrawal Type) - 2 nos.					
B4	Erection and Commissioning of Flue Gas Analysers - Unit 1 & 2 comprising of details Below inclusive of all accessories and associated cablings :	Set	2			6
B4.1	Oxygen Analyser - 1 set					
B4.2	SOx / NOx / CO Analyser - 1 set					
B4.3	Opacity / Smoke Density / Dust Analyser - 1 set					
B5	Level Switch - Unit 1 & 2					
B5.1	Capacitance Type Level Switch - inclusive of all accessories like electronic unit, cablings etc.	Sets	4			7
B5.2	Conductivity Type Level Switch - inclusive of all accessories like electronic unit, cablings etc.	Sets	8			7
B5.3	Electronic Water Level Indicator (EWLI) of Boiler Drum covering body assembly, Electrode probe with Gaskets.	Sets	6			7
B6	Pressure Guage - Unit 1 & 2	Nos.	234			7
B7	Differential Pressure Guage - Unit 1 & 2	Nos.	18			7
B8	Temperature Guage - Unit 1 & 2	Nos.	146			7
B9	Commissioning of NRV valves, Stop valves, control Valves, HP/LP Bypass Valves (Erection by other agency)	Nos	50			8
B10	Commissioning of Control valves (pneumatic actuated) - (Erected by other agency)	Nos	20			8
B11	Local Instrument Enclosures / Racks (LIE / LIR) - Details given Below :					
B11.1	LIE TYPE A	Nos.	8			6
B11.2	LIE TYPE B	Nos.	1			6
B11.3	LIE TYPE C	Nos.	10			
B11.4	LIR TYPE A	Nos.	1			

VOLUME-III
PRICE SCHEDULE, REV-2

Job: Erection, testing, commissioning etc of complete C&I system including all max system & panels , MMI system for GT, Static starting system of GT, STG, HRSG and station C&I, controls and C&I of balance system/item for 2X363.3 MW units at Palatana, Tripura

Tender no. PSER:SCT:PAL-I1263:11

Sl. No.	Item Description	Quantity		Unit Price	Total Price	Billing schdl. Ref.
		Unit	Value	Rate	Value	
B11.5	LIR TYPE B	Nos.	16			
B11.6	LIR TYPE C	Nos.	80			
B12	Impact Type Head Element (Anu Bar) - Unit 1 & 2	No.	2			6
B13	WELDIN TYPE ORIFICE PLATE	No.	6			4
B14	Condensate Pots - Unit 1 & 2- Details given Below :					
B14.1	CP A106 GR C 88.90 OD x 7.6MM Thk.	Nos.	90			7
B14.2	CP A182 F22 :Dia 88.90 OD x 17.6 MM Thk	Nos.	14			
B14.3	CP A105 88.90 OD x 12 MM Thk	Nos.	30			
B15	Temperature Elements - Unit 1 & 2 : Details given Below :					
B15.1	RTD (PT-100) - (All Variants & inclusive of metal temperature monitoring RTDs/ thermocouple)	Nos.	138			7
B15.2	Thermocouple K Type -(All Variants & inclusive of metal temperature monitoring RTDs)	Nos.	130			7
B15.3	Metal To Metal Thermocouple - TYPE K having Root length between 16 to 30 M.	Nos.	104			7
B16	Fabrication & Erection of racks,all types of supports ,canopies etc. as reqd. excluding supply of structural materials	MT	25			5
B17	Pressure / Differential Pressure Switch Unit 1 & 2 - Details given Below :					
B17.1	Pressure Switch	Nos.	13			7
B17.2	Differential Pressure Switch	Nos.	14			7
B17.3	Differential Pressure Transmitter	Nos.	32			7
B18	RTD for various application	Nos.	70			7
B19	UPS System (without ACDB) - Unit 1 & 2	Set	2			6
B20	ACDB for UPS System - Unit 1 & 2	Set	2			6

VOLUME-III
PRICE SCHEDULE, REV-2

Job: Erection, testing, commissioning etc of complete C&I system including all max system & panels , MMI system for GT, Static starting system of GT, STG, HRSG and station C&I, controls and C&I of balance system/item for 2X363.3 MW units at Palatana, Tripura

Tender no. PSER:SCT:PAL-I1263:11

Sl. No.	Item Description	Quantity		Unit Price	Total Price	Billing schdl. Ref.
		Unit	Value	Rate	Value	
B21	Battery for UPS - Unit 1 & 2	Sets	4			6
B22	Electronic Transmitters - Unit 1 & 2	Nos.	220			7
B23	Temperature Transmitters - Unit 1 & 2	Nos.	42			7
B24	Ultrasonic Type Level Transmitter - Unit 1 & 2 (With accessories , Cables & Electronic Unit in Supply)	Nos.	24			7
B25	MISC. FIELD INSTRUMENTS - Unit 1 &2					
b25.1	Limit Switches (Erection & Commissioning)	Nos.	30			7
b25.2	Limit Switches (Erection Excluded , Commg Only)	Nos.	50			7
b25.3	REMOVAL, CALIBRATION, RE-MOUNTING AND COMMISSIONING OF INSTRUMENTS FOR SKID. (EACH SKID WILL HAVE MINIMUM OF 05 NO. INSTRUMENTS E.G. PG/PS/TG/DPI /DPS/TS/RPM METER WITH PROBE/LS/LG /FS/FI ETC. DRESSING OF CAPILLARY & CABLES IF ANY, REPAIR OF CU/SS-TUBE/IMPULSE PIPE, IF ANY, CHANGING OF TERMINALS OF JB. IF ANY, IS ALSO INCLUDED.)	Nos.	10			7
b25.4	Bearing / Winding RTDs /TCs with Integral JB (Remote Commg only) (Each set consists of all RTDs/ TCs hooked upto an Integral JB)	Nos.	20			7
b25.5	Skid / Equipment Mounted Standalone Field Instruments (PG/PS/TG/DPI /DPS/TS/RPM METER WITH PROBE/LS/LG /FS/FI ETC - Individual instrument wise)	Nos.	100			7
b25.6	Vibration / Speed Sensors (With Probe & Mounting Arrangement)	Nos	100			7
B26	Instrumentation Cables - Unit 1 & 2 - Details given Below :					
B26.1	CBL 2P, 7/0.3, 0.5MM2,650V,U/A, I/O,ATC	Mtrs	7,000			2
B26.2	CBL 4P,7/0.3,0.5MM2,650/660V,U/A,I/O,ATC	Mtrs	8,000			2
B26.3	CBL 8P,7/0.3,0.5MM2,650/660V,U/A,I/O,ATC	Mtrs	1,000			2

VOLUME-III
PRICE SCHEDULE, REV-2

Job: Erection, testing, commissioning etc of complete C&I system including all max system & panels , MMI system for GT, Static starting system of GT, STG, HRSG and station C&I, controls and C&I of balance system/item for 2X363.3 MW units at Palatana, Tripura

Tender no. PSER:SCT:PAL-I1263:11

Sl. No.	Item Description	Quantity		Unit Price	Total Price	Billing schdl. Ref.
		Unit	Value	Rate	Value	
B26.4	CBL12P,7/0.3,0.5MM2,650/660V,U/A,I/O,ATC	Mtrs	2,000			2
B26.5	CBL 2P,7/0.3,0.5MM2,650/660V,ARM,I/O,ATC	Mtrs	14,000			2
B26.6	CBL 8P,7/0.3,0.5MM2,650/660V,ARM,I/O,ATC	Mtrs	3,000			2
B26.7	CBL 2P, 7/0.3, 0.5MM2,650V,OVL, U/A,ATC	Mtrs	1,000			2
B26.8	CBL 4P, 7/0.3, 0.5MM2,650V,OVL, U/A,ATC	Mtrs	8,000			2
B26.9	CBL 4P,7/0.3,0.5MM2,650/660V,ARM,OAL,ATC	Mtrs	14,000			2
B26.10	CBL 8P, 7/0.3, 0.5MM2,650V, ARM,OAL,ATC	Mtrs	2,400			2
B26.11	CBL 5C, 2.5 sq.mm, power / control cable	Mtrs	14,000			2
B26.12	CBL 4P,7/0.3,0.5MM2,650/660V,ARM,I/O,ATC	Mtrs	8,000			2
B26.13	CBL 2P,7/0.3,0.5MM2,650/660V,ARM,OAL,ATC	Mtrs	5,000			2
B26.14	CBL 8P,7/0.3,0.5MM2,650/660V,OVL,U/A,ATC	Mtrs	6,000			2
B26.15	CBL 2P,0.5MM2,Conforming to IS 694 & IS 1554 Part-I	Mtrs	52,000			2
B26.16	CBL 4P,0.5MM2,Conforming to IS 694 & IS 1554 Part-I	Mtrs	54,000			2
B26.17	CBL 8P,0.5MM2,Conforming to IS 694 & IS 1554 Part-I	Mtrs	101,000			2
B26.18	CBL 20P-24P ,7/0.3,0.5MM2,650/660V,ARM,I/O ,ATC	Mtrs	10000			2
B27	Thermocouple Cables - Unit 1 & 2 - Details given Below :					
B27.1	CBL 6P T/C EXTN (ALL VARIANTS)	Mtrs	2,000			2
B27.2	CBL 4P, T/C EXTN (ALL VARIANTS)	Mtrs	2,000			2
B27.3	CBL 2P, T/C EXTN (ALL VARIANTS)	Mtrs	2000			2
B28	FRP Junction Boxes - Unit 1 & 2 - Details given Below :					
B28.1	12 WAYS FRP JUNCTION BOX	Nos.	16			3
B28.2	24 WAYS FRP JUNCTION BOX	Nos.	52			3

VOLUME-III A
PRICE SCHEDULE, REV-2

Job: Erection, testing, commissioning etc of complete C&I system including all max system & panels , MMI system for GT, Static starting system of GT, STG, HRSG and station C&I, controls and C&I of balance system/item for 2X363.3 MW units at Palatana, Tripura

Tender no. PSER:SCT:PAL-I1263:11

Sl. No.	Item Description	Quantity		Unit Price	Total Price	Billing schdl. Ref.
		Unit	Value	Rate	Value	
B28.3	36 WAYS FRP JUNCTION BOX	Nos.	20			3
B28.4	48 WAYS FRP JUNCTION BOX	Nos.	22			3
B28.5	64 WAYS FRP JUNCTION BOX	Nos.	144			3
B28.6	72 - 128 WAYS FRP JUNCTION BOX	Nos.	4			3
B29	Guided Wave Radar Type Level Transmitter - Unit 1 & 2 (With all accessories , cables & Electronic Unit of the supply)	Nos.	6			6
B30	HART Management System - Unit 1 & 2					
B30.1	HMS System Control Panels	Nos.	2			6
B30.2	HMS System PC with Monitor & Accessories	Nos	2			6
B30.3	Special Cables of HMS Pkg Integral Supply (Serial Cable etc .) (FOC , UTP , Pair & Power cables excluded)	Sets	2			6
B31	Cable Trays - Unit 1 & 2 - Details Below :					
B31.1	CABLE TRAYS WITHOUT COVER : 50MM	Mtrs	4,000			1
B31.2	CABLE TRAYS WITHOUT COVER : 100MM	Mtrs	4,000			1
B31.3	CABLE TRAYS WITH COVER 50MM X 25MM	Mtrs	3,000			1
B31.4	CABLE TRAYS WITH COVER 100MM X 25MM	Mtrs	4,000			1
B31.5	CABLE TRAYS WITHOUT COVER 150MM X 25MM	Mtrs	1000			1
B31.6	CABLE TRAYS WITH COVER 150MM X 25MM	Mtrs	1000			1
B31.7	GI / PVC CONDUITE UPTO 1 "	Mtrs	1000			4
B31.8	PVC ENCASING UPTO 1 "	Mtrs	500			4
B32	Computer Furniture for DCS & HMI Package - Unit 1 & 2 - Details Below :					

VOLUME-III A
PRICE SCHEDULE, REV-2

Job: Erection, testing, commissioning etc of complete C&I system including all max system & panels , MMI system for GT, Static starting system of GT, STG, HRSG and station C&I, controls and C&I of balance system/item for 2X363.3 MW units at Palatana, Tripura

Tender no. PSER:SCT:PAL-I1263:11

Sl. No.	Item Description	Quantity		Unit Price	Total Price	Billing schdl. Ref.
		Unit	Value	Rate	Value	
B32.1	Computer Table Payment Terms - 80 % after installation - 20% after coal firing	Nos	16			
B32.2	Printer Table Payment Terms - 80 % after installation - 20% after coal firing	Nos	10			
B32.3	Computer Chair Payment Terms - 80 % after installation - 20% after coal firing	Nos	32			
B33	LVS System - LVS DLP projectors (2 nos LVS) with accessories - Unit 1 & 2	Set	2			6
B34	SEE Excitation Transformer 2000 KVA, 6.6 KV / 415 V Dry Type - Unit 1 & 2	Set	2			7
C. Common for Units # 1 & 2						
C1	Closed Circuit Television (CCTV) System - Common for Units 1 & 2					9
C1.1	CCTV Control Panels	Nos	2			9
C1.2	CCTV Local Enclosures with all accessories	Nos	10			9
C1.3	CCTV Camera with accessories	Nos	20			9
C1.4	CCTV Control Station / CCTV PC with Monitor & Accessories	Nos	4			9
C1.5	Standalone UPS upto 1 KVA (For Remote CCTV Enclosures)	Nos	8			9
C1.6	Special Cables of CCTV Pkg Supply (Serial Cable , RBG Cable etc .) (FOC , UTP , Pair & Power cables excluded)	Mtr	1000			9
C2	Master Slave Clock System - Common for Units 1 & 2					9
C2.1	Master Slave Clock System - Control Panel	Nos	1			9

VOLUME-III A
PRICE SCHEDULE, REV-2

Job: Erection, testing, commissioning etc of complete C&I system including all max system & panels , MMI system for GT, Static starting system of GT, STG, HRSG and station C&I, controls and C&I of balance system/item for 2X363.3 MW units at Palatana, Tripura

Tender no. PSER:SCT:PAL-I1263:11

Sl. No.	Item Description	Quantity		Unit Price	Total Price	Billing schdl. Ref.
		Unit	Value	Rate	Value	
C2.2	Master Slave Clock System - Display Unit	Nos	2			9
C2.3	Special Cables of Master Slave Pkg Supply (Serial Cable , Coaxial Cable etc .) (FOC , UTP , Pair & Power cables excluded)	Mtr	1000			9
C3	Operator Desk (Control Desk) for OWS (For Units 1 & 2)	Set	1			9
C4	Fibre Optic Cable for DCS & HMI Package - Common for Units 1 & 2 - Multi Mode / Single Mode (Laying Only)	Mtr	5000			2
C5	UTP Cable for DCS & HMI Package for Unit 1&2	Mtr	6000			2
D. LOAD COMMUTATED INVERTER for Units # 1 & 2						
D1	Erection and commissioning charges of AC adjustable Speed drive unit / LCI Compartment - Unit-I of dimension - 7620 (L) x 3505 (W) x 3454 (H) - Weighing about 18 MT	Set	1			2
D2	Erection and commissioning charges of AC adjustable Speed drive unit / LCI Compartment -Unit-II of dimension - 9144 (L) x 3505 (W) x 3454 (H) - Weighing about 20 MT	Set	1			2
E - MISCELLANEOUS						
E1	HPBP LOCAL CONTROL SKID / OSU Instrumentation (Commissioning Only) Unit 1&2	Sets	2			8
E2	LPBP LOCAL CONTROL SKID Instrumentation (Commissioning Only) Unit 1&2	Sets	2			
F	POWER CYLINDER	Nos	5			11
G	SUPPLY OF CRIMPING LUGS	Nos	10000			12
GRAND TOTAL FOR ALL ITEMS FOR UNIT#1 & UNIT #2						