



भारत हेवी इलेक्ट्रिकल्स लिमिटेड

( भारत सरकार का उपक्रम )

**BHARAT HEAVY ELECTRICALS LIMITED**

(A Govt. of India Undertaking)

TCN - 02

Ref: PSER:SCT:NAM-C1432: TCN-02

Date:29-01-2013

Sub	Tender Change Notice (TCN) - 02.	
Job	Balance Civil, Structural, Architectural work including Foundation/ Superstructure of various Plant Equipments / Systems/ Facilities including Induced Draft Cooling Tower, Non Plant Building/ Facilities, Misc Civil works etc for 100 MW (1xFr-VI GT+1x30 MW STG) Gas based combine cycle power project at Namrup, Assam.	
Ref	1.0	Tender no PSER:SCT:NAM-C1432:13.
	2.0	BHEL's NIT, vide ref no PSER:SCT:NAM-C1432:3121 Date:22-01-2013
	3.0	BHEL's TCN-01, vide reference no PSER:SCT:NAM-C1432: TCN-01 Date: 24-01-2013
	4.0	Other references (if any).

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

1. Clarifications on Pre-bid discussion.
2. Annexure-I- INDICATIVE LIST OF T & Ps TO BE ARRANGED BY THE CONTRACTOR AT HIS OWN COST of Volume-IF- Technical Conditions of Contract (TCC) is revised as per Annexure-I-(Rev-01)- INDICATIVE LIST OF T & Ps TO BE ARRANGED BY THE CONTRACTOR AT HIS OWN COST superseding earlier Annexure-I.
3. Clause No 23 –TAXES AND DUTIES of Volume-IF- Technical Conditions of Contract (TCC) shall be revised as per ANNEXURE-A TO TCN-02.
4. **Revised BOQ cum price schedule format VOL-III- PRICE SCHEDULE, REV-01 superseding VOL-III PRICE SCHEDULE, REV-00 issued earlier along with NIT.**  
**Bidders are requested to submit their offer as per revised BOQ (Rev-01) only.** Offer from bidders in superseded price schedule (Vol-III, REV-00) shall not be considered.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- PRICE SCHEDULE, REV-01).**
5. Revised 'No deviation certificate' is attached. Bidder to submit 'No deviation certificate' as per attached format only.
6. All other terms & conditions shall remain unchanged.

Thanking you,

Yours faithfully,  
for BHARAT HEAVY ELECTRICALS LTD

**ENGINEER(SCT)**

Encl: As Above.

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

**CLARIFICATIONS OF PRE-BID DISCUSSION ON 28-01-2013 AT BHEL-PSER ,HQ, KOLKATA FOR "Balance Civil, Structural, Architectural work including Foundation/ Superstructure of various Plant Equipments / Systems/ Facilities including Induced Draft Cooling Tower, Non Plant Building/ Facilities, Misc Civil works etc for 100 MW (1xFr-VI GT+1x30 MW STG) Gas based combine cycle power project at Namrup, Assam.(Tender no PSER:SCT:NAM-C1432:13)**

SL. NO.	REFERENCE CLAUSE OF TENDER	EXISTING PROVISION	BIDDER'S QUERY	BHEL'S CLARIFICATION
1	--	--	Bore log details of plant area.	Attached.
2	--	--	Structure wise balance quantity.	Refer Price Schedule (Rev-01) attached. For detailed status bidders are requested to visit site.
3	--	--	Name & Contact No for site visit.	Mr. H R Khan (contact no - 09678876521; 09435719928) Mr. P K Srivastava (contact no -09650088156)
4	Annexure-I of volume-IF -TCC.	Minimum equipments specified for some of the activities are excessive & are not matching for the works particularly batching plant, transit mixer,concrete pump etc.	requirement may be amended.	Refer Annexure-I (Rev-01) attached.
5	BOQ item no - 3.1	supplying and laying in position, compacting and curing as per specification ..... (min cement content-300kg /cum.) (Cement will be supplied by NBPPL as per TCC free of cost).	Please Clarify.	Refer Price Schedule (Rev-01) attached.
6	BOQ item no - 3.4	Providing and placing in position, compacting, ..... size panels, .....(Cement will be supplied by NBPPL as per TCC free of cost).	size of panel may be specified.	Refer Price Schedule (Rev-01) attached.
7	BOQ item no - 6.1 & BOQ item no - 6.1a	Taking delivery of raw steel materials supplied by NBPPL .....FREE OF COST AS PER TCC).& Steel work..... Contractor to supply all materials for this item.	Please Clarify.	Refer Price Schedule (Rev-01) attached.
8	BOQ item no - 6.1a-i, 6.1a-ii, 6.1a-iii & 6.2	65% payment .....alignment. Erection .....and Specification.	Please Clarify actual quantities of different items & action cover by various items.	Refer Price Schedule (Rev-01) attached.
9	--	Issue of cement.	Please clarify whether cement for all items will be supplied by NBPPL free of cost.	cement will be supplied by NBPPL free of cost as per TCC.

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VOLUME-IF	TECHNICAL CONDITIONS OF CONTRACT(TCC)	PAGE 1 OF 1

**Annexure-I (Rev-01)**

**INDICATIVE LIST OF T & Ps TO BE ARRANGED BY THE CONTRACTOR AT HIS OWN COST**

SI No	EQUIPMENT	QUANTITY
1	CONCRETE BATCHING PLANT ( MIN. 30 CUM PER HOUR)	<b>1 NO.</b>
2	TRANSIT MIXTURE WITH MATCHING DUMPERS	2 NOS.
3	CONCRETE PUMPS	<b>1 NO.</b>
4	CONCRETE MIXTURE M/C	AS PER REQUIREMENT
5	CONCRETE VIBRATORS	AS PER REQUIREMENT
6	CRAWLER CRANE 75 MT	AS PER REQUIREMENT
7	HYDRA CRANE 8 / 10 T	AS PER REQUIREMENT
8	MOBILE CRANE 15/18 T	AS PER REQUIREMENT
10	15/20 MT TRAILORS WITH PULLING UNIT	AS PER REQUIREMENT
11	Deleted	Deleted
12	TOWER CRANE	AS PER REQUIREMENT
13	DISTRIBUTION PANEL (800 AMP)	2 NOS.
14	WATER TANKER	AS PER REQUIREMENT
15	DE WATERING PUMP	AS PER REQUIREMENT
16	POWER / HAND WINCHES	AS PER REQUIREMENT
17	WELDING MACHINES INCLUDING DIESEL RUN	AS PER REQUIREMENT
18	HEATING OVEN	AS PER REQUIREMENT
19	PORTABLE OVENS	AS PER REQUIREMENT
20	PILING RIGS (Full Set along with casing tube)	3 SETS ( <b>Conventional</b> )
21	EXCAVATORS	AS PER REQUIREMENT
22	EARTH COMPACTOR	AS PER REQUIREMENT
23	HYDRAULIC EXCAVATORS/POCLAIN	<b>1 NO.</b>
24	250 KVA DG Set	1 No.
25	DUMPERS	3 NOS.
26	REINFORCEMENT CUTTING MACHINE	3 NOS
27	DRILLING MACHINES	AS PER REQUIREMENT
<b>28</b>	<b>JCB</b>	<b>1 NO.</b>

NOTES:

- 1 The above list specifies only major T&P (may not be complete to be deployed by the contractor). All additional / other tools and plants including trucks & devices, tackles, machines, measuring instruments etc. in good and safe working conditions which are required for satisfactory & timely completion of work shall also be deployed by the contractor within finally accepted rate / price
- 2 Other terms and conditions regarding above items please also refer clause 38 T&P/IMTEs.

ANNEXURE-A TO TCN-02		
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### 23. TAXES AND DUTIES

TDS under Income Tax, V.A.T etc, shall be deducted at prevailing rates on Gross Invoice Value from the Running Bills unless Exemption Certificate from the Appropriate Authority/ Authorities is furnished in Form-31. Vendor may please note that as per Sec -47 of Assam Value Tax ACT, 2003 , the rate of TDS deduction is 13.50 % .

**VAT shall be payable extra, limited to the quoted value** on all items consumed in the execution of jobs on submission of TAX Invoice & as per tariff applicable, if the same is payable by bidder to the respective Government authorities meeting all statutory requirements and availing all exemption / concessions under the ASSAM Value Added Tax Act, 2003 . The Tax Invoice pertaining to work done & materials incorporated or consumed must be presented along with the R.A BILL so as to enable NBPPL to take input Tax credit. If NBPPL is denied of the benefit of Input TAX Credit due to late / non submission of "TAX INVOICE", VAT shall not be paid at all and appropriate Tax with interest shall be recovered from available Bills .

BIDDER may please note that they are supposed to issue TAX INVOICE in FORM 46 ( copy enclosed )

<p><b>“VALID FOR INPUT TAX”</b></p> <p><b>THE ASSAM VALUE ADDED TAX RULES, 2005</b></p> <p><b>FORM-46</b></p> <p><b>[See Rule 32(5)]</b></p> <p><b>TAX INVOICE</b></p> <p><b>“ORIGINAL-BUYER’S COPY”</b></p>								
Invoice No. _____				Date: _____				
Seller's Name _____				Telephone No. _____				
Address _____				Fax No. _____				
Tax Payer Identification No. _____								
CST Regn. No. _____								
PAN BASED STC NO. _____								
Buyer's Name : <b>NBPPL</b>					G.R. No. _____			
Address <b>NBPPL SITE OFFICE, NTPS GUEST HOUSE 1 , ASSAM -786622</b>					Name & Address of Transport			
Tax Payer Identification No. <b>GRN:18700127703</b>								
PAN BASED STC NO. <b>AACCN9505A</b>								
Terms of Sale _____								
Sl. No.	Quantity	UOM	Description	Price per unit	Value of goods (Quantity * Price per unit)			
					4%	12.5%	.....%	Total
1						0		0
2								
3								
4								
Total (Price of goods without VAT)					0	0	0	0
VAT chargeable								0
Total price (Price of goods with VAT)								0
Value of services								
Service Tax @ 12.36%								0
Gross Amount of the bill								0
<p>"I/We hereby certify that my/our registration certificate under the Assam Value Added Tax Act, 2003 is in force on the date on which the sale of the goods specified in this tax invoice is made by me/us and that the transaction of sale covered by this tax invoice has been effected by me/us.</p> <p style="text-align: right;"><b>Signature and Seal of the Authorised Person</b></p>								

The Bidder has to make his own arrangement at his cost for completing the formalities, if required, with State V.A.T. Act Authorities, for bringing their materials, plants and machinery at Site for the execution of the Works under this Contract, Road Permit / Way Bill in Form 62, shall be arranged by the Contractor for bringing their own tools and plants (Capital Goods) and in Form -61 for bringing materials required for execution of Works and NBPPL will not supply any Road Permit/Way Bill for this purpose. The Contractor must be a Registered Dealer with the State VAT Act, if not Registered yet and a copy of the said Registration Certificate along with TIN Number must be provided to Site R.A.O.

Any variation on VAT, if imposed subsequently by statutory authority, after due date of submission of latest price offer and within the contract period including extension, if any, (provided reason for extension is not attributable to vendor) shall be paid by NBPPL on production of relevant supporting document to the satisfaction of NBPPL.

New tax & duties, if imposed subsequent to due date of offer submission, by statutory authority after due date of submission of latest price offer and within the contract period including extension, if any (provided reason for extension is not attributable to contractor), shall be reimbursed by NBPPL at actual on production of relevant

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supporting document to the satisfaction of NBPPL. However, the vendor shall obtain prior approval from BHEL before depositing new taxes & duties

Benefits of abolition and reduction of VAT on self manufactured items will be passed on to NBPPL.

The seller/ contractor is required to ensure that taxes, duties etc, as applicable, are properly calculated & paid and exemption and benefits, as applicable, are fully availed of. NBPPL shall not be held responsible on account of any fault on the part of vendor in this regard.

#### **Entry Tax :**

Bidder may please note that the Bidder is required to get themselves registered under Assam Entry Tax 2008 . Bidder is required to pay applicable rate of Entry Tax for their scheduled goods ( own Tools and Plants ) and will not be reimbursed by NBPPL.

#### **Service Tax :**

**2A. Determination of value of service portion in the execution of a works contract.: vide Notification 24/2012 ST Dated 06.06.2012,**

Subject to the provisions of [section 67](#), the value of service portion in the execution of a works contract , referred to in [clause \(h\) of section 66E](#) of the Act, shall be determined in the following manner, namely:-

- (i) Value of service portion in the execution of a works contract shall be equivalent to the gross amount charged for the works contract less the value of property in goods transferred in the execution of the said works contract.

Hence the Bidder should take note of Service Tax Liability on the Services portion .

- Point of Taxation Rule,2011 has come into operation from 01-04-2011. As per the rule Invoice must be generated within 30 days from the date of completion of service. In such case, the date of invoice will be the relevant date. However, if the invoice is not generated within 30 days as stated above, the date of completion of service shall be the relevant date.
- Vendors must take adequate care and cautions w.r.t "Point of Taxation Rule,2012" as otherwise both the Vendors ( for non-compliance ) and NBPPL ( unable to take Credit on Input Services, resulting in extra fund flow in that particular month ) will suffer

The Contractor shall furnish proof of Service Tax registration with Central Excise Division covering the Services

Registration should also bear endorsement for the premises from where the billing shall be done by the Contractor on NBPPL for this Project.

NBPPL will not be held to be responsible for non-compliance of various Service Tax Rules, being framed from time to time .

<b>VOLUME-III PRICE SCHEDULE,REV-01</b>	
<b>Balance Civil, Structural, Architectural work including Foundation/ Superstructure of various Plant Equipments / Systems/ Facilities including Induced Draft Cooling Tower, Non Plant Building/ Facilities, Misc Civil works etc for 100 MW (1xFr-VI GT+1x30 MW STG) Gas based combine cycle power project at Namrup, Assam.</b>	
<b>TENDER NO - PSER:SCT:NAM-C1432:13</b>	
<b>PREAMBLE</b>	
1.0	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.
2.0	The work shall be carried out strictly as per specifications, description of the items in these schedule and / or engineer's instructions.
3.0	Items of work provided in this schedule but not covered in this specification shall be executed strictly as per instruction of the engineer.
4.0	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, 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.
5.0	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 language.
6.0	All works item wise shall be measured upon completion and paid for at the rates quoted and accepted.
7.0	The tender shall be deemed to have studied the specifications, details of work to be done within the time schedule attached and to have acquainted himself of the conditions prevailing at site.
8.0	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.

**VOLUME-III  
PRICE SCHEDULE,REV-01**

**Balance Civil, Structural, Architectural work including Foundation/ Superstructure of various Plant Equipments / Systems/ Facilities including Induced Draft Cooling Tower, Non Plant Building/ Facilities, Misc Civil works etc for 100 MW (1xFr-VI GT+1x30 MW STG) Gas based combine cycle power project at Namrup, Assam.**

**TENDER NO - PSER:SCT:NAM-C1432:13**

SL NO.	BOQ ITEM NO	DESCRIPTION	UOM	QUANTITY	RATE (Rs.)	AMOUNT (Rs.)
	1.0	EXCAVATION				
1	1.1a	Earth work in excavation in all kinds of ordinary and hard soil (including slushy soil) up to a depth of 3.0 m below ground level and staking within a lead of 500 M with necessary shoring strutting, ramming, trimming, and dressing of sides etc, including bailing / pumping out of surface water /rain water/sub soil water, cutting minor vegetation, if any complete.	CUM	15929		
2	1.1b	Same as item no- 1a above but from 3.0m -4.0 m depth	CUM	10689		
3	1.1c	Same as item no- 1a above but from 4.0m -6.0 m depth	CUM	301		
	2.0	BACKFILLING				
	2.1	Earthwork in backfilling & compacting in layers not exceeding 200 mm around foundations, trenches, below grade slabs and all other locations, as per specifications, drawings and as directed by the engineer.				
4	a)	With earth obtained from stacks within a lead of 500 mtrs	CUM	19044		
5	b)	With selected earth (cohesive non-swelling/murram) obtained from borrow pits outside the battery limit within a lead of 5.0 Km inclusive of necessary royalty charges	CUM	2500		
6	c)	Additional carriage per KM if the lead is more than 5 KM (For all purpose of payment the actual average lead will be taken in proportion of quoted rate) in case the source is between 0.1 KM to 0.9 KM of additional distance.	CUM	2000		
7	2.2	Supplying and filling river sand in layers not exceeding 150mm including compacting.	CUM	306		

SL NO.	BOQ ITEM NO	DESCRIPTION	UOM	QUANTITY	RATE (Rs.)	AMOUNT (Rs.)
8	2.3	Removal of surplus earth & debris upto 3km lead including transportatin, loading and unloding, dumping, stacking , levelling and dressing etc complete as per specification and drawings.	CUM	10949		
9	2.4	Site grading and leveling with filling excavated earth from foundations in layers within the project area using mechanical / manual means.	CUM	400		
	3.0	CONCRETE				
	3.1	supplying and laying in position, compacting and curing as per specification plain cement concrete of the following mix with 20mm down size aggregates below GL, and upto 1.0M above GL, including consolidation of subgrade wherever required. (Cement will be supplied by NBPPL as per TCC free of cost)				
10	a)	1:04:08	CUM	3289		
11	b)	1:03:06	CUM	1152		
12	c)	1:02:04	CUM	2		
	3.2	Supplying, laying in position, curing as per specifications controlled concrete of the following grades (graded coarse aggregates of 40mm down, 20mm down 12mm down shall be used wherever applicable) (Cement will be supplied by NBPPL as per TCC free of cost)				
	a)	for all depths below GL and 1.0m above GL				
13	i)	Grade M-20 in foundations, pile capes, floors, beams, floors etc.	CUM	5		
14	ii)	Grade M-25in foundations, pile capes, slabs, beams, floors columns etc.	CUM	9017		
	b)	For all elevations greater than 1m above G.L				
15	i)	Grade M-20	CUM	892		

SL NO.	BOQ ITEM NO	DESCRIPTION	UOM	QUANTITY	RATE (Rs.)	AMOUNT (Rs.)
16	ii)	Grade M-25 for STG/machine foundation top deck, columns, beams, slab, chajjas, up to 20 m above GL including addition of suitable plasticisers conforming to IS: 9103 to achieve required strength in concrete as per manufacturers recomondations, preparation of scheme for concreting getting it approved by engineer. (Cement will be supplied by NBPPL as per TCC free of cost)	CUM	2419		
17	c)	for elevations greater than 20m above G.L.	CUM	300		
18	3.4	Providing and placing in position, compacting, curing Reinforced concrete for paving of M20 grade including laying in approved size panels (2M x2M), leaving groovers for sealing joints, cost of form work, finising of top surface as required but excluding cost of reinforcement which will be paid under relevant items, etc. all complete for floors and pavement as per drawing and specifications.(Cement will be supplied by NBPPL as per TCC free of cost)	CUM	1389		
19	3.5a)	supplying and mixing 'plastocrete - n/super or approved equivalent brand of integral water proofing compound in cement concrete and for cement mortar noleek - CP/sika latex or approved equivelent brand . All complete as per drawings and specifications.	K G	400		
20	3.5b)	providing and fixing in position 12mm thick 'shalitex' or approved equivalent fibre board in expension joints etc all complete as per specifications and drawings.	SQM	145		
21	3.6	providing and fixing in position 25mm thick 'shalitex' or approved equivalent fibre board in expension joints etc all complete as per specifications and drawings.	SQM	39		
	3.7	supplying and laying sealing compound with premium grade silicon sealant (SILPRUF of GE silicon or approved equivalent) conforming to IS:1834 as per specification.				
22	3.7.a)	20mm wide, 25mm deep	RM	990		
23	3.7.b)	10mm wide, 40mm deep	RM	1200		

SL NO.	BOQ ITEM NO	DESCRIPTION	UOM	QUANTITY	RATE (Rs.)	AMOUNT (Rs.)
24	3.8	fabricating and placing in position precast reinforced concrete trench covers of grade M25 varying thickness including fixing of reinforcement, shuttering, lifting lugs etc ., all complete including edge angles as per drawing and specification,. Reinforcement will be paid under item 5.1(a) and edge angles will be paid for under item 6.1(b) (Cement will be supplied by NBPPL as per TCC free of cost)	CUM	400		
25	3.9	supplying and installing ribbed PVC water stops 6mm thick and 230mm wide in cement concrete including laps by fixing / vulcanizing joints and folds as applicable and approved by the Engineer.	RM	2600		
	3.10	Grouting under equipment bases as required, curing and finishing the exposed surfaces including all materials, form work etc. as per drawings and directions of the Engineer.				
26	3.10.a	using non shrink grout like conbextra GP 1 or approved equivalent, including cost of grout mix form work, etc . All complete as per drawings and manufacturers' specifications. All materials to be supplied by contractor.	CUM	47		
27	3.10.b	Same as item 3.11 (a) but using non shrink grout like conbextra GP 2. All materials to be supplied by contractor.	CUM	18		
28	3.11	supplying laying in position, curing as per specifications controlled concrete of grade M25 with graded coarse aggregates of 40mm down, 20mm down 12mm down (wherever applicable) in cooling tower superstructure at all height, levels, shapes, positions and thickness complete including use of plasticizer /superplasticizer conforming to IS 9103 (latest) to achieve required slump in concrete all complete. (Cement will be supplied by NBPPL as per TCC free of cost)	CUM	1200		
29	3.12	UPV testing for concrete, foundation and structures as directed by engineer in charge, rectification of the defects in concreting observed by ultra-sonic pulse velocity (UPV) testing by cement/epoxy grout etc.	CUM	500		
	4.0	FORM WORK				

SL NO.	BOQ ITEM NO	DESCRIPTION	UOM	QUANTITY	RATE (Rs.)	AMOUNT (Rs.)
	4.1	supplying, instaling, dismanting and removing of formwork as per drawings and specifications at all levels for foundations, beams, columns and slabs etc. using steel/plywood shuttering.				
30	a)	For Straight surface shuttering	SQM	38918		
31	b)	Curved in plan including cooling tower fan cylinder shuttering.	SQM	700		
32	4.2	supplying, instaling, dismanting and removing of formwork as per drawings and specifications at all levels for cooling tower beams, columns and slabs using steel/plywood shuttering.	SQM	15000		
	4.3	providing pockets in concrete of sectional area less than 0.1 sq.m in plan by fixing and removing formwork for anchor bolts, pipe sleeves etc. as per drgs including . All meterials. Labours etc.				
33	a)	Up to 300 mm deep	NOS	435		
34	b)	301 mm to 600 mm deep	NOS	185		
35	c)	601 mm to 1000 mm deep	NOS	66		
36	d)	1001 mm to 1500 mm deep	NOS	47		
	5.0	REINFORCEMENT				
	5.1	Taking delivery, Bending, Binding, Transporting and Placing in position following types of Reinforcement of all diameteres and at all elevation using approved quality binding wires as per specification and drawings HYSD reinforcement conforming to IS:1786				
37	a)	HYSD Reinfircement confirming to IS ; 1786 . (Reinforcement will be supplied by NBPPL as per TCC free of cost)	MT	837		
38	b)	Cleaning of HYSD reinforcement already placed in position prior to fixing of shuttering	MT	2		
39	c)	Cleaning and fixing of already cut and bend HYSD reinforcement in position.	MT	5		

SL NO.	BOQ ITEM NO	DESCRIPTION	UOM	QUANTITY	RATE (Rs.)	AMOUNT (Rs.)
40	5.2	Supplying and fixing in position hard drawn welded wire fabric 3mm dia 50X50mm mesh 2.22kg/sqm, as per IS: 1566 to steel structure as reinforcement, for encasing, at various elevations, all complete as per drawing and specification. (All materials to be supplied by contractor)	SQM	14		
	6.0	STRUCTURAL STEEL				
	6.1	Taking delivery of raw steel materials supplied by NBPPL and transporting to work site, fabricating using approved quality electrodes of low hydrogen 7018 as per drawing and specification. (MS PLATES, CHANNEL, ISMB, ANGLE, CHEQUERED PLATES, SAG ROD WILL BE SUPPLIED BY NBPPL FREE OF COST AS PER TCC)				
41	a)	Steel work consisting of portal frames, laced & plated columns, beams, roof trusses, purlins, nonplated beams, bracings, sag rods with anchor cliets/ end plates fabricated with standard rolled sections, plates, flates, angles, chanel, pipes etc.				
	a-i	For fabrication work.	MT	428		
	a-ii	For erection work.	MT	2152		
	a-iii	For alignment & touchup paint.	MT	2243		
42	b)	miscelleous steel work such as cable trench cover frames, fencing poles etc.	MT	30		
43	6.2	DELETED				
44	6.3a)	DELETED				

SL NO.	BOQ ITEM NO	DESCRIPTION	UOM	QUANTITY	RATE (Rs.)	AMOUNT (Rs.)
45	6.3b	supplying, fabricating and fixing in position MS inserts like rails sections, channels, angles, flats, anchor bolt, rounds, plates, pipe sleeves and any other structural shape etc. including cost of steel, necessary templates / stagings, cutting to required lengths, bolting, revetting welding etc. as required all complete as per drawings and specifications. Contractor to supply all materials. Payments terms - a) on receipt of materials at site-60%, b) Fabrication - 26%, c) Fixing -14%	MT	79		
46	6.4	Taking delivery of foundation hardware supplied by NBPPL and transporting to site fixing in position foundation hardware such as anchor bolts, nuts, washers, anchor assembly etc. all complete as per drawing and specification	MT	4		
47	6.5	Supply and erection of hot dip galvanised GI floor gratings, staircase steps, ladder, etc. as per drawing including fixing to proper level and alignment using contractors own templates protecting till handover of the foundation all complete as per the drawing and specification. Payment terms - a) On receipt of materials at site - 65%; b) On completion of erection & fixing - 35%. Contractor to be supplied all materials.	MT	53		
48	6.6	Supplying, fabricating, fixing in position 40mm dia MS Pipe handrails galvanised as per IS:2629 with min. coating of 710 gms per sqm at various elevation as per drawing no K7205-DWG-S-0001 TO S-0004 & specification including cost of materials, consumables, labour etc. all complete as specification. Contractor to supply all materials. Payment terms - a) On receipt of materials at site - 65%; b) On completion of erection & fixing - 35%.	RM	968		
49	6.7	Supplying, fabricating, fixing in position by welding 18 gauge MS Sheet to steel columns for encasing at various elevations, all complete as per drawing and specification. (All materials to be supplied by contractor)	MT	5		

SL NO.	BOQ ITEM NO	DESCRIPTION	UOM	QUANTITY	RATE (Rs.)	AMOUNT (Rs.)
50	6.8 a)	Supplying installing and fixing in position PVF2 pre-coated galvalume troughed sheeting of min. Thickness 0.55 mm TCT with concealed fastening system and any other fixing material and means as required as per manufacturer specifications at all levels as per drawing and specification no. K7205- VOL4 (All materials to be supplied by contractor) Payment terms - a) On receipt of materials at site - 70%; b) On completion of erection & fixing - 30%.	SQM	6907		
	6.8b)	Roofing / side cladding work including all labour, material, equipment, transportation, handling, scaffolding, ladders, hooks, washers, corner pieces etc. at any level as per specification, drawings and as directed by engineer - in - charge. Designing, providing and fixing permanently color coated galvanised MS troughed metal sheet decking plate of approved colour and conforming to class 3 of IS 14246 over roof purlins for cast-in-situ roof slab as per relevant IS code and specification. Bare metal thickness of deck plate shall be minimum 0.8 mm with minimum trough depth of 44 mm having minimum yield strength of 250 MPa and shall serve as permanent shuttering to the roof slab minimum 65mm thick measured over crest of metal decking & shall have adequate strength to support weight of green concrete and imposed loads of min 150 kg/sqm during construction between purlins as per manufacturer's recommendations/ calculations/ test certificates for approval including fixing of plates to purlins, side lapping, end lapping etc. all complete for below mentioned spans. The sheet shall be permanently coated with silicon modified polyester paint of minimum 20 micron DFT on exposed surface (facing operating floor) applied over hot dipped galvanising @ 180 gm/sqm including fixing of sheet to purlin with h/w/p of 8mm dia electro galvanized 'L' or 'J' hook bolts. These hook bolts shall conform to IS : 730 and galvanizing shall conform to IS : 1573. These hook bolts shall be provided at about 300mm c/c along the length of purlins, whose spacing shall be about 1900mm c/c. These bolts shall be located preferably in valley only. The holes for bolts shall be punched. The bolts shall be provided with Neo-prene metal washers, nuts and lock nuts complete. Stainless steel self tapping screws shall be used in place of the hooks for fixing of the sheets where ever shown on the drawing. Stich screws between two adjacent sheets and sealing with epoxy sealant. Measurement of profile sheeting shall be of the plan area of roof covered by MS trough metal decking.				

SL NO.	BOQ ITEM NO	DESCRIPTION	UOM	QUANTITY	RATE (Rs.)	AMOUNT (Rs.)
	i)	Span upto 1000 mm	SQM	3000		
	ii)	Span Exceeding 1800mm and upto 2500 mm	SQM	3000		
51	6.9	Supplying instaling and fixing in position side sheeting of insulated sandwich metal clading (profiled) Metal shall be permanently pre coated with fluoro polymerover zinc aluminium high tensile stell profiled sheet of 0.5 mm TCT think for outer sheet for inner sheet permanently colour coated (RMPcoating) over galvanised steel sheets of min. 0.6 mm thick and class 180 gsm/sqm the in sulation shall be bonded mineral wool of min. density 32 kg/cum with min. coefficient of thermal conductivity 0.49 mw/cm deg C (at 50 deg C) confirming to IS: 8183 (All materials to be supplied by contractor) Payment terms - a) On receipt of materials at site - 70%; b) On completion of erection & fixing - 30%.	SQM	488		
	6.10	Completion of welding of left over welding joints mainly fillet joints in different plate thickness by making all necessary arrangements for welding at ground or at height as per site condition. Welding electrode to be used : 6012 or 7018 as per site requirment				
52	a)	Fabricated items lying at fabrication yard or at site. In case of incomplete members, the balace parts yet to be fabricated, will be paid as per item no. 6.1.a-i for the part member (not for total item)	RM	25		
53	b)	Erected items in position. In case of incomplete members, the balace parts yet to be erected, will be paid as per item no. 6.1.a-ii for the part member (not for total item)	RM	100		
	7.0	MASONRY & ALLIED WORKS (Cement will be supplied by NBPPL as per TCC free of cost)				
54	7.1	Supplying and laying of corarsed rubble stone masonry in cement mortar 1:6 in foundations and basement as per specifications	CUM	12		
55	7.2	Supplying and laying in position, minimum 75 kg/cm2 as per IS:1077 brick work in foundations and upto plinth in cement sand moter(1:6) including mixing motar, laying bricks, raking of joints, curing etc ., all complete as per drawings as specifications .	CUM	75		

SL NO.	BOQ ITEM NO	DESCRIPTION	UOM	QUANTITY	RATE (Rs.)	AMOUNT (Rs.)
56	7.3	Similar to 7.2 in super structure at all elevations	CUM	1214		
57	7.4	Supplying and laying in position, minimum 75 kg/cm <sup>2</sup> as per IS:1077 brick walls at various elevations in 1:4 cement sand mortar with HB netting at every fourth layer including mixing mortar, laying bricks, raking of joints, curing etc., all complete as per drawings as specifications.	CUM	375		
58	7.5	Supplying and laying damp proof course 50 mm thick with plain concrete (1:1 1/2:3) nominal mixed by volume with 10mm downsize aggregates and min. 3% admixture of water proofing compound. The % of admixture shall be as per manufacturers specification but not less than 2% by weight of cement. The top surface shall be double checked cured by ponding for 7 days.	SQM	620		
59	7.6(a)	Providing 12mm thick cement sand (1:6) plastering with smooth cement finish of the brick walls with side of the wall at various elevations including mixing, laying, finishing, rounding corners, cutting grooves wherever required etc. with all materials complete as per drawing and specification	SQM	9718		
60	7.6(b)	Providing 15 mm thick cement sand (1:6) plastering on rough side of half brick wall to the interior faces of the brick walls with side of the wall at various elevations including mixing, laying, finishing, curing, rounding corners, cutting grooves wherever required etc. with all materials complete as per drawing and specification	SQM	1292		
61	7.7	Providing 18mm thick external cement sand plastering in two layers. Bottom layer of 12mm thick 1:5 cement sand mortar with coarse sand and top layer of 6mm thick with 1:6 cement sand mortar with fine sand including mixing, laying, finishing, curing rounding corners cutting grooves wherever required etc. with all materials complete as per drawings and specification	SQM	8585		
62	7.8	Providing and placing in position 20 mm thick lath plaster in CM 1:4 for fins, droops etc. including providing and fixing 24 G metal lath (wire mesh) but excluding cost of reinforcement. Reinforcement will be paid as per relevant items.	SQM	2		
63	7.9	Providing minimum 6mm thick (1:4) cement sand plaster over concrete surfaces of columns, beams, slabs etc. similar to item 7.6 above	SQM	4557		

SL NO.	BOQ ITEM NO	DESCRIPTION	UOM	QUANTITY	RATE (Rs.)	AMOUNT (Rs.)
64	7.10	Drip course at various elevations to parapet, chajja, windows, door heads etc. with all material complete as per drawings spcns, and directions of the engineer.	RM	712		
65	7.11	Providing 12mm wide x 12mm deep regulator grooves in plaster for architectural purposr, including all materials, etc. all complete as per drawing.	RM	200		
66	7.12	Suppling and fixing 16BG meta lath (wire mess) at junction of brick work and concreat work before plastering at various elevations locations as showing drawings and as directed by the engineers	SQM	200		
67	7.13	Providing average 15mm thk 1:2:4 cement screed with 6mm down stone chips, to required slope with all materials hacking the old concreat finishing curing etc. as per drawing and specification	CUM	10		
	8.0	FLOORING (Under bed concrete will be paid seperately under relevant item). (Cement will be supplied by NBPPL as per TCC free of cost).				
68	8.1	Suppling, laying vitrified ceramic acid resistant and alkali resistant tilled floor/DADO confirming to IS:4457 with 25mm thk tiles from approved manufacturers at various elevations including preparation of base laying underbed of 6mm thk acid proof mortar over layer of bitumen grade 85/25 (total 3mm thk) as per IS:702 over 20 mm thk CM (1:3) pointing of size 6mm X 18mm deep CSNL mortar or equvalent including curing of the points with dilute hydrochloric acid (25%) as per manufacturers specification	SQM	1600		
69	8.2	Suppling and fixing ceramic tiles of approved make of sizes 300X300X8MM for flooring including preparation of base laying underbed, finishing and round corners, curing and junction etc. complete as per drawing and specifications	SQM	368		
70	8.3	Supplying and fixing ceramic tiles of approved make of sizes 300X200X6mm for DADO upto 2.5M elevations including preparation of base laying underbed, finishing, grounding corners and junctions curing etc. complete as per drawing and specification	SQM	350		
71	8.4	Laying 20mm thk grey cement skirting including preparation of base laying underbed, finishing with neet cement, rounding corners and junctions curing etc. complete as per drawing and specifications.	SQM	195		

SL NO.	BOQ ITEM NO	DESCRIPTION	UOM	QUANTITY	RATE (Rs.)	AMOUNT (Rs.)
72	8.5	Supplying laying and fixing 40 mm thk cota stone flooring/steps in stair case, skirting and DADO in various elevations comprising min 400X275X20mm thk for flooring, 400X275X20mm thk stone slabs for DADO and 125mm high 20mm thk stone slabs for skirting including preparation of base laying enderbed, finishing, polishing etc. complete as per drawing and specification	SQM	3982		
73	8.6	Supplying laying and fixing 600x600x10mm thick virtified tiles flooring of approved brand, make shade & size laid over concrete bedding in C:M (1:3) under layer of 30mm thk as per spec.	SQM	950		
74	8.7	supplying and laying of 3mm thk PVC skirting 150mm high including preparation, fixing, tile finishing etc. all complete as per approved manufacturer's specifications .	SQM	40		
75	8.8	Providing 50mm thk heavy duty cement flooring comprising 38mm cement concrete base laying underbed in panels bound by 4x40mm aluminium strips followed by 12mm thk wearing top layer of cement, mettalic hardener and stone agreegate, finishing, curing etc . all complete with dust protective coating as per specifications.	SQM	3044		
76	8.10	Providing cement concrete flooring comprising of laying a thk slurry (cement@2.75kg per SQ Mtr Mixed with water) over the 25mm thk base course laying under bed in panels bound by 5x20mm glass strips and finishing curing etc. all complete as per specifications.	SQM	50		
77	8.11	supplying and laying pigmented epoxy coating including min 3mm thk screed and finishing coat in two coats @ 125gm./sq.m per coat all as per specifications.	SQM	30		
78	8.12	Supplying and providing pink coloured granite tiles for flooring /DADO upto 2:5m height from finish floor over brick wall using cement -sand mortar (1:3) including all window and glazed partitions sills . Thikness of tile will be 20mm	SQM	50		
	9.0	FALSE FLOORING				

SL NO.	BOQ ITEM NO	DESCRIPTION	UOM	QUANTITY	RATE (Rs.)	AMOUNT (Rs.)
79	9(a)	Supplying erecting, fitting, & laying false flooring 35mm thk single layer phenol bonded particle board of fire resistant quality of size 610x610(approx) and top finished with 2mm thk anti-static vinyl tiles and PVC lipping on all sides. False floor shall be mounted on standard steel grid and pedestal system of approved manufacturer M/s. Multi floors, Delhi or equivalent and shall be installed as per details and supervision of manufacturer. height of cavity floor shall be 600 approx. all complete as per specifications and drgs. (All materials to be supplied by contractor) Payment terms - a) On receipt of false flooring materials at site - 50%; b) On completion of erection & fixing - 50%.)	SQM	1815		
	10.0	FALSE CEILING				
80	10.1	Supplying and fixing gypsum board false ceiling (snap grid system) suspended from steel members or RCC slab/beam with anchor fasteners by concealed suspending system as per manufacturer detail. Filler panel with gypsum board shall be provided to hide the metal cladding member of control room and its allied areas. suitable MS channel gridway shall be provided over false ceiling for Maintenance purpose, the minimum channel section shall be ISMC 75 at a spacing of 1.5 m c/c both ways. bonded glass wool insulation minimum 25mm thk in polyethylene shall be provided over false ceiling for thermal and acoustical insulation the density of glass wool shall be greater than 32kg/cum and shall confirm to IS8183. Maximum value of thermal conductivity shall be 1.0 W/SQ ./deg C. (All materials to be supplied by contractor) Payment terms - a) On receipt of gypsum board false ceiling at site - 50%; b) On completion of erection & fixing - 50%.	SQM	2015		

SL NO.	BOQ ITEM NO	DESCRIPTION	UOM	QUANTITY	RATE (Rs.)	AMOUNT (Rs.)
81	10.2	Providing and fixing underdeck insulation on the ceiling system (at soffit of the slab) consisting of 50mm thk resin bonded mineral fiber wool board conforming to IS:8183 group -1 (having density of 40kg/m <sup>2</sup> ) faced with alluminium foil, as non combustible as per BS:476 part-4 including fixing the insulation to soffit / sides of beam by means of approved quality adhesive and providing and fixing 3mm thk 190X25mm L shaped M S slotted cleats to the soffit of the slab with dash fastener @ 600mm c/c both ways securing the insulation with chicken wire net ting with 24GX25mm stretched tightly over the insulation and held by 14 SWG G I wire tied diagonaly through the slots og cleats etc. all complete as per drawing and specification	SQM	1815		
	11.0	PAINTING (PAINTS OF REPUTED MANUFACTURER LIKE ICI/BURGER/ASIAN PAINTS OR EQUIVALENT)				
82	11.1	Providing minimum two coats of water proof cement paint maid from best quality whitecement and lime resistant colours with acceletors, water proofing agents and fungicides. Including preparation of surfaces, scaffolding, cost of paint etc. all complete as per drawings and specifications . the paint shall confirm to IS5410.	SQM	7998		
83	11.2	Providing complete proctective coating sytem to structural steel works with two coats of synthetic enamel paints(20 micron DFT each, total 40 micron) over a coat of red oxide zinc phosphate primer(30 micron DFT conforming to IS12744 (primer will be paid under item no 6.1) and paint conforming to IS 2932 and IS2933, consumables and scaffoldings complete as per specifications and drawings.	MT	1335		
84	11.3	providing and applying to interior surfaces two or three coats of oil bound distemper of approved shade & make confirming to IS: 428 to obtain a even finish and uniform colour over a coat of primer as per Manufacture recommendation including cost of pait, surface preparation, scaffolding etc. all complete as per spec. and drawing.	SQM	1970		

SL NO.	BOQ ITEM NO	DESCRIPTION	UOM	QUANTITY	RATE (Rs.)	AMOUNT (Rs.)
85	11.5	providing and applying two coats of acrylic plastic emulsion paint(water based with rutilie titanium dioxide and other selected pigments and fungicide) over pop confirming to IS5411 part-1, including cost of paint, surface preparation with 2mm thick plaster of paris punning, materials, scaffolding etc. all complete as per specification, scraping / removing of old paints, making the surface good with paster of paris punning, materials, paints, making the surface good with plaster of paris in case of old surface, all complete as per specification and to the satification of engineer / architect incharge. the paint film shall allow the moisture in wall to escape without peeling and blistering.	SQM	5551		
86	11.6	Providing three or more coats of wash to give a smooth and even shade including clening & preparation of surfaces scaffolding etc. complete.	SQM	3130		
87	11.7	Providing minimum two coats of acide/alkali resistant chlorinated rubber based paint over a coat of linsol HB zinc phosphate priper, as perManufactures instructions, to plastered surfaces . Including preparation of surfaces, scaffolding etc. all complete as per drawing and specifications.	SQM	970		
88	11.8	Acrylic washable distemper of asian paints Brand including cost of materal, scaffolding, preparation of surface etc.	SQM	3074		
89	11.9	Providing two coats of polyrethane painting as per IS:162 over french polishing as per IS:348 over wood work at various elevations, including all materials, surface preparation, finishing, polishing etc. all complete .French polish should not be used on bare wood. it shall be used as finishing on wood after the wood is pretreated with liquid wood filler confirming to IS:345 is applied and rubbed out.	SQM	190		
90	11.10	Providing two coats of oil resistant painting as per IS: 162 in oil equpment room, oil canal, fuel oil pump house, etc including preparation of surface, scaffolding paint cost etc.	SQM	98		
91	11.11	providing red colour paint(post office red) to indicate emergency areas and two paint emergency signs including paint cost and preparation of surface scaffolding etc.	SQM	40		
92	11.12	Providing fire proof putty in cable penetration cutouts in walls of cable spreader rooms as approved by engineer-in-charge.	SQM	300		

SL NO.	BOQ ITEM NO	DESCRIPTION	UOM	QUANTITY	RATE (Rs.)	AMOUNT (Rs.)
93	11.13	Providing two coats of asphaltene of british paint limited or equivalent cold applied bituminous paint all complete as per drawing & specifications.	SQM	5500		
	12.0	WATER PROOFING (Contractor has to furnish a guarantee for material and workmanship for a minimum period of 10 years).				
94	12.1	Preparation of grading underbed with 1:2:4 mix using 12mm down graded coarse aggregate at various elevations including mixing, laying, curing etc . In varying thickness with all materials complete as per drawings and specification. (Cement will be supplied by NBPPL as per TCC free of cost).	CUM	344		
95	12.2	Preparation of average 25mm thick grading underbed with 1:4 cement coarse sand mortar at various elevations including mixing laying, curing etc. with all materials complete as per drawing & specifications. (Cement will be supplied by NBPPL as per TCC free of cost).	SQM	260		
96	12.3	supplying and 8 layers of water proofing treatment with bitumen felts conforming to IS: 1364 bitumen felt confirming to IS: 1322 & bitumen primer to IS:3384 as perManufactures' specifications including surface preparation as per specification & bonding material shall consist of blown type bitumen confirm to IS: 702 or residual bitumen to IS: 73 of mixture of two to suit local condition.	SQM	4371		
97	12.4	Same as above but for flashing at junction of slab and parapet wall including preparation of surfaces, cutting grooves, caulking the end of flashing etc. complete.	SQM	406		
98	12.5	light weight foam concrete 50mm thk . The insulating properties shall be such that the thermal conductivity shall not exiecced 0.125 Kcal . m/sq.m h degree c. (Cement will be supplied by NBPPL as per TCC free of cost).	SQM	600		
99	12.6	Pressed precast concrete tiles 20 mm thk on 15 mm thk. Cement: sand (1:4) mortar .... For walk ways on roof. (Cement will be supplied by NBPPL as per TCC free of cost).	SQM	600		
100	12.7	Providing and making 150x150mm size fillets in cement concrete 1:2:4 at junctions of roof slab and parapet wall including finishing etc . All complete. (Cement will be supplied by NBPPL as per TCC free of cost).	RM	500		

SL NO.	BOQ ITEM NO	DESCRIPTION	UOM	QUANTITY	RATE (Rs.)	AMOUNT (Rs.)
	13.0	DOORS, WINDOWS & VENTILATORS				
	13.1	Providing and fixing steel windows and ventilators conforming to IS:1361 for IS 1038 (latest editions) including glazing clips and special metal sash putty with approved make handles, peg stays, stoppers, hinges, handles all complete as per drawing K7250 DWG- A-0001 to 0003 and specifications . welds shall be dressed flush on all exposed and contact surfaces. where composite unit openings are required, the individual units shall be joined together with requisite transoms and mullions. all windows shall be outside glazed, fixed with putty or Metal glazing beads. where aluminium glazing beads are specified, they shall be extruded aluminium channel Payment terms - a) On receipt of materials at site - 65%; b) On completion of erection & fixing - 35%.				
101	a)	Fixed Type	SQM	10		
102	b)	Operable Type	SQM	10		
	13.2	Providing and fixing of aluminium casement glazed windows and ventilators including frames and shutters, transoms, mullions, fittings and fixtures, aluminium beading, but excluding glazing. Aluminium sections shall be of INDAL 40 series of 15 micron thk anodizing coating . aluminium alloy shall conform to IS 737 of corrosion grade . Frames mullions, transome etc shall be anodized in a bath of sulphuric acid . the anodized material shall be sealed by immersing in boiling water. all as per drgs no K7205-DWG-A-0001 to 0003 and spec. (glazing will be paid under item 13.11) Payment terms - a) On receipt of materials at site - 65%; b) On completion of erection & fixing - 35%.				
103	a)	Fixed Type	SQM	349		
104	b)	Operable Type	SQM	444		
105	c)	Sliding type	SQM	70		
106	d)	Fixed type with hermetically sealed double glazing	SQM	64		

SL NO.	BOQ ITEM NO	DESCRIPTION	UOM	QUANTITY	RATE (Rs.)	AMOUNT (Rs.)
	13.3	supplying and erection including assembling fitting and fixing best quality 45mm thk hollow steel doors double plated with 18 gauge MS sheets, pressed steel frames at various elevations including frames, shutters, fittings and fixtures, CP mortice lock cum handle mastic caulking, grouting the frames, including two coats of synthetic enamel paints(20 micron DFT each total 40 micron)over a coats of red oxide zinc phosphate primer(30 micron DFT conforming to IS - 12744 complete as per drg no K7205-DWG-A-0001 to 0003 and specifications. Payment terms - a) On receipt of materials at site - 65%; b) On completion of erection & fixing - 35%.				
107	a)	single shutter	SQM	51		
108	b)	double shutter	SQM	66		
	13.4	same as item 13.3 but with 200mmX300mm vision panels with 6 mm thk plate glass etc complete as per specifications				
109	a)	Single shutter	SQM	6		
110	b)	double shutter	SQM	6		
111	13.5	supplying, erecting, assembling best quality PVC panelled doors of sintex make of approved equivalent for toilets including all fittings and fixtures etc. all complete as per drawings and specifications.	SQM	2		
112	13.6	supplying & erecting, includind assembling, fitting & fixing steel iouvers at various elevations including frames, shutters, fitting and fixtures, mastic caulking, grouting,the frame, rawl bolt for fixing etc . As required with all materials etc. complete as per drawing no K7205-DWG-A-0001 to 0003 and specifications including two coats of synthetic enamel paints(20 micron DFT) conforming to IS-12744 Payment terms - a) On receipt of materials at site - 65%; b) On completion of erection & fixing - 35%.	SQM	20		

SL NO.	BOQ ITEM NO	DESCRIPTION	UOM	QUANTITY	RATE (Rs.)	AMOUNT (Rs.)
	13.7	providing and fixing in position composite, insulated type fire proof doors of approved make having 2Hrs fire rating conforming to IS: 3614 part I with all necessary fittings and fixtures including self closing hinges, locking arrangement and painting with two coats of fire proof paint over approved primer etc. complete (contractor to obtain and furnish T.A.C approval for supplies made) Payment terms - a) On receipt of materials at site - 65%; b) On completion of erection & fixing - 35%.				
113	a)	Single leaf	SQM	11		
114	b)	Double leaf	SQM	10		
115	13.8	Providing and fixing wooden panelled doors with all fittings and fixtures, approved quality heavy duty hinges, and	SQM	20		
116	13.9	providing and fixing approved quality hydraulic door closer conforming to IS:3564 as per directed by the engineer.	Nos	6		
117	13.10	Providing and fixing 2mm thk. Approved quality silicon strip around doors and windows for making them air tight including coat of rubber strip adhesive, clips etc. all complete as per specifications and drawings.	RM	67		
	13.11	Supplying fitting and fixing the following glazing specials at various elevations including supplying rubber bending, cost of all materials etc. complete as per specifications to steel/aluminium windows, doors & partitions.				
118	a)	4mm thick sheet glass	SQM	98		
119	b)	6.0 mm thick toughened clear glass	SQM	160		
120	c)	6.00 mm thick clear wired glass	SQM	100		
121	d)	6.0mm thk clear float glass	SQM	640		
122	e)	6.0mm thk toughened clear float glass	SQM	60		

SL NO.	BOQ ITEM NO	DESCRIPTION	UOM	QUANTITY	RATE (Rs.)	AMOUNT (Rs.)
123	f)	Hermetically sealed double glazed with 6,0mm thk clear toughened float glass with 12mm gap in - between	SQM	90		
124	13.12	Supplying, fitting and fixing 12mm thick twin laminated gypsum board of "India gypsum" at various elevations to aluminium windows, doors & partitions, including supplying rubber gaskets, cost of all materials etc. complete as per drawings and specifications.	SQM	6		
	13.13	supplying and erection including assembling fitting and fixing aluminium partition frames with matching doors etc. as per drawing no. K720-DWG--A-0001- to 0003 and specs. with frames, shutters, double acting heavy duty floor springs, fittings, and fixtures, mortice lock, alluminium beading but excluding glazing etc . complete (Glazing will be paid under item 13.11)				
125	a)	Single glaged	SQM	140		
126	b)	double glaged	SQM	140		
	13.14	supplying and erecting including assembling fitting and alluminium glazed wall panel frames as per drawings no. K7205-DWG-A-0001 to 0003 and specs. With fittings, and fixtures, alluminium beading but excluding glazing etc. complete (Glazing will be paid under item 13.11)				
127	a)	Single glaged	SQM	6		
128	b)	double glaged with hermetically sealed glass	SQM	6		
129	13.15	Providing & fixing anodised aluminium louvered ventilators all as per drawings no. K7205-DWG-A-0001 to 0003 including glazing with 6 thk. Clear wired glass.	SQM	76		
	14.0	ROLLING SHUTTERS:				

SL NO.	BOQ ITEM NO	DESCRIPTION	UOM	QUANTITY	RATE (Rs.)	AMOUNT (Rs.)
130	14.1	Supplying erecting, assembling, fitting, & fixing rolling steel shutters of 18 gauge steel sheets with MS rolled channel frame as per IS: 6248 and accessories from approved manufacturers including all fixtures, locking arrangements, electrical wiring for motor drive etc. including two coats of synthetic enamel paints (20 micron DFT each, total 40 micron) over a coat of red oxide zinc chromate primer (30 micron DFT) conforming to IS 12744 of approved brand and shade all complete as per specification & drawings. (all rolling shutters irrespective of their size should have mechanical as well as electrical opening arrangements) Payment terms - a) On receipt of materials at site - 65%; b) On completion of erection & fixing - 35%.	SQM	224		
	15.0	SANITATION / PLUMBING				
	15.1	Supplying & erecting, HDPE Cylindrical & vertical water tank with closed top of SINTEX make or approved equivalent of following capacity.				
131	a)	2000LTR	Nos	9		
	15.2	Supplying, fitting and fixing heavy cast iron "Roof drain" pipes at various elevations including shoe bends junctions, sockets adapter, brackets, hangers, supports etc joints, caulking prime coat of painting with anticorrosive paint including all materials etc complete as per drawings and specifications.				
132	a)	150mm Dia	RM	1930		
	15.3	similar to item no:- 15.2 above supplying fitting and fixing of PVC drain pipes of approved make at various elevations including shoe bends junctions sockets, adapters, brackets, hanger supports etc. jointing with appropriate adhesives, including all materials complete as per drawings and specifications.				
133	a)	100mm dia pipes	RM	6		
134	b)	150mm Dia pipes (Consider for 200 MM dia. Introduce separate item)	RM	306		

SL NO.	BOQ ITEM NO	DESCRIPTION	UOM	QUANTITY	RATE (Rs.)	AMOUNT (Rs.)
	15.4	Supplying fitting and fixing Roof drain heads with high domed gratings at various elevations, including connecting to roof drain pipes, culking with lead supports / fixing with adhesive for PVC pipes, hangers etc. prim coat of painting with anti corrosive paint with all materials as per drawings and specifications.				
	a)	Heavy duty C.I Heads				
135	ii	150mm pipe	Nos	45		
	b)	PVC roof drain heads				
136	ii	150mm pipe	Nos	11		
	15.5	Supplying fitting and fixing the following best quality sanitary fixtures of "Hindustan Sanitaryware" or approved equivalent make at various elevations including all necessary accessories, cutting and making good of concrete/ brick work for coealing all connecting pipes and bends with all materials etc all complete as per drawings and specifications				
137	a)	European type type water closet conforming to IS: 2556 with white glazed stone ware basin with plastic seats& cover low level PVC cistern of 15ltr discharge capacity including valveless fittings, flush bends, supplying connectings, syphon, inegral "S" or "p" trap etc . all complete.	Nos	9		
138	b)	Indian pattern water closet (Orissa pan size 580 mm conforming to IS:2556) with white glaze stone ware and integral footrest ; 15ltr capacity high level PVC flushing cistern including valve less fittings, with all necessary fixtures integral with 'S' or 'P' trap etc. all complete as per drgs. and specifications	Nos	11		
139	c)	610X410X380 mm flat back urinals with a pair of 250X125 mm white ceramic foot rest with concealed hangers and brackets, CP brass spreader for coealed piping work, CP brass waste fittings, 30mm dia heavy duty bottle trap etc all complete as per drawings and specifications.	Nos	16		
	d)	Automatic high level PVC cistern with mosquito proof lid, interior painted with 2 coats of anti corrosive paint complete with loose key CP brass bibcock.				

SL NO.	BOQ ITEM NO	DESCRIPTION	UOM	QUANTITY	RATE (Rs.)	AMOUNT (Rs.)
140	i	cistern capacity 10ltrs	Nos	11		
141	ii	cistern capacity 15ltrs	Nos	11		
142	iii	White protection division plate of size 840 X 300 mm with CP brass screws	Nos	11		
143	e)	500 x 400 mm wall hung white glazed stone ware flat back wash basin with provision for tap holes in three locations with supporting brackets, C.P brass 30mm dia waste fittings, heavy duty CP bottle trap, one no 15mm dia long nose CP brass pillar cock, one nosupply connection with 300 mm long 15mm dia PV capip with brass nuts at both ends and CP brass stop cock etc complete as per drawings and specifications	Nos	11		
144	f)	150 X 150 mm recessed white glazed porcelain soap tray	Nos	6		
145	g)	chromium plated shower set with 100/150 mm dia brass shower rose with rim arm,wall flange hot / cold waterRMixing valves including handle and concealed suupply pipe including 600mm long CP grab bar, bibcock etc, as per specifications all complete.	Nos	6		
146	h)	600 X450 X 6 mm thk bevelled edge mirror of superier glass with necessary fixtures as per specifications	Nos	6		
147	i)	35 ltr capacity hot water geyser of approved make	Nos	3		
148	j)	600 X120 X 4 mm thk clear glass shelves with chromium plated brackets, guard rails etc, all complete	Nos	6		
149	k)	600 long, 20 mm dia and 1.25mm thk chromium plated brass towel rail with brackets fittings, etc complete	Nos	6		
150	l)	all chromium plated standard liquid soap dispenser of approved make with all fittings etc. complete	Nos	9		
151	m)	12mm dia CP brass ablution tap with all fitings complete	Nos	30		
152	15.6	Supplying, fitting, and fixing 100mm dia inlet and 80/100mm dia out let SS floor drain with trap and with screwed or hinged CP brass grating	Nos	4		

SL NO.	BOQ ITEM NO	DESCRIPTION	UOM	QUANTITY	RATE (Rs.)	AMOUNT (Rs.)
153	15.7	Providing 300 x 300 X 675 mm chamber in 1:4 brick work with plain concrete 1:2:4 foundation cement mortar including supplying and fixing 100mm dia square mouth gully trap, gratings, CI frame and cover, all complete as per specifications	Nos	6		
	15.8	Supppling, laying, fitting, and jointing concealed GI pipes conforming to IS: 1239 for water lines at various elevations pipes underground with all fittings bends, teas, reducers etc. including excavation, backfilling, supports, caulking, chases, grooves, hangers, supports, straps etc. Painting as specified all complete as per specifications & drawings.				
154	a)	12mm dia	RM	35		
155	b)	19mm dia	RM	35		
156	c)	25mm dia	RM	45		
157	d)	32 dia; (Consider for 50 dia & 100 dia. Introduce separate item)	RM	42		
	15.9	Supplying, laying, fittings, fixing, and jointing extra heavy cast iron soil and drain pipes underground with all fittings bends, teas, reducers etc. including excavation, backfilling, support, coulking, chases, grooves, hangers, supports, straps etc. pain - ting as specified all complete as per specification and drawings.				
158	b)	150mm	RM	40		
	15.10	Same as 15.11 but over ground, including vent pipes and cowls				
159	15.10.B)	150mm	RM	75		
160	15.11	Supppling, fittings, and fixing CI heavy duty man hole cover of 50 cm dia of approved brands as per specifications.	Nos	6		
	16.0	ROADS/PAVING				
161	16.1	Consolidating subbase before providing stone soiling /WBM with road roller including water if required to obtain 95% proctor density including macking good undulation etc. complete.	SQM	11125		

SL NO.	BOQ ITEM NO	DESCRIPTION	UOM	QUANTITY	RATE (Rs.)	AMOUNT (Rs.)
162	16.2	supplying, laying, and rolling stone solling of consolidated thickness 250mm in 2layers including spreading binding meterial(sand/morrom) watering and rolling with road roller etc. all complete	SQM	6803		
163	16.3	Supplying and laying WBM in 150 mm consolidated thickness 250mm in two layers with dry and wet rolling etc complete as per drawing and specifications.	SQM	7773		

SL NO.	BOQ ITEM NO	DESCRIPTION	UOM	QUANTITY	RATE (Rs.)	AMOUNT (Rs.)
164	16.4	Providing and laying 75mm compacted thickness of premixed bituminous carpet (hot process) finish over WBM surface including provision of a tack coat and a seal coat, using bitumen conforming to IS: 73, preparation of surfaces, rolling etc complete as per specs.	SQM	7773		
165	16.5	Supplying & laying 250 Micron thk LDPE sheet under paving as per specifications	SQM	7773		
166	16.6	Supplying laying and setting precast concrete edging blocks 300 X 150mm (at base) and a min. Length of 450 mm (except at curves) in M 20 grade concrete including cutting of trench and packing exterior face of blocks with stone chips and murrum including pointing the joints with CM 1:4 etc. complete (Cement will be supplied by NBPPL as per TCC free of cost).	RM	800		
167	16.7	Supplying, spreading & filling murrum 150mm thick and consolidation and preparation of sub base including watering and rolling & compaction with power roller 10-12 T capacity to the required dencity (95% of proctor dencity) & upto satisfaction of NBPPL	CUM	1034		
	17.0	MISCELLANEOUS ITEMS				
168	17.1	Supplying and spreading 60mm size stone chips/gravels in transformer yards	CUM	100		
169	17.2	Supplyin,fabricating and fixing in positions transformer gate / fencing as per drg no 4-38144-00034 including painting with aluminium paint two coats over suitable primer etc complete, excavation, concrete and post etc to be measured separately . Contractor to supply all materials.	SQM	50		
170	17.3	Providing & laying bitumen sand carpet 50mm thk in two layers of 30mm & 20mm of tank pads including finishing to corret slopes, light rolling etc . Complete, and directions of the engineer	SQM	350		
171	17.5	Aluminium angle nosing (min of 50 X 25 X 3)	RM	150		
	17.7	Supplying and fixing anchor fasteners of FISCHER make or equivalent of following diameters				

SL NO.	BOQ ITEM NO	DESCRIPTION	UOM	QUANTITY	RATE (Rs.)	AMOUNT (Rs.)
172	a)	10mm, 3.6 Ton pullout	Nos	30		
173	b)	12mm, 6 Ton pullout	Nos	6		
174	c)	16mm, 9 Ton pullout	Nos	6		
175	17.8	Providing brick pitching to earthen embankments in CM 1:6 as per drgs. & specs.	SQM	300		
176	17.9	Providing Turfing to earthen embankments using cow grass (pasupalam conjugatum)	SQM	350		
177	17.10	Providing anti termite treatment with chlorypyriphos emulsifiable concentrate 20% with 1% cocentration as per specifications & drgs.	SQM	500		
178	17.11	supplying & fixing selsmic arrestors for STG foundation as per drawing no -3-38144-00036	Nos	12		
179	17.12	Cutting & drilling holes for pockets in concrete using diamond cutter upto 200mm Dia & 300mm deep	CUM	2		
180	17.13	Supplying & fixing lock fix (FOSROC make) for extending new reinforcement from existing structures	Nos	2		
181	17.14	Chipping of RCC structural elements like beams, columns, pedestals, slabs required for facillitating mechanical erection works.	CUM	2		
182	17.15	Fabricating including modification of already errcted steel structures by cutting of members, adding extra members etc to facillitate mechanical erection works	MT	16		
	18.0	FENCING				
183	18.1	Supplying & fixing gavanised barbed wire chain link fencing of minium 8 gauge, of mesh size 75mm, conforming to IS:2721, both ends bent type, mesh size 50mm dia of mesh wire 4 mm, with 2nos line wire 4mm dia. Including tying to RCC / STEEL posts neatly with GI wires including cost of all materials etc. complete the chain link will be stretched and attached by 'c' clips at 0.5 m interval to strands of high tesile steel wire of 12 guage	SQM	750		

SL NO.	BOQ ITEM NO	DESCRIPTION	UOM	QUANTITY	RATE (Rs.)	AMOUNT (Rs.)
184	18.2	Supplying and fixing galvanised barbed wire fencing (with PVC coating) of approved quality, including tying to RCC / STEEL posts neatly with GI wires including cost of all materials etc. complete .	RM	300		
185	18.3	Supplying and fixing precast concrete poles for fencing all as per drawings & specifications	CUM	20		
186	18.4	Supplying & fixing GI angle poles for fencing all as per drg. & specification	MT	3		
	19.0	GROUNDING				
	19.1	Drawing from NBPPL stores fabricating, erecting, testing ground conductors including cost of excavations, backfilling, welding, construction, of masonry chambers with M S covers (for pipe electrodes), filling with sand, charcoal and salt (for test pit eletrodes), labours, materials, etc. complete. (40 mm dia MS rod will be issued by NBPPL free of cost). (Excavation, backfilling, disposal shall be paid as per respective items.)				
187	a)	Earth stip 40 dia MS rod	RM	1800		
188	b)	Earth risers 40 dia MS rod	RM	120		
189	c)	Test pit Electrode as per drg. No. GT57191	Nos	36		
190	d)	Pipe electrode as per drg. No . GT57191 sheet 2 (ref speccifications) (All materials to be supplied by contractor) --(Excavation, backfilling, brickwork, plastering, concrete will be paid as per respective items.)	Nos	14		
	20.0	PILING				

SL NO.	BOQ ITEM NO	DESCRIPTION	UOM	QUANTITY	RATE (Rs.)	AMOUNT (Rs.)
	20.2	Construction of 45 mtr long (length to be measured from CUT-OFF-LEVEL which is minimum 2.5 mtr below existing ground level) Bored cast in situ piles in M-25 grade as per specification including cost of plant and equipment, labour, materials, boring, drilling in all type of soil from ground level to termination depth including providing bentonite slurry and/or casing for stabilisation of pile bore, flushing of pile bore, cleaning, providing plasticizer, breaking pile head to cut-off level and exposing pile reinforcement for embedment in pilecap II complete as per drgs and specs.(except reinforcement which will be paid under item no- 5.1.a) etc. complete. refer pile specification document no PEDC/STDSPEC/040 with this document. (Cement will be supplied by NBPPL free of cost as per TCC.)				

SL NO.	BOQ ITEM NO	DESCRIPTION	UOM	QUANTITY	RATE (Rs.)	AMOUNT (Rs.)
191	a)	500 mm dia piles	RM	4307		
	20.3	Conducting the following load test by direct loding on piles including finishing pile head, supplying & erection of kentledge, labours, excavation, backfilling, compaction etc. all complete as per specpecification. (Excavation, backfilling to be paid separately as per respective item of BOQ).				
192	a)	Rounting vertical (Routine)	NOS	2		
193	b)	Rounting lateral (Routine)	NOS	2		
194	c)	pile integrity test	NOS	200		
195	20.4	Breaking pile head to cut-off level and exposing pile reinforcement for embedment in pilecap complete as per drgs and specs. Broken debris of concrete and reinforment to be removed from site and shifted to within a lead of 1 (one) KM	NOS	350		
	21.0	DISMENTLING OF STRUCTURE				
	21.1	Dismantling and removal before modification of the following items l the existing structures with all labour, tools, transport etc. all complete including delivering as directed by the Engineer.				
196	a)	Concreate (plain)	CUM	2		
197	b)	Concreate (reinforced)	CUM	2		
198	c)	Brickwork	CUM	2		
199	d)	DOORS, WINDOWS & VENTILATORS	CUM	2		

SL NO.	BOQ ITEM NO	DESCRIPTION	UOM	QUANTITY	RATE (Rs.)	AMOUNT (Rs.)
200	e)	75 thk premix carpet	CUM	2		
201	f)	Pipe hand rail	CUM	2		
202	g)	G I Sheetings	CUM	2		
203	h)	Structural Steel	MT	4		
204	i	WBM / Soling for roads or paving	SQM	2		
205	j)	Dismantling of false ceiling	SQM	2		
206	22	<b>TOTAL</b>				
207	23	<b>NON-SCHEDULE ITEMS</b> (For items not covered above schedule, quote % below/ at par/ above of DSR-2012)				
	23(a)	Rate of complete item.			_____ %	
	23(b)	Rate of supply of materials at site only.			_____ %	
	23 (c)	Rate for execution complete excluding supply of materials.			_____ %	

NOTE: EVALUATION WILL BE DONE ON TOTAL QUOTED PRICE AS PER SL NO 206 (BOQ ITEM NO 22).

**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	Balance Civil, Structural, Architectural work including Foundation/ Superstructure of various Plant Equipments / Systems/ Facilities including Induced Draft Cooling Tower, Non Plant Building/ Facilities, Misc Civil works etc for 100 MW (1xFr-VI GT+1x30 MW STG) Gas based combine cycle power project at Namrup, Assam.	
Ref	1.0	Tender no PSER:SCT:NAM-C1432:13
	2.0	BHEL's NIT, vide reference no PSER:SCT:NAM-C1432:3121 Date:22-01-2013
	3.0	BHEL's TCN-01, vide reference no PSER:SCT:NAM-C1432: TCN-01 Date:24-01-2013
	4.0	BHEL's TCN-02, vide reference no PSER:SCT:NAM-C1432: TCN-02 Date:29-01-2013
	5.0	All other pertinent issues till date.

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 and unqualified compliance to technical specification, integrity pact (if applicable).

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)

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