



भारत हेवी इलेक्ट्रिकल्स लिमिटेड  
(भारत सरकार का उपक्रम)

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**AMENDMENT NO-1 TO NIT**

**DATE: 29.03.07**

**SUB : AMENDMENT- 01 To NIT 2579 For Civil Works**

**REF: TENDER SPECIFICATION. No. –TBSM/SLPP/CIVIL/TENDER, DATED: 14.03.07.**

With reference to above tender for Civil Works for 220 kV S/S at Surat Lignite Power Plant in Gujarat, following amendments/addendum may be noted.

1. Item No.8 in BOQ Annexure-I- Reinforcement for RCC work including straightening, cutting, bending, placing in position and binding complete.

**Amendment:-**

S.No.	Item Description	Qty	Unit	Unit Rate(Rs)	Amount(Rs)
8	Reinforcement for RCC work including straightening, cutting, bending, placing in position and binding complete. <b>Reinforcement steel shall be supplied by BHEL free of cost .The contractor shall quote for labour rate only including the cost of binding wire.</b>				
(a)	Cold twisted bars.	95000	kg	3.00	<b>285000</b>

Bidders are required to quote as per revised BOQ annexure-1 & Revised price schedule.

2. New Items No. 25 & 26 as below is added. Bidders are required to quote as per revised BOQ annexure-1.

S.No.	Item Description	Qty	Unit	Unit Rate(Rs)	Amount(Rs)
25	Providing & fixing in position precast cement concrete trench covers, coping, roof units, fascia, RCC grills, etc., at various elevations in all kinds of work including moulding, formwork, mixing, laying out, compacting and curing, storing, transportation, erection without damage, setting in position with cement and sand mortar, grouting etc all as per specs, drawings and directions of Engr-in-Charge but excluding the cost of reinforcement, inserts, edge angles, etc, and of following grade:				
	M25 concrete.	50	cum	3000	<b>150000</b>

<b>26</b>	Fixing (all dia & length) foundation bolts in position with help of proper templates including nuts and washers all complete as per specs, drawings & directions of Engr-in-Charge. Bolts to be provided by BHEL free of cost.	500	kg	3	<b>1500</b>
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3. New item (construction of stores) added- As per annexure-II, enclosed.

All other terms & conditions of the tender specification shall remain unchanged.

- Revised BOQ (Annexure-I) & Revised Price Schedule due to amendments/addendum as mentioned above at Sl.No. 1&2 is enclosed. Bidders are required to quote accordingly in revised price schedule.
- Bidders are required to quote for construction of stores as enclosed per BOQ (annexure-II) and drawings & specification.

Please enclose with your Technical Bid a copy of this amendment-01 duly signed by your authorized signatory and stamped.

(R.LODWAL)  
DGM/TBSM

**REVISED BILL OF QUANTITY-CUM-PRICE SCHEDULE**

Name of Project : 220KV Substation at Surat Lignite  
 Name of Work : YARD CIVIL WORKS.

S.No.	Item Description	Quantity	Unit	Unit Rate(Rs)	Amount(Rs)
1	Earthwork in excavation over areas (exceeding 30cm in depth 1.5m in width as well as 10sqm on plan) including disposal of excavated earth upto 100m and lift upto 3.5m, disposed earth to be levelled and neatly dressed.				
(a)	All kinds of soil.	4000	cum	91.50	<b>366000.00</b>
2	Earthwork in excavation in foundation trenches or drains (not exceeding 1.5m in width as well as 10sqm on plan) including dressing of sides and ramming of bottoms, lift upto 3.5m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 100m.				
(a)	All kinds of soil.	1000	cum	93.55	<b>93550.00</b>
3	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations, etc., in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead upto 100m and lift upto 3.5m.	2600	cum	30.25	<b>78650.00</b>
4	Carriage & disposal of surplus excavated earth beyond initial lead by mechanical means not necessarily all the times on pucca roads, including loading, unloading, dressing of excavated material, etc., complete as per specifications - Lead upto 5km.	1600	cum	34.77	<b>55632.00</b>
5	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work upto plinth level.				
(a)	1:4:8(1 cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size)	150	cum	1404.7	<b>210705.00</b>
(b)	1:2:4(1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size)	10	cum	1843	<b>18430.00</b>
©	1:3:6(1 cement : 3 coarse sand : 6 graded stone aggregate 20mm nominal size)	20	cum	1588.35	<b>31767.00</b>

S.No.	Item Description	Quantity	Unit	Unit Rate(Rs)	Amount(Rs)
6	Providing & laying in position machine batched, machine mixed and machine vibrated design mix cement concrete of specified grade for reinforced cement concrete structural elements, excluding the cost of centering, shuttering, finishing and reinforcement - <u>M25 grade reinforced cement concrete.</u>				
(a)	All works upto plinth level (including footings, rafts, pedestals, columns and walls)	1000	cum	2284.05	<b>2284050.00</b>
7	Centering and shuttering including strutting, propping, etc., and removal of form for:				
(a)	Foundations, footings, bases of columns, etc., for mass concrete.	700	sqm	61.10	<b>42770.00</b>
(b)	Columns, pillars, piers, abutments, posts and struts,	1800	sqm	135.80	<b>244440.00</b>
(c)	Walls	2500	sqm	106.40	<b>266000.00</b>
8	Reinforcement for RCC work including straightening, cutting, bending, placing in position and binding complete. <u>Reinforcement steel shall be supplied by BHEL free of cost .The contractor shall quote for labour rate only including the cost of binding wire .</u>				
(a)	Cold twisted bars.	95000	kg	3.00	<b>285000.00</b>
9	Providing and fixing (all dia & length) foundation bolts in position with help of proper templates including nuts and washers all complete as per specs, drawings & directions of Engr-in-Charge	13500	kg	40.15	<b>542025.00</b>
10	Extra over Items 10 above for providing galvanised bolts (Mass of zinc coating = 610gms/sqm), nuts & washer (Mass of zinc coating = As per IS)	13500	kg	5.00	<b>67500.00</b>
11	Steelwork welded in built up sections/framed work including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc., as required.				
(a)	In gratings, frames, guard bar, ladders, railings, brackets, gates and similar works.	1000	kg	29.15	<b>29150.00</b>
12	Structural steelwork welded in built up sections like edge protection angles/insert plates with lugs & framed work including providing, cutting, hoisting, fixing in position/ embedding in concrete and applying a priming coat of approved steel primer all complete.	5000	kg	24.30	<b>121500.00</b>

S.No.	Item Description	Quantity	Unit	Unit Rate(Rs)	Amount(Rs)
13	Preparation of subgrade by excavating earth to an average of 22.5cm depth, dressing to camber and consolidating with road roller including making good the undulations etc., and disposal of surplus earth lead upto 50m.	390	sqm	21.50	8385.00
14	Consolidation of subgrade with power road roller of 8 to 12 tonne capacity including making good the undulations etc. with earth or quarry spoils etc. and rerolling the subgrade.	390	sqm	0.65	253.50
15	Extra for compaction of earthwork in embankment under optimum moisture conditions to give at least 95% of the maximum dry density (Proctor density)	390	sqm	2.90	1131.00
16	Supplying and stacking of graded stone aggregate at site of size range				
(a)	90mm to 45mm	60	cum	374.65	22479.00
(b)	63mm to 45mm	60	cum	389.65	23379.00
©	53mm to 22.4mm	60	cum	432.55	25953.00
17	Laying WBM with specified stone aggregate stone screening and blinding material including screening, sorting, spreading to template and consolidation with power road roller of 8 to 10 tonne capacity etc., complete (payment for stone aggregate, screenings, kankar, moorum and red bajri etc., to be made separately)				
(a)	Subbase with stone aggregate 90mm to 45mm including stone screening 13.2mm size.	60	cum	128.9	7734.00
(b)	Base course with stone aggregate 63mm to 45mm including stone screening 13.2mm size.	60	cum	122	7320.00
©	Base course with stone aggregate 53mm to 22.4mm including stone screening 11.2mm size.	60	cum	122	7320.00
18	Supplying and stacking of moorum at site .	20	cum	264.70	5294.00
19	Supplying and stacking of stone screenings/chippings at site				
(a)	13.2mm nominal size (Type A)	20	cum	470.95	9419.00
(b)	11.2mm nominal size (Type B)	20	cum	465.10	9302.00
21	Providing and laying non-pressure NP2 class (light duty) RCC pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement: 2 fine sand) including testing of joints etc., complete.				
(a)	250mm dia. RCC pipe	10	RM	191.70	1917.00

S.No.	Item Description	Quantity	Unit	Unit Rate(Rs)	Amount(Rs)
(b)	300mm dia. RCC pipe	5	RM	259.45	<b>1297.25</b>
22	Providing and laying non-pressure NP3 class (light duty) RCC pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement: 2 fine sand) including testing of joints etc., complete.				
(a)	300mm dia. RCC pipe	10	RM	225.00	<b>2250.00</b>
(b)	400mm dia. RCC pipe	5	RM	300.00	<b>1500.00</b>
23	Providing and fixing PVC coated GI chain link fencing including all allied activities, all complete as per Customer's specification (Clause no:1.3.2 stipulated in the scope , Specification No: TCE-3506-H-TPP-01) (Rates shall be inclusive of all items like angles, chainlink fence, barbed wire, PCC,RCC for toe wall etc).	245	Meter	2100.00	<b>514500.00</b>
24	Providing and laying stone aggregate paving in two layers consisting of top layer of 100mm thick using 40 mm aggregates and bottom layer of 100mm thick using 20 mm aggregates.Before laying the paving, the yard surface shall be treated with antiweed treatment all complete as per Customer's specification. (The rate shall be inclusive of all materials ,labour,loading,unloading etc. required for paving and antiweed treatment)	11118	sqm	160	<b>1778880</b>
25	Providing & fixing in position precast cement concrete trench covers, coping, roof units, fascia, RCC grills, etc., at various elevations in all kinds of work including moulding, formwork, mixing, laying out, compacting and curing, storing, transportation, erection without damage, setting in position with cement and sand mortar, grouting etc all as per specs, drawings and directions of Engr-in-Charge but excluding the cost of reinforcement, inserts, edge angles, etc, and of following grade:				
	M25 concrete.	50	cum	3000	<b>150000</b>
26	Fixing (all dia & length) foundation bolts in position with help of proper templates including nuts and washers all complete as per specs, drawings & directions of Engr-in-Charge.Bolts to be provided by BHEL free of cost.	500	kg	3	<b>1500</b>
	<b>Total Amount (Rs.)</b>				<b>7316982.75</b>

**TRANSMISSION BUSINESS GROUP  
(SUB- CONTRACTS MANAGEMENT)  
INDUSTRY SECTOR- NEW DELHI**

**REVISED PRICE SCHEDULE FOR BOQ**

**SUB EXECUTION AND HANDING OVER OF CIVIL WORKS FOR 220 KV  
SWITCHYARD AT SURAT LIGNITE POWER PLANT IN GUJRAT**

- (a) I/ We hereby agree to execute the above work at ----- % (in figure)  
----- (in words) Above/ Below the rates of items given in  
Revised BOQ (Annexure-I) of subject tender.

**NOTE:**

1. In case of discrepancy in rates in figure and words, the minimum will be taken into account by BHEL.

Date:

Place

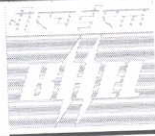
Signature of tenderer

Name & Designation of authorized person(s) with seal

**ANNEXURE-II**  
**BILL OF QUANTITIES FOR STORES**

Name of Project : 220KV Substation at Surat Lignite  
Name of Work : Construction of Stores

S. No	Description	Unit	Qty.	Rate	Amount
1	Open Store	Sqm	1000		
2	Covered Store Type B (100 Sq.meter)	Lot	1		
	<b>Total Amount (Rs.)</b>				



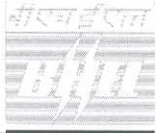
## TRANSMISSION BUSINESS GROUP (Subcontracts Management)

Doc. No. TBSM/Std-Spec/Cov-Str/01

Rev. 00

### SPECIFICATIONS OF COVERED STORE FOR SWITCHYARD

1. The stores shall have a tubular truss of span 10M. at an interval of 5M. The length of the store shall be 20/15/10 Mtrs. depending on the scope of work. The truss material shall be procured from reputed manufactures conforming to the requirement of IS: 1161-1979 and as approved by Engineer-in-charge. The specific technical requirement for the execution of work shall be as per latest CPWD/IS specifications. The rate shall include the cost of labour and materials involved in all the operations including one coat of approved steel primer i.e. redoxide zinc chrome primer conforming to IS 2074: 1979.
2. Roof shall be made with GS corrugated sheets (24G) fixed with polymer coated J or L hooks, bolts and nuts 8 mm diameter with bitumen and G.I. Limpet washers or with G.I. limpet washers filled with white lead and including a coat of approved steel primer and two coats of approved paint on overlapping of sheets complete (up to a pitch of 60 degrees). The materials shall be procured from reputed manufacture and as approved by Engineering Incharge. The roof shall be made with proper arrangements to prevent water leakage.
3. Bottom of the truss shall be 4.5 Mtrs. above floor level. Sidewalls shall be brick work (1:6) for the bottom 1.5 Mtrs. level and balance with GS Corrugated sheets.
4. The floor of the store shall be made with 75mm PCC (1:4:8) over hard compacted ground/surface. If the ground available at site is not hard enough, 150mm thick boulder soling or some other suitable alternative arrangement as directed by Engineering Incharge shall be done before PCC work.
5. The store shall be provided with a 3 M wide lockable rolling shutter with all accessories as required. The material used for rolling shutter shall be procured from reputed manufacturer and as approved by Engineering Incharge.
6. Adequate no. of fire extinguishers (min. 4 nos. Co<sub>2</sub> and 2 nos. foam type) and sand & water buckets shall be provided in the stores area.
7. These specifications shall be read in conjunction with drawing no. TBSM/TRUSS/01 Rev.00 enclosed with the tender.



**TRANSMISSION BUSINESS GROUP  
(Subcontracts Management)**

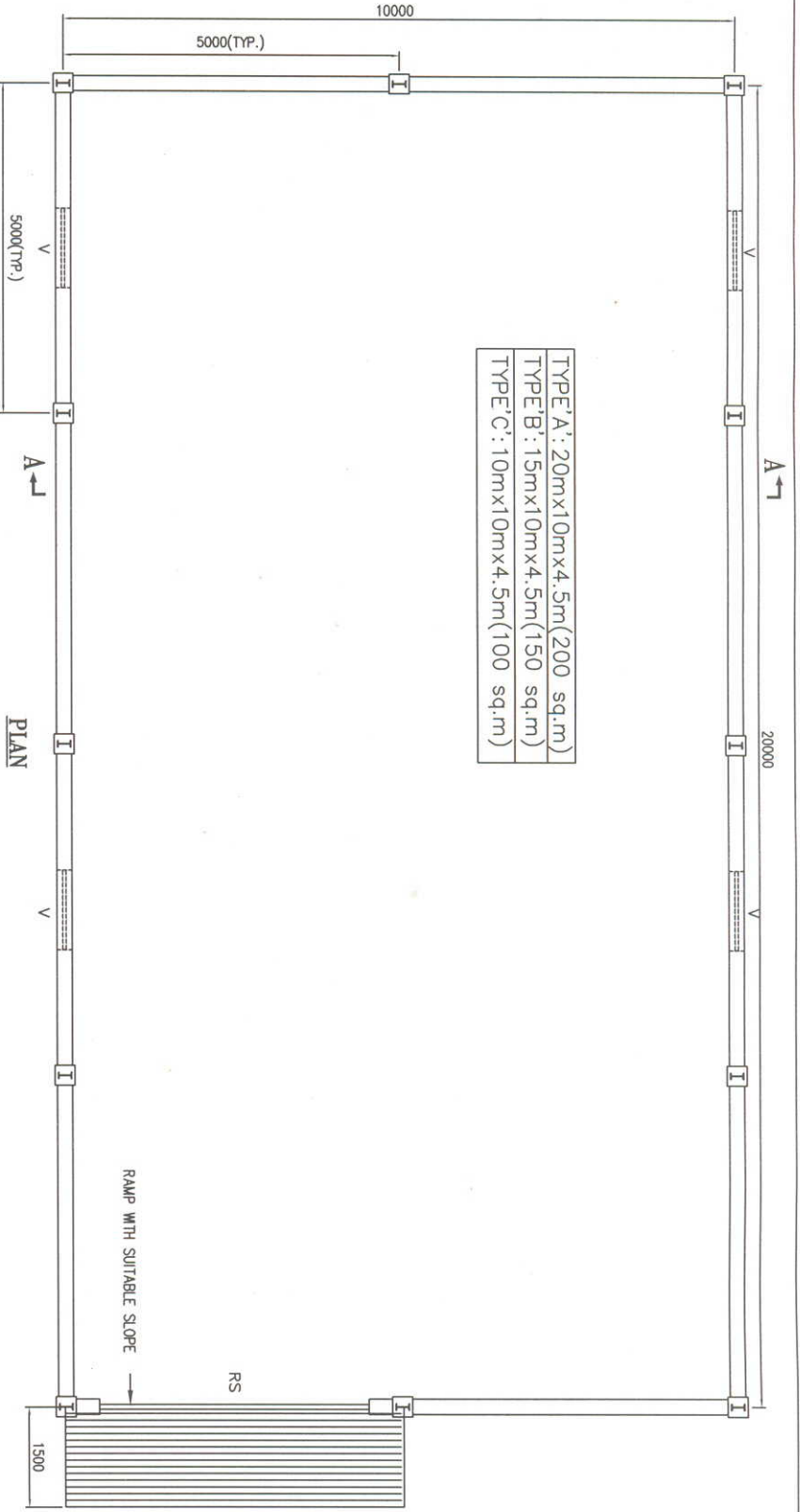
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Rev. 00

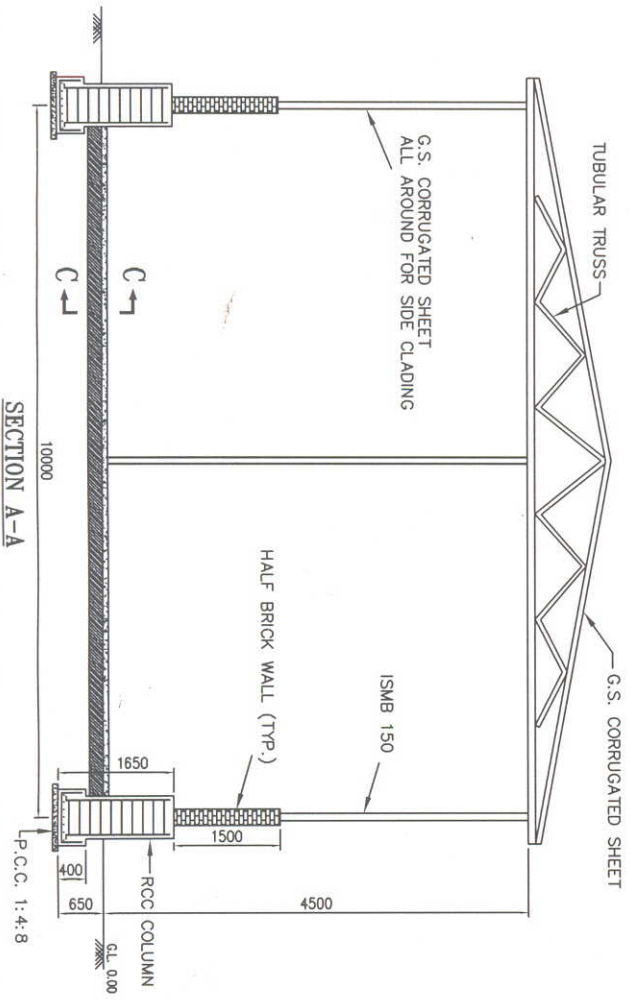
**SPECIFICATIONS OF OPEN STORE FOR SWITCHYARD**

1. Area around the open stores to be surrounded with barbed wire fencing- 1.8 M high above ground level with 8 strands of horizontal and two diagonal barbed wires. The posts shall be of medium M.S. tubes of 50mm dia/ angle 50x50x6 conforming to IS: 1161/IS 806. A M.S. base plate of size 160x160x6mm thick shall be welded with the tubular posts. All posts shall be 3.0m apart and shall be set in 1:2:4 PCC block of 0.40x0.40x0.6m depth. 75mm thick plain cement concrete 1:4:8 shall be provided below concrete block. The material shall be procured from reputed manufacture and as approved by Engineering Incharge.
2. One wide gate (5m.) for trucks / trailers and one wicket gate for personnel to be installed. The gate shall be of pipe framework with suitable stiffness, with weld mesh and with locking arrangement. The materials shall be procured from reputed manufacturer and as approved by Engineering Incharge.
3. One security cabin shall be provided inside the fence adjacent to the gate. The cabin shall be of size 2.0m x 2.0m.
4. The area of the open stores shall be raised 150mm above the surrounding ground level with brick soling / boulder soling or some other suitable inexpensive alternative arrangement & is to be compacted properly to prevent water logging and flow of water from surrounding area in to this area.
5. The area shall be adequately illuminated for clear visibility at night.

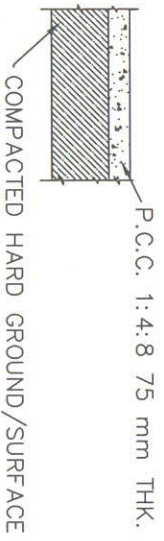
TYPE 'A': 20m x 10m x 4.5m (200 sq.m)
TYPE 'B': 15m x 10m x 4.5m (150 sq.m)
TYPE 'C': 10m x 10m x 4.5m (100 sq.m)



PLAN



SECTION A-A



SECTION C-C

**LEGEND :-**

- V - VENTILATION (1200Lx500H)
- RS - ROLLING SHUTTER (4000Lx4500H)

**NOTE :-**

1. ALL DIMENSIONS ARE IN MM.

SKETCH NO.	REV.	SCALE
TSM/TRUSS/01	00	1:100