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TENDER NO. BHEL/ NR/SCT/LIBYA EXTN/CIVIL/499

TENDER SPECIFICATIONS

FOR

“All the CIVIL, STRUCTURAL & ARCHITECTURAL WORKS AT WESTERN MOUNTAIN GAS TURBINE EXTN. POWER PLANT, 2X 157 MW (V 94.2) AT RUWAIS, LIBYA”

PART II – PRICE BID



Bharat Heavy Electricals Limited
(A Govt. Of India Undertaking)
Power Sector – Northern Region,
Plot No. 25 , Sector - 16A ,
Distt. Gautam Budh Nagar, NOIDA – 201 301 (INDIA)



ISO 9001-2000, ISO 14001
and OHSAS 18001 certified
company
SubContract and Purchase
Deptt.

Bharat Heavy Electricals Limited
(A Govt. Of India Undertaking)
Power Sector – Northern Region,
Plot No. 25 , Sector - 16A ,
Distt. Gautam Budh Nagar, NOIDA – 201 301.INDIA
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IMPORTANT NOTE

PURCHASER OF THIS TENDER DOCUMENT IS ADVISED TO CHECK AND ENSURE COMPLETION OF ALL PAGES OF TENDER DOCUMENT AND REPORT ANY DISCREPANCY TIMELY FOR CORRECTIVE ACTION, IF ANY, TO THE ISSUING AUTHORITY BEFORE THE BIDS ARE SUBMITTED. ORIGINAL COPY OF TENDER DOCUMENT COMPLETE IN ALL RESPECTS MUST BE SUBMITTED BACK AS PART OF THE BID WITHOUT WHICH THE SAME IS LIABLE TO BE REJECTED BY BHEL.

THIS TENDER SPECIFICATION ISSUED TO:

M/S-----

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(A Govt. Of India Undertaking)
Power Sector – Northren Region,
Plot No. 25 , Sector - 16A ,
Distt. Gautam Budh Nagar, NOIDA – 201 301.INDIA

PROCEDURE FOR SUBMISSION OF SEALED TENDERS:

The tenderers must submit their tenders as required in two parts in separate sealed covers prominently superscribed as Part-I Technical bid and Part-II ,Price bid also indicating on each of the cover tender specification no., date and time as mentioned in tender notice.


TECHNICAL BID (COVER-I)


Except Price bid Part-II, complete set of tender document consisting of General conditions of Contract, “Technical specification & Special terms and condition” (Part-I) issued by BHEL shall be enclosed in Part I Technical Bid only. All schedules, data sheets and details called for in the specification shall also be submitted along with technical bid. All details / Data / Schedules including offer letter duly signed and stamped are to be submitted in duplicate.

PRICE BID (COVER-II)


Tenderers may please note that price bid is to be submitted only in original copy of Tender i.e. Price bid (Part-II) issued by BHEL and no duplicate copy of same is required.

These Two separate covers i.e. cover I & II shall together be enclosed in a third envelope (Cover-III) and this sealed cover shall be superscribed with tender specification No., due date, time and submitted to officer inviting tender as indicated in tender notice on or before due date as indicated.


		2x157 MW (V92.4) GTPS WESTERN MOUNTAIN EXTN. LIBYA	UNIT	RATE SCHEDULE CUM BILL OF QUANTITIES (CIVIL, STRUCTURAL & ARCHITECTURAL WORKS)		
				Tentative QTY	UNIT RATE IN LIBYAN DINAR	AMOUNT IN LIBYAN DINAR
SL NO.	ST. NO.	DESCRIPTION				
	100	EARTH WORK IN EXCAVATION, BACKFILLING AND DISPOSAL AS PER SPECIFICATION, DRAWINGS AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:-				
1	101	Earth work in excavation upto 2m depth below ground level for foundation, trenches, pipe lines, storm water drains etc including setting out, clearing & grubbing, removal of debris, dewatering if required, strutting, shoring if required, dressing the sides, levelling to grade and ramming the bottom, stacking/disposal of surplus excavated material within a lead of 1.0 KM etc complete for all types of soils including ash, laterite, morrum, weathered rock, decomposed rock, soft rock etc which can be excavated by means of crow bar, pick axe, etc but does not require chiselling or blasting	CUM	32,450		
2	102	Earth work in excavation upto 2m depth below ground level for foundation, trenches, pipe lines, storm water drains etc including setting out, clearing & grubbing, removal of debris, dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and stacking/disposal of surplus excavated material within a lead of 1.0 KM etc complete for hard rock requiring blasting/controlled blasting and/or chiselling, wedging, line drilling, pre shearing or any other means including supply, storage, handling of blasting materials etc without damaging the existing structures and as approved by Engineer.	CUM	500		
3	103	Earth work in excavation for depth exceeding 2.0m but not exceeding 4.0m below ground level for foundation, trenches, pipe lines, storm water drains etc including dewatering if required, strutting, shoring if required, dressing the sides, levelling to grade and ramming the bottom, stacking/disposal of surplus excavated material within a lead of 1.0 KM etc complete for all types of soils including ash, laterite, morrum, weathered rock, decomposed rock, soft rock etc which can be excavated by means of crow bar, pick axe, etc but does not require chiselling or blasting.	CUM	16,000		


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SL NO.	ST. NO.	DESCRIPTION				
4	104	Earth work in excavation for depth exceeding 2.0m but not exceeding 4.0m below ground level for foundation, trenches, pipe lines, storm water drains etc including dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and stacking/disposal of surplus excavated material within a lead of 1.0 KM etc complete for hard rock requiring blasting /controlled blasting and/or chiselling, wedging, line drilling, pre shearing or any other means including supply, storage, handling of blasting materials etc without damaging the existing structures and as approved by Engineer.	CUM	100		
5	105	Earth work in excavation for depth exceeding 4.0m but not exceeding 6.0m below ground level for foundation, trenches, pipe lines, storm water drains etc including dewatering if required, strutting, shoring if required, dressing the sides, levelling to grade and ramming the bottom, stacking/disposal of surplus excavated material within a lead of 1.0 KM etc complete for all types of soils including ash, laterite, morrum , weathered rock, decomposed rock, soft rock etc which can be excavated by means of crow bar, pick axe, etc but does not require chiselling or blasting.	CUM	500		
6	106	Earth work in excavation for depth exceeding 4.0m but not exceeding 6.0m below ground level for foundation, trenches, pipe lines, storm water drains etc including dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and stacking/disposal of surplus excavated material within a lead of 1.0 KM etc complete for hard rock requiring blasting /controlled blasting and/or chiselling, wedging, line drilling, pre shearing or any other means including supply, storage, handling of blasting materials etc without damaging the existing structures and as approved by Engineer.	CUM	15		

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				Tentative QTY	UNIT RATE IN LIBYAN DINAR	AMOUNT IN LIBYAN DINAR
SL NO.	ST. NO.	DESCRIPTION				
7	107	Earth work in excavation for depth exceeding 6.0m but not exceeding 8.0m below ground level for foundation, trenches, pipe lines, storm water drains etc including dewatering if required, strutting, shoring if required, dressing the sides, levelling to grade and ramming the bottom, stacking/disposal of surplus excavated material within a lead of 1.0 KM etc complete for all types of soils including ash, laterite, morrum , weathered rock, decomposed rock, soft rock etc which can be excavated by means of crow bar, pick axe, etc but does not require chiselling or blasting.	CUM	100		
8	108	Earth work in excavation for depth exceeding 6.0m but not exceeding 8.0m below ground level for foundation, trenches, pipe lines, storm water drains etc including dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and stacking/disposal of surplus excavated material within a lead of 1.0 KM etc complete for hard rock requiring blasting /controlled blasting and/or chiselling, wedging, line drilling, pre shearing or any other means including supply, storage, handling of blasting materials etc without damaging the existing structures and as approved by Engineer.	CUM	10		
9	116	Disposal of surplus excavated earth beyond an initial lead of 1km and upto a lead of 5Km dumping, levelling the dumped soil and levelling the area from where the material is transported, complete with all lifts as specified and directed by Engineer.				
	a	1.00 km to 2.00 km	CUM	12,175		
	b	2.00 km to 3.00 km	CUM	8,150		
	c	3.00 km to 4.00 km	CUM	4,100		
	d	4.00 km to 5.00 km	CUM	2,750		

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				2x157 MW (V92.4) GTPS WESTERN MOUNTAIN EXTN. LIBYA					
				DESCRIPTION					
10	118	Back filling around foundations and plinths with selected good earth available from compulsory excavations within a lead of 1Km to proper grade and level including transportation, loading, unloading, re-excavating loose thickness, watering and ramming in layers of 25 cm compacted thickness to min. 90% of max. dry density by manual / mechanical means, dressing etc all complete as per specification.				CUM	18,200		
11	120	Supply and filling sand under floors, in foundation and plinths including cost of sand, transporting for all leads, loading, unloading, spreading in layers in 25 cm loose thickness at all depths, watering, compaction with mechanised compaction machine or manually to minimum 85% of relative density, dressing and levelling etc complete.				CUM	250		
				GRADING & LEVELLING					
12	151	Earth work in stripping of top soil upto a minimum depth of 0.20m below natural ground level wherever required so as to exclude all debris, grass, vegetation, bushes, trees including roots and organic materials etc for levelling and grading including dressing to specified levels & grades and compacting of graded /stripped surface by manual or mechanical means as per specification, drawing and as directed by the Engineer. Surplus earth, debris, vegetation, bushes, trees, etc unsuitable for filling shall be transported to areas within a lead of 1.0 KM and shall be dumped and levelled as directed by the Engineer.				SQM	10,500		
13	155	Providing and laying crushed stone layer of 100mm thick over finished graded earth with specified sizes of approved quality hard rock or hand broken hard metal of sizes ranging from 40mm and down laid to slopes, dressing and leveling the layer etc all complete as per specification and the direction of the Engineer.				CUM	175		

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				Tentative QTY	UNIT RATE IN LIBYAN DINAR	AMOUNT IN LIBYAN DINAR
SL NO.	ST. NO.	DESCRIPTION				
	200	PROVIDING AND PLACING CONCRETE WORK INCLUDING COST OF LABOUR, MATERIALS AND EQUIPMENT FOR HANDLING, TRANSPORTATION, BATCHING, MIXING, PROVIDING COVER BLOCKS, PLACING, VIBRATING AND CURING, (EXCLUDING COST OF CENTERING, SHUTTERING AND REINFORCEMENT) COMPLETE AT ALL ELEVATIONS AS PER DRAWING, SPECIFICATIONS UNLESS SPECIFIED OTHERWISE AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:				
14	201	Concrete of grade C15 Standard mix as per BS 5328 as filling/blinding/lean concrete course at any level below finished floor level, in foundations/floors etc. as per specification.	CUM	1,570		
15	202	Concrete of grade C20 Standard mix as per BS 5328 as mass concrete, screed concrete on roof at any level all complete as per specification.	CUM	250		
16	203	Concrete of grade C30 Designed mix as per BS 5328 with coarse sand and graded hard stone aggregate of 20mm nominal size for all foundations, pedestals, walls, floors, pavings at all depths from finished ground floor level including addition of suitable plasticizer / superplasticizer conforming to BS:5075 to achieve required slump in concrete etc all complete as per drawings, specification and direction of Engineer.	CUM	7,425		


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SL NO.	ST. NO.	DESCRIPTION				
17	204	Concrete of grade C-30 Designed mix as per BS:5328 with coarse sand and graded hard stone aggregate 20mm nominal size for Gas Tubine foundation at all heights/depths from finished ground floor level including addition of suitable plasticizer/ superplasticizer conforming to BS:5075 to achieve a slump more than 125mm in concrete as per manufacturer's recommendation etc all complete. The rate shall also include controlling of temperature of freshly laid concrete to less than 25 degree centigrade using ice including all related arrangements for providing, storing and mixing of ice with water, Conducting Non-destructive Ultrasonic pulse velocity test as per specification to find out soundness of concrete including all equipments, tools, plants, scaffolding required for testing, preparation of test report etc. all complete as directed by Engineer.	CUM	1,450		
18	205	Concrete of grade C30 Designed mix as per BS 5328 in superstructure at all levels and heights including addition of suitable plastisizer confirming to BS 5075 to achieve required slump in concrete as per manufacturers recommendation complete etc. as per specification and direction of Engineer.	CUM	1,650		
19	206	Concrete of grade C30 Designed mix conforming to BS:5328 with coarse sand and graded hard stone aggregate in precast works like trench covers etc including fair face formwork/moulds for thicknesses varying from 50mm to 250mm including transportation, erection, fixing in position at all elevations with portland cement including addition of suitable plasticizer/ superplasticizer, admixtures to achieve required slump, strength, density, impermeability, etc. all complete as per specification excluding the cost of reinforcement which will be paid under separate item.	CUM	210		
20	208	Concrete of grade C25 Designed mix as per BS 5328 in Water retaining structures either below or above finished floor level including addition of suitable plastisizer confirming to BS 5075 to achieve required slump in concrete as per manufacturers recommendation including testing for water tightness of structure, pressure grouting with cement slurry mix including fixing nozzles, admixtures curing etc all complete as per drawing, specification and direction of Engineer.	CUM	20		


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				Tentative QTY	UNIT RATE IN LIBYAN DINAR	AMOUNT IN LIBYAN DINAR
SL NO.	ST. NO.	DESCRIPTION				
21	209	Breaking existing concrete work at any level including reinforced concrete, removing the rubbish within a lead of 1Km including transportation, loading, unloading, etc all complete.	CUM	10		
22	210	Breaking existing concrete work at any level including cutting reinforcements, removing the rubbish within a lead of 1Km., including making good the broken edges/surface with cement mortar, painting, finishing to match with existing finishing, scaffolding/supporting at any level, all complete and as directed by Engineer.	CUM	250		
23	211	Providing and encasing of structural steel member with concrete grade of C30 Designed mix as per BS:5328 with 12.5mm down graded aggregate around flanges, webs etc and filling the gap. Encased member shall be wrapped with chicken wire mesh with 50mm lap etc complete as per specification and as directed by Engineer.	CUM	20		
	300	SUPPLYING, FIXING AND REMOVING FORMWORK AT ANY ELEVATION INCLUDING ALL LABOUR, MATERIAL, SCAFFOLDING COMPLETE ETC. AS PER SPECIFICATIONS AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:				
24	301	Ordinary face Form work as per specification below finished ground floor level for foundations, footings , bases of columns, walls, columns pilasters, beams, mass concrete, trenches etc.	SQM	13,800		
25	302	Fair face Form work as per specification below finished ground floor level for walls, columns , pilasters, beams, trenches etc for exposed concrete works.	SQM	3,700		
26	303	Ordinary face form work as per specification above finished ground floor level for columns, beams, suspended floors, roofs , lintels, cantilevers, staircases, landings, balconies, domes, arches etc for all heights.	SQM	150		


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							Tentative QTY	UNIT RATE IN LIBYAN DINAR	AMOUNT IN LIBYAN DINAR
				2x157 MW (V92.4) GTPS WESTERN MOUNTAIN EXTN. LIBYA					
				DESCRIPTION					
27	304	Fair face form work as per specification above finished ground floor level for columns, beams, suspended floors, roofs, lintels, cantilevers, staircases, landings, balconies, domes, arches etc for all heights.				SQM	4,500		
28	305	Extra over item no.301, 302,303,304 for curved form work for beams, walls, trenches etc as per specification.				SQM	100		
29	307	Formwork as per specification in Pockets for foundation bolts, embedments, etc all complete.							
		a) Upto 300mm depth				Nos.	50		
		b) More than 300mm depth				Nos.	50		
				400 REINFORCEMENTS					
30	401	Providing, straightening, cutting, bending, placing in position at any level, binding in position, lapping, welding of Mild steel reinforcements confirming to Grade 250 as per BS:4449 including cost of binding wire, labour, transportation to & from stores etc complete all as per specifications, drawings and as directed by Engineer.				MT	5		
31	402	Providing, straightening, cutting, bending, placing in position at any level, binding in position, lapping, welding of High Yield Steel Deformed Reinforcements bars confirming to Grade 460 as per BS:4449 including cost of binding wire, labour, transportation to & from stores etc complete all as per specifications, drawings and as directed by Engineer.				MT	1,060		
				500 WATER PROOFING AS PER SPECIFICATIONS.					
32	501	Providing and mixing approved water proofing compound in concrete or cement mortar for works wherever specified or directed as per specification/ manufacturer's instructions, testing of samples for water proofing etc all complete.				KG	300		


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				Tentative QTY	UNIT RATE IN LIBYAN DINAR	AMOUNT IN LIBYAN DINAR
SL NO.	ST. NO.	DESCRIPTION				
33	502	Providing and laying roof water proofing treatment with vapour pressure compensating course of bituminous roofing felt (DIN 52143:V13) with a polyster fiberinlay of 60g/m2 to be placed into an adhesive of bitumen type B115/15 @2Kg/m2 over priming coat of highly evaporating cold bitumen with high solvent content@0.3kg/m2. Vapour barrier as per DIN 52143:A1 01+V60, thermal insulation of 2 layers of 50mm/each roofmate sheetembedded in hot bitumen onto the vapour barrier, foam insulation, top coating, P.E.foil, etc. all complete as per specification including all material, labour, testing, wall covers, coping, roof flashing, cement tiles in gravel bedding at all elevations etc all as per specification and direction of Engineer.	SQM	2,680		
34	503	Providing and laying seven courses of heavy duty water proofing treatment with bitumen felt over roofs at all elevations, consisting of first layer of primer conforming to IS 3384 applied at the rate of 0.27 lit/Sqm minimum, second, fourth and sixth layers of residual bitumen applied hot @1.2 kg/Sqm of area of each course third and fifth of roofing felt type-3 grade-1 (hessian base self finished felt) and seventh layer of 20mm thick precast concrete tile with 15mm thick 1:4 cement sand mortar underbed including preparation of surface all complete as per drawing, specifications and direction of Engineer.	SQM	95		
35	504	Providing and applying two coats of bitumen on concrete surfaces exposed to soil in foundations, walls etc @ 1.2Kg/sqm per coat all complete as per drawing, specification and direction of Engineer.	SQM	1,500		

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					Tentative QTY	UNIT RATE IN LIBYAN DINAR	AMOUNT IN LIBYAN DINAR
SL NO.	ST. NO.	DESCRIPTION					
	600	EXPENSION JOINT - SUPPLYING & INSTALLATION OF PREMOULDED JOINT FILLER IN BETWEEN EQUIPMENT FOUNDATIONS, MAT FOUNDATIONS, PILE CAPS, WALLS, BASEMENT SLABS ETC. COMPLETE INCLUDING LABOUR, EQUIPMENT AND MATERIALS, SEALING OF JOINTS INCLUDING COST OF SEALING COMPOUND (POLYSULFIDE BASE SEALANT AS PER IS:12118) ETC. COMPLETE AS PER SPECIFICATIONS AND DRAWINGS OR AS DIRECTED BY ENGINEER FOR THE FOLLOWING:					
36	602	20mm thick joints.		SQM	25		
37	603	25mm thick joints.		SQM	10		
	700	M.S. EMBEDMENTS					
38	701	Supply, fabricating and fixing of embedments, MS inserts, pipe sleeves, rails, guide rails, angle pieces, rungs of various diameters, plates of dimensions as required including cost of all labour, materials and equipment, transportation, loading, unloading, handling, welding, cutting, drilling, scaffolding and setting complete as per specifications, drawings and as directed by Engineer.		MT	30		
39	702	Supply, fabrication, transportation, delivery at site and erection, installation and alignment of MS Foundation bolts (ASTM A36 or approved equivalent) assembly in concrete along with nuts, locknuts, washers, anchor plates, stiffener plates, protective tapes etc. upto & inclusive of 50mm diameter and upto 2000mm long, for columns including pipe sleeves, templates wherever necessary etc. all complete as per specifications and directed by the Engineer.		MT	10		


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				Tentative QTY	UNIT RATE IN LIBYAN DINAR	AMOUNT IN LIBYAN DINAR
SL NO.	ST. NO.	DESCRIPTION				
40	703	Transportation from stores, delivery at work spot and erection, installation and alignment of embedments, MS inserts, pipe sleeves, rails, guide rails, angle pieces, anchor bolts, foundation bolts of various diameters, plates of dimensions as required including cost of all labour, equipment, material, loading, unloading etc. all complete as per specifications, drawings and as directed by Engineer.	MT	20		
	800	GROUTING AS PER SPECIFICATION FOR THE FOLLOWING:				
41	802	Providing and grouting of pocket holes, pipe sleeves of any shape and size under base plates after erection of necessary structural steel work, machinery with mix 1:1:2 (one part Cement : 1part Sand : 2 parts of 6mm down graded stone chips) at any elevation including roughening surface, cleaning, ramming, curing etc complete (non-shrink hand grout using approved admixture) as per specification and as directed by the Engineer.	CUM	1		
42	803	Providing and grouting of pocket holes, pipe sleeves of any shape and size under base plates after erection of necessary structural steel work, machinery with mix 1:1 (1part cement : 1part sand) at any elevation including roughening surface, cleaning, ramming, curing etc complete (non-shrink flowable grout as per specification using approved admixture) as per specification and as directed by the Engineer.	CUM	10		
43	804	Providing and grouting of pocket holes, pipe sleeves of any shape and size under base plate after erection and alignment if necessary, structural steel work, machinery at any elevations including roughening surface, cleaning, ramming, curing etc with CobextraGP-2 Fosroc' or approved equivalent all complete as per specifications (Cost of all material and cleaning the pocket by compressed air shall be in the scope of the contractor).	CUM	1		


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				Tentative QTY	UNIT RATE IN LIBYAN DINAR	AMOUNT IN LIBYAN DINAR
SL NO.	ST. NO.	DESCRIPTION				
	900	DOORS, WINDOWS, VENTILATORS, LOUVERS, ROOF VENTILATORS, ROLLING SHUTTERS, PARTITIONS ETC ALL COMPLETE WITH HARDWARE FITTINGS/FIXTURES INCLUDING FRAMING, KICK PLATES, STOPPERS AS PER SPECIFICATION, DRAWINGS AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:-				
44	901	Providing and fixing 35mm thick Wooden flush doors , including stainless steel hardwares, fittings & fixtures, painting/polishing varnish, test certificates etc all complete as per drawing, specification and directed by Engineer.	SQM	20		
45	902	Providing and fixing 35mm thick Wooden Veneered flush doors including stainless steel hardwares, fittings & fixtures, polishing varnish, test certificates etc all complete as per drawing and specification.	SQM	10		
46	903	Providing and fixing 35mm thick Wooden panelled doors including stainless steel hardwares, fittings & fixtures, polishing varnish etc all complete as per drawing, specification and directed by Engineer.	SQM	20		
47	904	Providing wood work of Kiln seasoned and chemically treated hard wood in frames of doors and fixing in position including providing and fixing 40x3 mm flat iron hold fast with nuts, bolts etc., embedding in cement concrete block and applying a coat of wood primer before installation.	CUM	2		
48	905	Providing and fixing steel single or double door shutters. Shutters shall be 45mm thk flush design comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm on centres including all fittings, Mortice lock with handle on both sides, primer painting complete as per specification.	SQM	50		
49	907	Providing and fixing steel windows of fixed type with glazing shall be of 6.0mm thk. wired glass panes including all fittings, metal beadings, hold fasts, primer painting as per specification all complete.	SQM	50		


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SL NO.	ST. NO.						
50	908	Providing and fixing steel windows of openable type with glazing shall be of 6.0mm thk. wired glass panes including all fittings, metal beadings, hold fasts, primer painting as per specification all complete.		SQM	25		
51	909	Providing and fixing Fire proof steel door shutters with panic device (single or double shutter) conforming to relevant DIN/ASTM standard. Shutters shall be minimum 60mm thick flush design comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm on centers with mineral wool insulation, primer and epoxy based painting including door frame, all fittings complete as per specification. and shall have 2 hrs. fire rating.		SQM	15		
52	910	Providing and fixing pressed steel frames fabricated from 16 gauge M.S sheet mortised, reinforced drilled and tapped for hinges and locks bolts strikes, hold fasts adjustable floor anchors, floor tiles/weather bars etc complete as per specifications.		KG	735		
53	911	Providing and fixing Electro color coated extruded aluminium doors (single or double shutter) conforming to BS/DIN/ASTM standard fabricated from extruded sections having minimum 3mm wall thickness and electro color coating of minimum 15 microns thickness. Glazing shall be clear float glass of 6.0mm thickness including snap fit type beading, concealed screws, fixtures, Mortice lock with handle on both sides etc complete. Aluminium section shall be smooth, free of stains, straight, mitred & jointed mechanically wherever required. (Frames shall be measured and paid under separate item).		SQM	55		
54	912	Providing and fixing in position Electro color coated aluminium Frame for doors having minimum 3mm wall thickness as per BS/DIN/ASTM standard and electro colour coating of minimum 15 micron thickness including holdfast, fillingup of gapes at junctions, at top, bottom and sides etc all complete as per specification.		Kg	250		


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SL NO.	ST. NO.					
55	913	Aluminum single glazed partition, with single 5.0mm thick clear float glass/ frosted glass.	SQM	50		
56	914	Providing and fixing floor mounted Hydraulic door closer of approved make & quality as directed by engineer	NOS.	5		
57	915	Providing and fixing of over head hydraulic door closers as per specification & as directed by Engineer.	NOS	5		
58	916	Providing and fixing Electro color coated extruded aluminium Windows & Ventilators of following type conforming to BS/DIN/ASTM standard fabricated from extruded sections having minimum 2mm wall thickness and electro color coating of minimum 15 microns thickness including frames, sealing gap between frame and masonry with silicon dealart, snap fit type beading, concealed screws, fixtures, handles etc all complete as per drawing, specification and directed by Engineer. Aluminium section shall be smooth, free of stains, straight, mitred & jointed mechanically wherever required.				
		a)Fixed window with 6.0mm thick wired glass	SQM	50		
		b)Fully openable with 6.00mm thick wired glass	SQM	50		
		c)Partly fixed and partly openable window with 6.0mm thick wired glass	SQM	50		
		d)Fixed window with 5.0mm thick clear float glass/tinted glass/ silver reflective glass.	SQM	50		
		e)Fully openable window with 5.0mm thick clear float glass/ tinted glass/ silver reflective glass	SQM	50		
		f) Partly fixed and partly openable window with 5.0mm thick clear float glass/tinted glass/ silver reflective glass	SQM	50		


NAME AND SIGNATURE OF TENDERER

		2x157 MW (V92.4) GTPS WESTERN MOUNTAIN EXTN. LIBYA	UNIT	RATE SCHEDULE CUM BILL OF QUANTITIES (CIVIL, STRUCTURAL & ARCHITECTURAL WORKS)		
				Tentative QTY	UNIT RATE IN LIBYAN DINAR	AMOUNT IN LIBYAN DINAR
SL NO.	ST. NO.	DESCRIPTION				
		g) Fully double glazed window with 2 nos. 5 mm thick glass with a air-gap of 12 mm in between glasses hermetically sealed, out side glass shall be of solar reflecting glass and inside clear float glass.	SQM	50		
59	917	Providing and fixing in position internal extruded PVC solar blinds on windows etc all complete as per specification and as directed by Engineer.	SQM	50		
60	919	Providing and fixing in position rolling shutter of hot rolled double dipped galvanised steel lath section of 18 SWG tested mild steel strips at 75mm rolling centres interlocked together through their entire length and jointed together at the end by end locks mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation including wire springs top cover, primer & shop coats of approved alkyd enamel paint etc all complete as per specification and of approved make - Electrically operated with all electrical devices, fittings & fixtures as required for electrical operation. The bottom lath shall be coupled to a lock plate fabricated from 3mm thick galvanised steel plate and securely rivetted with stiffening angles.	SQM	75		
	1000	BLOCK WORKS MASONRY INCLUDING SUPPLY OF MATERIAL, COST OF LABOUR, SCAFFOLDING ETC. COMPLETE AS PER SPECIFICATIONS, DRAWING AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:-				
61	1001	Providing and laying 250mm thick double wall block work in cement mortar 1:6 (1cement : 6 coarse sand) consisting of two layers of hollow concrete block <u>100mm</u> each with <u>50mm</u> air gap in between the layer for walls, chambers etc. at all heights, places and position above plinth including raking out joints, curing, scaffolding, etc complete but excluding plastering and painting having compressive strength of 10N/mm ² manufactured as per approved methodology and as per specification.	CUM	200		


NAME AND SIGNATURE OF TENDERER

		2x157 MW (V92.4) GTPS WESTERN MOUNTAIN EXTN. LIBYA		UNIT	RATE SCHEDULE CUM BILL OF QUANTITIES (CIVIL, STRUCTURAL & ARCHITECTURAL WORKS)		
					Tentative QTY	UNIT RATE IN LIBYAN DINAR	AMOUNT IN LIBYAN DINAR
SL NO.	ST. NO.	DESCRIPTION					
62	1003	Providing and laying 200mm thick block work in cement mortar 1:6 (1cement : 6 coarse sand) consisting of 200mm hollow concrete block for walls, chambers etc. at all heights, places and position above plinth including raking out joints, curing, scaffolding, etc complete but excluding plastering and painting, having compressive strength of 10N/mm ² manufactured as per approved methodology and as per specification.		CUM	150		
63	1004	Providing and laying 150mm thick block work in cement mortar 1:6 (1cement : 6 coarse sand) consisting of 150mm hollow concrete block for walls, chambers etc. at all heights, places and position above plinth including raking out joints, curing, scaffolding, etc complete but excluding plastering and painting, having compressive strength of 10N/mm ² manufactured as per approved methodology and as per specification.		CUM	75		
64	1006	Making openings in existing finished block work wall or partition wall including making good the broken edges/surface with cement mortar, fixing steel /precast concrete section as lintel (steel/precast concrete section to be paid seperately), painting, finishing to match with existing finishing, scaffolding/ staging works, gas cutting of reinforcement/structural work, cleaning and removing of all debris within 1Km lead etc all complete and as directed by Engineer.		SQM	10		
65	1007	Dismantling existing block work at all level including stacking and removing the debris within a lead of 1Km. , including transportation, loading, unloading, etc all complete and as directed by Engineer.		CUM	50		
66	1008	Filling existing block work wall/ partition wall opening at all level including making good the broken edges/surface with cement mortar, painting, finishing to match with existing finishing, scaffolding/supporting at any level, removal of debris etc. all complete and as directed by Engineer.		CUM	10		


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		2x157 MW (V92.4) GTPS WESTERN MOUNTAIN EXTN. LIBYA	UNIT	RATE SCHEDULE CUM BILL OF QUANTITIES (CIVIL, STRUCTURAL & ARCHITECTURAL WORKS)		
				Tentative QTY	UNIT RATE IN LIBYAN DINAR	AMOUNT IN LIBYAN DINAR
SL NO.	ST. NO.	DESCRIPTION				
	1200	CEMENT MORTAR PLASTER INCLUDING MAKING GROOVES WHEREVER REQUIRED, ALL MATERIALS, SCAFFOLDING, CURING ETC. COMPLETE AS PER SPECIFICATION, DRAWING AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:-				
67	1201	Providing 20mm thick cement mortar plaster in 1:6 on outer face of <u>external walls</u> in two layers finished to a smooth finish including providing 3mmx3mm size grooves at junctions of two dissimilar materials etc all complete as per specification.	SQM	3,000		
68	1202	Providing 15mm thick cement mortar plaster in 1:6 on internal faces of walls finished to a smooth finish including providing 3mmx3mm size grooves at junctions of two dissimilar materials etc all complete as per specification.	SQM	3,000		
	1300	FINISHES, PAINTING TO CONCRETE, PLASTERED SURFACES, SURFACE PREPARATION INCLUDING ALL MATERIALS, LABOUR, SCAFFOLDING ETC. ALL COMPLETE AS PER SPECIFICATION, DRAWING AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:-				
69	1301	Providing and applying Graphite finish external paint for external surfaces of approved brand and manufacture with two or more coats to give an even shade including a priming coat with suitable primer etc all complete as per specifications.	SQM	1,700		
70	1302	Providing and applying Water proof cement paint for external surfaces of approved brand and manufacture with two or more coats to give an even shade including a priming coat etc all complete as per specifications.	SQM	700		
71	1303	Providing and applying Acrylic emulsion paint finish of approved brand and manufacture with three coats of Acrylic Latex of DFT 30microns per coat to give an even shade including a priming coat, surface preparation over concrete/plastered surface etc all complete as per specification.	SQM	600		


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		2x157 MW (V92.4) GTPS WESTERN MOUNTAIN EXTN. LIBYA	UNIT	RATE SCHEDULE CUM BILL OF QUANTITIES (CIVIL, STRUCTURAL & ARCHITECTURAL WORKS)		
				Tentative QTY	UNIT RATE IN LIBYAN DINAR	AMOUNT IN LIBYAN DINAR
SL NO.	ST. NO.	DESCRIPTION				
72	1304	Providing and applying Oil bound washable distemper of approved brand and manufacture with three coats to give an even shade including a priming coat with distemper primer, surface preparation over concrete/plastered surface etc all complete as per specification.	SQM	1,860		
73	1306	Providing and applying Acid/Alkali resistant paint of approved quality and brand with three or more coat to give an even shade including priming coats, surface preparation over concrete/plastered surface etc all complete as per specification.	SQM	75		
74	1307	Providing and applying Anti Dust paint of approved quality and brand to give an even shade including priming coats, surface preparation over concrete/plastered surface etc all complete as per specification.	SQM	500		
	1400	FLOORING AND SKIRTING INCLUDING BASE LAYER AND ALL MATERIALS, LABOUR, CURING, POLISHING ETC. COMPLETE IN ALL RESPECTS AS SHOWN ON DRAWINGS, DESCRIBED IN SPECIFICATIONS AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:-				
75	1402	Providing and laying Precast terazzo tiles minimum 20mm thick of approved brand, quality and shade with marble chips of sizes upto 6mm laid over under bed with 10 mm thick 1:3 cement mortar in floors, stairs and landings , jointed with neat cement slurry with pigment to match the shade of the tiles including rubbing and polishing complete with under layer of 20mm thick with CM 1:4 all complete as per drawing, specification and direction by Engineer.	SQM	3,500		
76	1403	Providing and laying Precast terazzo tiles minimum 20mm thick of approved quality & shade laid in skirtings jointed with pigmented neat cement slurry to match the shade of the tiles over 12mm thick CM 1:3 (1 part cement : 3 part sand) including rubbing and polishing etc all complete as per specification.	SQM	50		


NAME AND SIGNATURE OF TENDERER


		2x157 MW (V92.4) GTPS WESTERN MOUNTAIN EXTN. LIBYA	UNIT	RATE SCHEDULE CUM BILL OF QUANTITIES (CIVIL, STRUCTURAL & ARCHITECTURAL WORKS)		
				Tentative QTY	UNIT RATE IN LIBYAN DINAR	AMOUNT IN LIBYAN DINAR
SL NO.	ST. NO.	DESCRIPTION				
77	1404	Providing & fixing Chemical resistant 10mm thick vitrious ceramic tiles mat finish (Acid & Alkali resistant) including under bed in flooring/Dado and surface shall be abrasion resistant and durable. The Mortar used for setting or for under bed shall be durable strong and chemical resistant epoxy mortor including pointing etc. all complete as per specification.	SQM	25		
78	1406	Providing and laying first class polished 20mm thick marble floor/dado of approved quality over 30mm thick underbed of cement sand mortar 1:4 including final polishing, labour, material, scaffolding, etc all complete as per drawing and specification.	SQM	50		
79	1407	Providing and applying Sika or equivalent floor hardener paint of approved quality and shade over floor finish including labour, material etc all complete as per specification.	SQM	1,200		
80	1408	Providing & laying White glazed tiles of size 200x100x6mm in dado , projecting 6mm uniformly from adjacent plaster or wall finish. The mix for underbed plaster shall consist of 1 part cement and 3 parts coarse sand by weight. Before under bed fairly moist but firm tiles shall be pressed by applying cement slurry with the fine joint including pigments, curing etc all complete as per specification.	SQM	25		
81	1409	Providing and laying Matt finish heavy duty ceramic tiles of size 300x300 min. thickness 7 mm on floors including leveling course. The mix for leveling course shall consist of 1 part cement and 3 parts coarse sand by weight. Before under bed fairly moist but firm tiles shall be pressed by applying cement slurry with the fine joint including pigments. curing etc. complete as per specification (preperation of underbed shall be measured else where).	SQM	25		
82	1410	Providing and laying 2mm thick antistatic PVC flooring of approved shade including all labour, material etc all complete as per drawing, specifications and as directed by Engineer. This item shall be propieratory item and work will be carried out as per manufacturers specification.	SQM	25		


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		2x157 MW (V92.4) GTPS WESTERN MOUNTAIN EXTN. LIBYA	UNIT	RATE SCHEDULE CUM BILL OF QUANTITIES (CIVIL, STRUCTURAL & ARCHITECTURAL WORKS)		
				Tentative QTY	UNIT RATE IN LIBYAN DINAR	AMOUNT IN LIBYAN DINAR
SL NO.	ST. NO.	DESCRIPTION				
83	1411	Design, supply, fabrication, installation of truly levelled and aligned 600mm high Cavity flooring comprising of jack/pedestal of minimum 25 mm dia bright rod threaded stud with pressure die cast zinc aluminium alloy adjustable head attachment at top and welded to 100 x 100 x 8 mm thick base plate, fixed to floor by means of expansion fasteners at 610 c/c both ways cold rolled mild steel channels of 40 x 40 x 40 x 2 mm thick fixed to pedestal head at 610 c/c both ways. Floor panels of 610 x 610 x 35 mm thick fire resistant phenol formaldehyde bonded ply wood / particle board with top finished with 2.0 mm minimum thick non static PVC tile with approved adhesive and edge lipping with 2 mm thick hard PVC strip and bottom finished with 0.5 mm aluminium sheet including cutting of panel where required for cable outlets and equipment access floor panels and supporting arrangement shall be of removable type and shall remain in position without screwing or bolting etc all complete as per specification and as directed by Engineer.	SQM	95		
		The cavity floor shall be capable of withstanding uniform load of 2000 kgs/sq.m. the floor shall not deflect by more than 1/400 of the span with maximum point load of 800 kg. The item shall be a proprietary item and shall be installed as per manufacturers specification and details.				
84	1412	Providing and laying screed concrete 1:1.5:3 (1 part cement : 1.5 part sand : 3 part aggregate of 6 to 10mm nominal size stone chips) laid as under bed below floor finishes of various thicknesses up to max. 70mm thick including all labour, materials, scaffolding etc. complete for all lifts, all leads etc all complete as per drawing, specification and direction of Engineer.	CUM	25		
85	1413	Providing and laying 50mm average thickness screed concrete 1:1.5:3 (1 part cement : 1.5 part sand : 3 part aggregate of 6 to 10mm nominal size stone chips) laid in slope and in 2.0mX2.0m panels including all labour, materials, scaffolding etc. complete for all lifts, all leads including making grooves as expansion joints inbetween panels and filling with bitumen type B 85/40 and screed armoured with light chicken wire mesh.	SQM	250		


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		2x157 MW (V92.4) GTPS WESTERN MOUNTAIN EXTN. LIBYA	UNIT	RATE SCHEDULE CUM BILL OF QUANTITIES (CIVIL, STRUCTURAL & ARCHITECTURAL WORKS)		
				Tentative QTY	UNIT RATE IN LIBYAN DINAR	AMOUNT IN LIBYAN DINAR
SL NO.	ST. NO.	DESCRIPTION				
	1500	PROVIDING AND ERECTING ROOFING/SIDE CLADDING INCLUDING LAPS, SCAFFOLDING HOOKS, WASHERS, CORNER PIECES, ETC. COST OF ALL MATERIAL, LABOUR, EQUIPMENT, CLEATS, Z-PURLINS, WIND TIES (HORIZONTAL/VERTICAL) AND ANY OTHER STEEL WORKS ETC. AT ALL ELEVATIONS COMPLETE AS PER SPECIFICATION, DRAWING AND AS DIRECTED BY THE ENGINEER FOR THE FOLLOWING:				
86	1501	Designing, providing and fixing permanently color coated galvanised troughed insulated prefabricated sandwich roofing over roof purlins as per relevant standard and specification. The external sheet shall be of minimum thickness 0.5mm of high tensile sheet having minimum yield strength 550MPa, the coating shall be Al-Zn zinc alume of not less than 150gm/sqm, the outer face of external sheet will be permanently color coated with fluoro polymer (PVF2) coating of dry film thickness 20 micron minimum over primer, inner side of external sheet shall be provided with pre-coated of minimum 7 microns. The inner sheet shall be of galvanised mild steel of min. 0.6mm thickness and having yield strength of 250MPa minimum. The rate of galvanising shall be min. 275 gm/sqm. The exposed face of inner sheet shall be permanently color coated with silicon modified polyester paint coating of dry film thickness 20 micron minimum over primer, inside face of inner sheet shall be provided with pre-coating of minimum 7 microns. Inner sheets shall be fixed directly on roof purlines and Z-spacer made out of at least 2mm thick galvanised steel sheet.	SQM	1,050		
		The spacing of Z-spacer shall be same as purlins and external sheet shall be fixed on Z-spacer. Fastners shall be of high quality corrosion resistant steel of self drilling type with suitable cap. Insulation shall be minimum 50mm thick mineral wool insulation having a density of min. 50 Kg/Cum. etc all complete as per specification. The rate shall include all metal flashing/ridges/rain water gutters of matching color & material, sealing of joints etc all complete. The roof cladding shall be of shop made prefabricated panels and erected at site.				


		2x157 MW (V92.4) GTPS WESTERN MOUNTAIN EXTN. LIBYA	UNIT	RATE SCHEDULE CUM BILL OF QUANTITIES (CIVIL, STRUCTURAL & ARCHITECTURAL WORKS)		
				Tentative QTY	UNIT RATE IN LIBYAN DINAR	AMOUNT IN LIBYAN DINAR
SL NO.	ST. NO.	DESCRIPTION				
87	1502	Designing, providing and fixing permanently color coated galvanised troughed insulated prefabricated sandwich wall cladding as per relevant standard and specification. The external sheet shall be of minimum thickness 0.5mm of high tensile sheet having minimum yield strength 550MPa, the coating shall be Al-Zn zinc alume of not less than 150gm/sqm, the outer face of external sheet will be permanently color coated with fluoro polymer (PVF2) coating of dry film thickness 20 micron minimum over primer, inner side of external sheet shall be provided with pre-coated of minimum 7 microns. The inner sheet shall be of galvanised mild steel of min. 0.6mm thickness and having yield strength of 250MPa minimum. The rate of galvanising shall be min. 275 gm/sqm. The exposed face of inner sheet shall be permanently color coated with silicon modified polyester paint coating of dry film thickness 20 micron minimum over primer, inside face of inner sheet shall be provided with pre-coating of minimum 7 microns.	SQM	1,450		
		Inner sheets shall be fixed directly on roof purlines and Z-spacer made out of at least 2mm thick galvanised steel sheet. The spacing of Z-spacer shall be same as side runner and external sheet shall be fixed on Z-spacer. Fastners shall be of high quality corrosion resistant steel of self drilling type with suitable cap. Insulation shall be minimum 50mm thick mineral wool insulation having a density of min. 50 Kg/Cum. etc all complete as per specification. The rate shall include all metal flashing of matching color & material, sealing of joints etc all complete. The wall cladding shall be of shop made prefabricated panels and erected at site.				
	1502a	Removing the existing side wall panelling carefully - from South side of GT Hall for reusing	SQM	450		
88	1503	Providing and fixing permanently color coated galvanised troughed insulated sandwich wall cladding as per relevant standard and specification. Same as above but excluding designing , supply of cladding troughed , sandwich panel material etc.. The available side cladding panels which were removed from existing structure will be reused. Additional fixtures like screws, bolts, nuts , flashing sheets required shall arranged by the contractor.	SQM	150		

		2x157 MW (V92.4) GTPS WESTERN MOUNTAIN EXTN. LIBYA	UNIT	RATE SCHEDULE CUM BILL OF QUANTITIES (CIVIL, STRUCTURAL & ARCHITECTURAL WORKS)		
				Tentative QTY	UNIT RATE IN LIBYAN DINAR	AMOUNT IN LIBYAN DINAR
SL NO.	ST. NO.	DESCRIPTION				
89	1504	Designing, providing and fixing permanently color coated galvanised MS troughed metal sheet decking plate over roof purlins as per relevant standard and specification. Thickness of deck plate shall be minimum 1mm (thickness of base metal) with minimum trough depth of 44 mm. The yield strength of base metal shall be minimum 240MPa, the sheets shall be permanently coated with silicon modified polyster paint of 20micron DFT on under side and 7 micron on top side. The rate of galvanising shall be of 275gm/sqm and sheets shall supplied with gaurd film. The sheets shall be countinuous over at least 3 spans i.e. 4 purlins. Decking sheets shall serve as permanent shuttering to the cast-in-situ roof slab and shall have adequate strength to support weight of green concrete and imposed load during construction including fixing of sheets to purlins, side lapping, end lapping etc.complete as per engineers approval and specification. M.S. Trough decking plate shall be fixed to the top surface of the purlin/top chord of truss/roof beams with self tapping self drilling white zinc plated heat treated high carbon steel screws	SQM	1,825		
		of min 5.6mm diameter at spacing of 390mm C/c in the trough and sealing it with epoxy sealent including all material, labour, tools, etc complete. In addition shear connector of 16mm dia and min 75mm long mild steel studs at spacing 520mm C/c shall be fixed on top cord of purlin passing through the metal decking. (Note:-Leak proofing of the metal decking and concrete system shall be demonstrated by the contractor). Measurement shall be of the plan area of roof covered by MS trough metal decking.				
90	1505	Removal of Side cladding and roof cladding wherever necessary ,stacking, and disposal if required as directed by the Engineer-in-charge.	SQM	250		
	1600	PROVIDING AND FIXING FALSE CEILING INCLUDING SUPPLY OF CEILING MATERIAL, SUSPENSION SYSTEM AND ALL OTHER MATERIALS REQUIRED FOR THE WORK INCLUDING POLISHING/ PAINTINGS, LABOUR ETC., ALL COMPLETE AS PER SPECIFICATION, DRAWING AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:-				


NAME AND SIGNATURE OF TENDERER

		2x157 MW (V92.4) GTPS WESTERN MOUNTAIN EXTN. LIBYA	UNIT	RATE SCHEDULE CUM BILL OF QUANTITIES (CIVIL, STRUCTURAL & ARCHITECTURAL WORKS)		
				Tentative QTY	UNIT RATE IN LIBYAN DINAR	AMOUNT IN LIBYAN DINAR
SL NO.	ST. NO.	DESCRIPTION				
91	1601	Providing and Fixing False ceiling consisting of Gypsum and Mineral wool boards with metal suspension system including surface finish, cut out for electrical and airconditioning diffuser etc all complete as per specifications, drawings and as directed by Engineer.	SQM	50		
92	1603	Providing, fixing and laying Permanently colour coated aluminium false ceiling of Luxalon or equivalent make of approved shade with corrosion resistant aluminium alloy panels of minimum thickness 0.5mm in plan or elevation with metal snap grid suspension system, anchor fastener, adjustable hangers etc all complete as per drawing, specification and direction of Engineer. Additional hangers and height adjustment clips shall also be provided for return air grills and light fixtures. Airconditioning ducts etc suitable M.S. channel (minimum MC 75) grid shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC system ducts etc.	SQM	120		
93	1604	Providing & laying 25 mm thick fibre glass wool insulation bound in polythene bags and laid over false ceiling panels having min. density 32kg/cum etc. all complete as per specifications and drawings.	SQM	120		
94	1605	Providing & fixing 50 mm thick fibre glass wool under deck insulation having min. density 32kg/cum faced with reinforced aluminium foil (FSK) and fixing to ceiling with anchor fasteners at interval of 600mm c/c in both directions, sealing the joint with 75mm wide aluminium foil tape / PVC adhesive tape and held in position with 22 G GI cross wires and wire netting of 12.5mm x 0.71mm (22 G) shall be stretched over the finished insulation and secured with anchor fasteners to prevent any sagging etc. all complete as per specifications and drawings.	SQM	120		
	1700	PROVIDING AND FIXING RAIN WATER DOWN TAKE PIPES INCLUDING 2 COATS OF APPROVED PAINT OVER A PRIMERY COAT, ALL SPECIALS AND ACCESSORIES ETC. COMPLETE AS PER SPECIFICATION.				


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		2x157 MW (V92.4) GTPS WESTERN MOUNTAIN EXTN. LIBYA		UNIT	RATE SCHEDULE CUM BILL OF QUANTITIES (CIVIL, STRUCTURAL & ARCHITECTURAL WORKS)		
					Tentative QTY	UNIT RATE IN LIBYAN DINAR	AMOUNT IN LIBYAN DINAR
SL NO.	ST. NO.	DESCRIPTION					
95	1701	PVC downtake pipes of 100 mm dia(medium class) as per specification		RM	40		
96	1702	PVC downtake pipes of 150 mm dia(medium class) as per specification		RM	40		
97	1703	PVC downtake pipes of 200 mm dia(medium class) as per specification		RM	40		
98	1704	PVC downtake pipes of 250 mm dia(medium class) as per specification		RM	40		
	1800	MISCELLANEOUS					
99	1801	Providing and fixing PVC water stops as per relevant international standard and specification complete.		RM	50		
100	1802	Supplying and laying of Crushed stone 40mm and down in transformer area etc as per drgs. & as directed by Engineer.		CUM	50		
101	1805	Providing 50mm thick anticorrosive layer laid to slope consisting of compacted crushed stone screenings, fine gravel, clean sand or similar material as directed by the Engineer, mixed in hot asphalt 10% by volume and rolled or compacted complete as per drawings and specifications below fuel oil tanks and at such other places as per drawing, specification and as directed by the Engineer.		SQM	200		
102	1807	Laying and fixing transformer rails, guide rails in concrete including loading, unloading and transporting from owner's stores, joining of rails, anchoring lugs etc complete as per specification and as directed by Engineer.		MT	10		
103	1810	Laying of earthing mats/copper rod including transportation from yard stores, loading, unloading, cutting to length, welding etc all complete as per specification and as directed by Engineer.		MT	10		


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					Tentative QTY	UNIT RATE IN LIBYAN DINAR	AMOUNT IN LIBYAN DINAR
SL NO.	ST. NO.	DESCRIPTION					
104	1811	Design, supply and fabricating Motorized sliding MS gate of approved size and design, erecting and fixing at main entrance including all guides, rails, alignments, control panels, switches, paintings etc all complete as per specification and as directed by Engineer.		SQM	30		
105	1812	Supply, transport and install Geomembrane, 1.5 mm thk inside tank foundations to required slope and level. Cost of material, labour all complete as per approved drawings. Unit rate includes preparation of surface and testing.		SQM	100		
106	1813	Supply, transport and install Grating type SCH38/25, produced with RTM technology by using isophthalic fire resistant polyester resin and roving type continuous glass fibers as reinforcing, square mesh 38x38mm in W.T.Plant		SQM	50		
107	1814	Provide, transport and install Granite slabs for kitchen/pantry worktops and courtyard of Administration Building		SQM	25		
108	1816	Providing and fixing Aluminum Handrail with necessary vertical posts, railings,capng, grouting the pockets etc., complete. Rate to be all inclusive.		RM	10		
	2000	FENCING AND GATES.					


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				Tentative QTY	UNIT RATE IN LIBYAN DINAR	AMOUNT IN LIBYAN DINAR
SL NO.	ST. NO.	DESCRIPTION				
109	2001	Supplying and fixing G.I. barbed wire in fencing including galvanised mild steel posts, GI clips, anchors, one coat of redoxide zinc chromate primer and two coats of approved aluminium paint etc complete as per specification, drawing and as directed by the Engineer.	SQM	50		
110	2002	Supplying and fixing G.I. barbed wire in fencing 600mm high consisting of min. 4 nos. strands on top of block work boundary wall including galvanised mild steel posts, GI clips, anchors, one coat of redoxide zinc chromate primer and two coats of approved aluminium paint etc complete as per specification, drawing and as directed by the Engineer.	RM	150		
111	2003	Supplying, fabricating and installing in position and testing Galvanised MS gates made out of channels, joists, angles, flats, plates, pipes and sheets including stiffner bracings, fabricated hinges, MS aldrops, with locking arrangement tempered steel pivot, gide track of MS tee, ball bearing arrangements, caster ways with 600mm high GI barbed wire fencing etc all complete as per drawings, specifications and as directed by Engineer.	MT	5		
112	2004	Supplying and erecting in position 2.4 m high PVC coated gavanised chain linked fencing of minimum 8 gauge (including PVC coating) of mesh size 75 mm. The diameter of the steel wire for chain link fencing excluding PVC coating shall not be less than 12 gauge. GI barbed wire fencing confirming to IS 298 or equivalent British standard at top of chain link fencing shall be provided with 4 strands of height of 600 mm including providing & fixing of galvanised MS posts, accesories etc all complete as per specification.	SQM	480		
	2100	WATER SUPPLY				
113	2101	Providing and fixing in position tested heavy duty type CP Bib cocks as per relevant international standard / specification including sockets, union, nut etc complete - 15mm nominal bore.	NO.	5		


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					Tentative QTY	UNIT RATE IN LIBYAN DINAR	AMOUNT IN LIBYAN DINAR
SL NO.	ST. NO.	DESCRIPTION					
114	2102	Providing and fixing in position tested heavy duty type CP Stop cocks as per relevant international standard / specification including sockets, union, nut etc complete - 15mm nominal bore.		NO.	5		
115	2103	Providing and fixing in position tested heavy duty CP brass fullway valve as per relevant international standard / specification including sockets, union, nut etc complete - 25mm nominal bore.		NO.	5		
116	2104	Providing and fixing in position tested heavy duty CP brass fullway valve as per relevant international standard / specification including sockets, union, nut etc complete - 50mm nominal bore.		NO.	5		
117	2105	Providing, laying and jointing GI pipes (medium grade) for internal works as per relevant international standard / specification complete with GI sockets, unions, elbows, tees, nipples, clamps etc including making chases for housing the pipe, painting with 2 coats of anticorrosive bitumen paint for concealed pipe and making good the walls etc all complete for following					
		a) 15 mm nominal bore.		RM	100		
		b) 20 mm nominal bore.		RM	50		
		c) 25 mm nominal bore.		RM	45		
118	2106	Providing and fixing water supply pipe lines with PP-R pipes (medium grade) for external and internal works as per relevant international standard / specification complete with suitable sockets, unions, elbows, tees, nipples etc including trenching & refilling, anti-corrosive paint etc all complete for following		-			
		a)PPR-Pipe, 15 mm nominal bore		RM	115		
		b)PPR-Pipe, 20 mm nominal bore		RM	75		
		c)PPR-Pipe, 25 mm nominal bore		RM	120		
		d)PPR-Pipe, 32 mm nominal bore		RM	30		
		e)PPR-Pipe, 40 mm nominal bore		RM	25		
		f)PPR-Pipe, 50 mm nominal bore		RM	25		


NAME AND SIGNATURE OF TENDERER


		2x157 MW (V92.4) GTPS WESTERN MOUNTAIN EXTN. LIBYA	UNIT	RATE SCHEDULE CUM BILL OF QUANTITIES (CIVIL, STRUCTURAL & ARCHITECTURAL WORKS)		
				SL NO.	ST. NO.	DESCRIPTION
119	2107	Providing and fixing 610mmx453mmx6mm thk mirror from reputed mirror manufacturer. Mirror shall be mounted with glass adjustable revolving CP brackets etc complete with CP screws as per specification.	NO.	2		
120	2108	Providing and fixing 610mmx127mmx6mm thk clear glass with C.P Guard rails and mounted on C.P. brackets etc complete as per specification.	NO.	2		
121	2109	Providing and fixing 20mm dia chromium plated M.S. pipes wall mounted towel rod with C.P. Brackets etc all complete as per specification.	NO.	2		
122	2110	Providing and fixing C.P. soap holder mounted with C.P. screws etc complete as per specification.	NO.	2		
123	2111	Providing and fixing C.P. liquid soap dispenser. Dispenser shall be round and easily revolving with removable threaded nozzle and mounted on C.P. brackets etc complete as per specification.	NO.	2		
124	2112	Providing and fixing C.P. brass shower rose with 15mm or 20mm inlet etc all complete as per specification.	NO.	2		
125	2113	Providing & fixing Stainless steel water tanks of following capacity in position. The work to include making all necessary inlet & outlet pipes, fixture, ball cocks, valves etc all complete as per specification and at all heights and levels.				
		a)1000 litres	NO.	1		
		b)2000 litres	NO.	1		
126	2114	Provide, transport and install Water Heater , capacity 50 liter including necessary fittings including necessary fittings	NO.	2		
127	2115	Provide, transport and install Hand Dryer including necessary fittings	NO.	2		

NAME AND SIGNATURE OF TENDERER


		2x157 MW (V92.4) GTPS WESTERN MOUNTAIN EXTN. LIBYA DESCRIPTION		UNIT	RATE SCHEDULE CUM BILL OF QUANTITIES (CIVIL, STRUCTURAL & ARCHITECTURAL WORKS)		
					Tentative QTY	UNIT RATE IN LIBYAN DINAR	AMOUNT IN LIBYAN DINAR
SL NO.	ST. NO.						
	2200	SANITARY WORKS					
128	2201	Supply and fixing vitreous china Wash Basin of following sizes with R.S. or C.I. brackets painted white, 15mm chromium plated brass hot & cold faucets with nylon washers, chromium plated brass chain with rubber plug 32mm chromium plated brass waste of standard pattern, 32mm dia chromium plated brass trap unions, plastic connection pipe with chromium plated nuts, cutting and making good the walls where required etc complete as per specifications					
		b) 630x450mm		NOS.	2		
129	2202	Providing and fixing approved vitreous china acid/alkali resistant laboratory sink of size 600x450x200mm with R.S. or C.I. brackets, chromium plated brass chain with rubber plug 40mm, CP brass waste and 40mm CP brass trap with necessary union complete including painting the fittings, cutting and making good the wall where required as per specification.		NO.	1		
130	2203	Providing and fixing colour glazed vitreous china European type water closet with siphon, open front solid plastic seat and plastic cover, low level 12.5 litre glazed vitreous china flushing cistern (same colour as WC) with health jet, valveless fittings, necessary C.P connections etc complete as per specification and directed by Engineer.		NO.	1		
131	2204	Providing and fixing glazed vitreous china squatting pan with internal foot rests and high level 12.5 litre CI flusing cistern with valveless fittings, necessary CP connections all complete with cistern painting, CI bracket etc as per specification and as directed by Engineer.		NO.	1		
132	2206	Providing and fixing circular heavy duty man hole cover of 600mm dia with frame all complete as per specification.		NO.	5		
133	2207	Providing and fixing C.I. floor traps with C.P jalli complete as per drawing and specification.		NO.	25		

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		2x157 MW (V92.4) GTPS WESTERN MOUNTAIN EXTN. LIBYA DESCRIPTION	UNIT	RATE SCHEDULE CUM BILL OF QUANTITIES (CIVIL, STRUCTURAL & ARCHITECTURAL WORKS)		
				Tentative QTY	UNIT RATE IN LIBYAN DINAR	AMOUNT IN LIBYAN DINAR
SL NO.	ST. NO.					
134	2210	Providing and laying of following pipes including jointing with necessary adhesives, testing etc., all complete as per specifications and instructions of Engineer in charge.				
	a	Sanitary Pipes(Medium class)				
		i)UPVC-Pipe, 100 mm nominal bore	RM	100		
		ii)UPVC-Pipe, 150 mm nominal bore	RM	50		
		iii)UPVC-Pipe, 200 mm nominal bore	RM	50		
		iv)UPVC-Pipe, 300 mm nominal bore	RM	50		
	b	Drainage Pipes (for oily water, filter & storm drains) of medium class				
		i)PVC-Pipe, 100 mm nominal bore	RM	50		
		ii)PVC-Pipe, 300 mm nominal bore	RM	50		
		iii)PVC-Pipe, 400 mm nominal bore	RM	50		
	c	Cable Duct Pipes(medium class)				
		i)PVC-Pipe, 100 mm nominal bore	RM	25		
		ii)PVC-Pipe, 150 mm nominal bore	RM	25		
		iii)PVC-Pipe, 200 mm nominal bore	RM	25		
	2300	STRUCTURAL STEEL WORKS				

		2x157 MW (V92.4) GTPS WESTERN MOUNTAIN EXTN. LIBYA	UNIT	RATE SCHEDULE CUM BILL OF QUANTITIES (CIVIL, STRUCTURAL & ARCHITECTURAL WORKS)		
				Tentative QTY	UNIT RATE IN LIBYAN DINAR	AMOUNT IN LIBYAN DINAR
SL NO.	ST. NO.	DESCRIPTION				
135	2301	<p>Erection, alignment, welding of already fabricated & with primer painted structural steel made from mild steel sections, pipes, chequered plate and mild steel rounds, at all elevations involving rolled sections, built up sections fabricated out of plates, rolled sections and combination of plates and rolled sections in columns, beams, gantry girders, roof trusses, portals, laced purlins, space frames, shear connectors, hangers, struts, monorails, galleries, stiffeners, sheeting runners, brackets, stub columns, bracings, cleats, trestles, base plates, splice plates, chequered plate floorings, decking and seal plates, diaphragm, steel frame grid over false ceiling, walkway platforms, ladders, stairs, stringers, threads, landings, hand-rails, toe-plates, louvers, lacings, gusset plates, safety chains for walkways adjacent to crane girders etc including collection of fabricated structural steel from stores, transportation, bolting, erection bolts and nuts.</p>	MT	960		
		<p>(weight of erection bolts & nuts shall not be payable. Supply of permanent bolt of grade C mild steel bolts & nuts to be paid separately), assembly, use of low hydrogen/ radiogenic electrodes as per specification, post heating, testing of welders, inspection of welds, visual inspection, non-destructive and special testing, rectification and correction of defective welding works, production test plate, inspection and testing, erection scheme, protection against damage in transit, stability of structures, installation of temporary structures (Scaffolding, access ladders, working platforms etc) setting column bases, dismantling and removal of all temporary structures (weight of temporary structures not payable) complete with all labour, material, electrodes and other consumables, equipment, all other general and special requirements, all other activities required for completion of the work including return of surplus/waste steel materials to store etc. as per specification, drawings and instructions of the Engineer. Required structural steel supplied by BHEL free of cost at their stores/yard..</p>				


NAME AND SIGNATURE OF TENDERER

		2x157 MW (V92.4) GTPS WESTERN MOUNTAIN EXTN. LIBYA	UNIT	RATE SCHEDULE CUM BILL OF QUANTITIES (CIVIL, STRUCTURAL & ARCHITECTURAL WORKS)		
				Tentative QTY	UNIT RATE IN LIBYAN DINAR	AMOUNT IN LIBYAN DINAR
SL NO.	ST. NO.	DESCRIPTION				
136	2302	<p>Supply, fabrication, erection, alignment, welding, blast cleaning, primer painting of structural steel works made from mild steel rolled section, buildup section fabricated out of plates and combination of plates and rolled sections, in columns, beams, gantry girders, roof trusses, portals, laced purlins, space frames, shear connectors, hangers, struts, monorails, galleries, stiffeners, wall beams, sheeting runners, brackets, stub columns, bracings, cleats, trestles, base plates, splice plates, chequered plate flooring, decking and seal plates, diaphragm, steel frame grid over false ceiling, walkway platforms, ladders, stairs, stringers, treads, landings, hand-rails, toeplates, MS Rungs, insert plates, edge angles, embedments, lugs, posts, stays, louvers, lacings, gusset plates, safety chains for walkways adjacent to crane girders etc making cutting plan, cutting, bending, rolling, grinding, drilling, bolting, erection bolts & nuts (weight of erection bolts & nuts not payable. Supply of permanent bolt of grade C mild steel bolts & nuts to be paid separately),</p>				
		<p>assembly, edge preparation, preheating, (use of low hydrogen/ radiogenic electrodes as per specification), post heating, testing of welders, inspection of welds, visual inspection, non destructive and special testing, rectification and correction of defective welding works, production test plate, inspection and testing, erection scheme, protection against damage in transit, stability of structures, installation of temporary structures (scaffolding, access ladders, working platforms etc), setting column bases, surface preparation by blast cleaning according to SIS 055900 grade SA 2 1/2, primer painting with sigle pack inorganic ethyl zinc silicate shop primer having solids 37% by volume to give DFT of min 15-25 microns and again with single pack inorganic ethyl zinc silicate having solids 58% by volume to give DFT 75 microns, dismantling and removal of all temporary structures,</p>				
		<p>(weight of temporary structures not payable) complete with all labour, material, electrodes and other consumables, equipment, testing (mechanical and non-destructive), preparation of fabrication drawings, joint design calculations and all other general and special requirements, all other activities required for completion of the work as per specification, drawings and instructions of the Engineer.</p>				
	a	With Supply of structural steel	MT	10		
	b	Without supply of structural steel which will be supplied by BHEL at their stores yard.	MT	10		


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		2x157 MW (V92.4) GTPS WESTERN MOUNTAIN EXTN. LIBYA	UNIT	RATE SCHEDULE CUM BILL OF QUANTITIES (CIVIL, STRUCTURAL & ARCHITECTURAL WORKS)		
				Tentative QTY	UNIT RATE IN LIBYAN DINAR	AMOUNT IN LIBYAN DINAR
SL NO.	ST. NO.	DESCRIPTION				
137	2303	Applying touchup painting & finish painting of erected structural steel at all height & depth for internal exposure as per the following. 1. After site welding is complete touchup paint shall be applied. For touchup painting first thorough cleaning shall be done to remove oil, grease, dirt and any other contaminants. Derusting of all mechanical damages shall be done according to SIS 055900 grade: ST3. 2. Touch up paint shall be applied with 2-pack selfpriming aluminium containing high build epoxy with solids by volume content of not less than 85% to achieve dry film thickness 75-100 microns. 3. Final coat of 2-pack epoxy polyamide paint, having min 62% solids by volume, shall be applied on the entire surface of structure to give a min. DFT 100 microns.	MT	960		
138	2304	Applying touchup painting, intermediate painting & finish painting of erected structural steel at all height & depth for external exposure as per the following. 1. After site welding is complete touchup paint shall be applied. For touchup painting first thorough cleaning shall be done to remove oil, dirt, grease and any other contaminants. Derusting of all mechanical damages shall be done according to SIS 055900 grade: ST3. 2. Touch up paint shall be applied with 2-pack selfpriming aluminium containing high build epoxy with solids by volume content of not less than 85% to achieve dry film thickness 75-100 microns. 3. Intermediate coat with 2-pack epoxy polyamide paint, having min.60% solids by volume shall be applied on the entire surface of the structure to give a min. DFT 125 microns.4. Final coat of 2-pack epoxy polyamide paint, having min.47% solids by volume shall be applied on the entire surface of the structure to give a min. DFT 50 microns. The primer and paint shall be supplied by BHEL as free issue for application under this item for permanent structural steel works.	MT	20		


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		2x157 MW (V92.4) GTPS WESTERN MOUNTAIN EXTN. LIBYA	UNIT	RATE SCHEDULE CUM BILL OF QUANTITIES (CIVIL, STRUCTURAL & ARCHITECTURAL WORKS)		
				Tentative QTY	UNIT RATE IN LIBYAN DINAR	AMOUNT IN LIBYAN DINAR
SL NO.	ST. NO.	DESCRIPTION				
139	2305	Supplying, fabrication, transportation, erection and alignment of factory made electroforged gratings with steel conforming to ASTM A36 or approved equivalent material at all elevations including preparation of design drawings and fabrication drawings in flooring, platforms, drain and trench covers, walk-ways, passages, staircases with edge binding strips and anti-skid nosing in treads, fixing clamps etc. complete with other fittings and fixtures including all taxes, duties, transportation, packing, grinding, drilling, bolting (supply of steel bolts and nuts to be paid separately unde), all welding, edge preparation, blast cleaning of steel surfaces, hot dipped galvanisation conforming to ASTM A123, ASTM A153, ASTM A384 testing, complete as per specifications, drawings and instructions of the Engineer.	MT	10		
140	2306	Supplying and fixing in position of permanent steel bolts and nuts, washers etc. conforming to Grade A of ASTM A-307 or approved equivalent for structural steel work complete as per specification, drawings and instructions of the Engineer.	Quintal	10		
141	2307	Supply and fixing in positing of high strength structural bolts conforming to ASTM A-325 or approved equivalent and high strength structural hardened and tempered nuts with hardened and tempered washers, galvanized locknuts of steel as per ASTM A-36 for structural steel work complete as per specification, drawings and instructions of the Engineer.	Quintal	10		
142	2308	Dismantling of steel structure at any elevation , lowering of material and carriage of the dismantled material up to field fabrication shop, or, return to projects storage including temporary dismantling, cutting, re-welding, supporting, and restoring to correct position all temporarily dismantled members, re-alignment of all adjacent connected members to their correct positions, (weight of such adjacent members and temporarily dismantled members not payable) including scaffolding, staging, tools & tackles, gas cutting, welding, consumables etc complete as per specification, drawings and instructions of the Engineer.	MT	55		

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		2x157 MW (V92.4) GTPS WESTERN MOUNTAIN EXTN. LIBYA		UNIT	RATE SCHEDULE CUM BILL OF QUANTITIES (CIVIL, STRUCTURAL & ARCHITECTURAL WORKS)		
					Tentative QTY	UNIT RATE IN LIBYAN DINAR	AMOUNT IN LIBYAN DINAR
SL NO.	ST. NO.	DESCRIPTION					
143	2309	Addition to, alterations in and/or modification of " Erection Marks " either in erected position or in the fabrication yard / storage yard including cutting of parts, gouging of welds, cutting, grinding, fabrication, welding, drilling holes, straightening, removal of bends, raising to required level, painting, transportation, return of unutilised steel pieces to the project store, temporarily dismantling, cutting, re-welding, supporting and restoring to correct position of all temporarily dismantld members, realignment of of adjacent connected members (<u>Only weight of fabricated items like cleats, hangers, hooks etc., will be paid.weight of such adjacent members and temporarily dismantled members not payable</u>) complete as per specification, drawings and instructions of the Engineer.					
		i) In erected position		MT	10		
		ii) In fabrication yard /storage yard		MT	10		
144	2310	Re-erection of dismantled fabricatied structural steel members requiring additions, modification, (dismantling and additions to, alterations in and/or modification to be paid separately under ST NO. 2312 and 2313 respectively) including carriage of modified "Erection Marks" from the field fabrication shop to erection site, lifting to required posiion, aligning in position, tack welding, final welding and touch up painting including temporary dismantling and re-erection of temporarily dismantled members, cutting, rewelding, supporting and restoring to the correct position of all temporarily dismnatled members, re-alignment of adjacent connected members, (weight of such temporarily dismantled members and adjacent membersnot payable) including scaffolding, staging, tools & tackles, gas cutting, welding, consumables, etc complete as per the specifications, drawings and instructions of the Engineer.		MT	10		
145	2312	Applying mist coat over the priming coat to suit as the base for intermediate coat to avoid bubbling etc., as per specification and instructions of Engineer in charge. Required paint will be supplied by BHEL at free of cost at their stores.		MT	25		

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		2x157 MW (V92.4) GTPS WESTERN MOUNTAIN EXTN. LIBYA		UNIT	RATE SCHEDULE CUM BILL OF QUANTITIES (CIVIL, STRUCTURAL & ARCHITECTURAL WORKS)		
					Tentative QTY	UNIT RATE IN LIBYAN DINAR	AMOUNT IN LIBYAN DINAR
SL NO.	ST. NO.	DESCRIPTION					
146	2313	Sand blasting and followed by primer painting including hire charges for tools and plants, cost of paint and labour charges etc., complete.		MT	25		
	2400	ROAD WORK					
147	2401	Preparation of sub grade by excavating earth to required depth in all types of soil, dressing to camber and compacting the exposed surface of subgrade including making good the undulation, watering etc and stacking/disposal of surplus earth within a lead of 1km etc all complete as per specification and as directed by the engineer.		CUM	800		
148	2403	Preparation of sub grade/embankment by filling with good comulsarily excavated earth of approved quality in layers of 250mm (loose thickness) and compacted to a minimum 97% of maximum dry density obtained from Standard Proctor test as per IS:2720, Part-7 or equivalent British/AASHTO standards including re-excavation, lifting, handling, sorting, carriage, breaking clods, watering, rolling/consolidating, dressing and finishing to required level and camber etc all complete as per specification and as directed by the engineer.		CUM	100		
149	2404	Providing and laying granular sub base course in layers of required thickness with stone aggregates of Grading 1 / 2 , stone screenings and binding material including screening, sorting, spreading to template, watering and compaction/consolidation with road roller etc., all complete as per specifications and as directed by the Engineer.		CUM	600		
150	2405	Providing and laying granular base course in layers of required thickness with stone aggregates of 40mm to 0mm size, stone screenings and binding material including screening, sorting, spreading to template, watering and compaction/consolidation with road roller etc., all complete as per specification and as directed by the Engineer.		CUM	670		

		2x157 MW (V92.4) GTPS WESTERN MOUNTAIN EXTN. LIBYA		UNIT	RATE SCHEDULE CUM BILL OF QUANTITIES (CIVIL, STRUCTURAL & ARCHITECTURAL WORKS)		
					Tentative QTY	UNIT RATE IN LIBYAN DINAR	AMOUNT IN LIBYAN DINAR
SL NO.	ST. NO.	DESCRIPTION					
151	2406	Providing and applying Prime coat of low viscosity liquid bitumen of suitable approved grade conforming to IS:73, 217, 454 or approved equivalent British/AASHTO standards as applicable @ 10kg/10sqm on an untreated water bound macadam base surface including scraping and cleaning the base surface with compressed air etc. all complete as per specifications and as directed by the Engineer.		SQM	2,700		
152	2410	Providing, mixing and laying Bituminous macadam course of compacted 50mm thickness with a bitumen content of 4% by weight of total mix and aggregates including hot mixing, hot laying, rolling etc all complete as per specification and as directed by the engineer. Bitumen shall be of a suitable approved grade complying with IS:73 or equivalent British/AASHTO standards.		SQM	2,700		
153	2411	Providing and applying Tack coat of low viscosity liquid bitumen of suitable approved grade conforming to IS:73, 217, 454 or equivalent British/AASHTO standards as applicable @ 5kg/10sqm on a bituminous macadam base surface including cleaning the base surface with a mechanical broom or any other approved equipment/method etc all complete as per specification and as directed by the engineer.		SQM	2,700		
154	2412	Providing, mixing and laying compacted 50mm thick Asphaltic Concrete (Bituminous Concrete) wearing course with a bitumen content of 6% by weight of total mix, aggregates and filler including hot mixing, hot laying, rolling etc all complete as per specification and as directed by the engineer. Bitumen shall be of a suitable approved grade complying with IS:73 or equivalent British/AASHTO standards.		SQM	2,700		
155	2415	Providing and laying 300mmx300mmx50mm size precast concrete blocks with concrete grade C30 and shape as per detailed drawing including providing 50mm thick screeded sand as bedding, finishing the joints etc all complete as per specification and as directed by the engineer.		SQM	185		

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SL NO.		ST. NO.		DESCRIPTION	UNIT	RATE SCHEDULE CUM BILL OF QUANTITIES (CIVIL, STRUCTURAL & ARCHITECTURAL WORKS)		
						Tentative QTY	UNIT RATE IN LIBYAN DINAR	AMOUNT IN LIBYAN DINAR
				 2x157 MW (V92.4) GTPS WESTERN MOUNTAIN EXTN. LIBYA				
NOTES:								
		1		In case of omission in quoting any rate, the evaluation will be done considering the highest quoted rate obtained against that item but the work, if awarded, will be on the lowest quoted rate obtained against that item.				
		2		The bidders shall enter both 'Unit Rate' & 'Amount'. In case of any mismatch between 'Total Amount based on Unit Rate' & 'Total Amount as quoted', the higher of the two shall be considered for evaluation and the lower of the two shall be considered for award.				
		3		Sub-total on each page shall be indicated and brought forward to next page and duly signed. The contractor shall ensure that grand total on this page is arithmetically checked and corrected and certified accordingly while signing below by the bidders. Despite this, if any calculation error is noticed in totalling after tender opening, the higher of the two (i.e between total value worked out by BHEL and the total value indicated by bidder in their offer) shall be considered for evaluation and the lower of the two shall be considered for award.				
		4		The quantities indicated against each item above are tentative and are liable to vary depending upon the site requirement. The contractor has to supply / install/provide actual quantities as per advice of BHEL Engineer and accordingly the final contract price shall be adjusted on the basis of quantities actually erected/provided at site & payment will also be regulated accordingly for the same. The contractor confirms that unit rate quoted above takes care of such variations				
		5		Evaluation of the bids shall be done based on total price against this BOQ.				
		6		Unit Rate' as well as 'Amount' against each item to be quoted in LIBYAN DINAR (LD) only.				