

PREAMBLE FOR BOQ CUM RATE SCHEDULE	
1	Preamble for the Schedule of Quantities/BOQ Cum Rate Schedule:
1.1	Details of the items in the BOQ Cum Rate Schedule shall be read in conjunction with the Corresponding Consultants/ Customer specifications, drawings and other documents and shall have precedence over any contrary statement mentioned anywhere in this document.
1.2	The work shall be carried out as per construction drawings, specifications, the description of the items in this schedule and/or Engineer's instructions, Drawings enclosed with these documents are only indicative giving some idea of the type of work involved. The layout, sizes and details of the building, structures and foundations shown in tender drawings may vary at a large extent during actual construction. Final drawings will be issued progressively during the execution of the work.
1.3	Items of work provided in this schedule but not covered in the specifications shall be executed strictly as per instructions of the Engineer.
1.4	Unless specifically mentioned otherwise in the contract, the contractor shall quote his rates for the finished items and shall provide for the complete cost towards fuel, tools, tackle, equipment, constructional plant , temporary works, labour materials, levies , taxes , transport, layout, repairs, rectification, maintenance till handing over, supervision, shops, establishments, services, temporary roads, revenue expenses, contingencies, overheads, profits and all incidental items not specifically mentioned but reasonably implied and necessary to complete the works according to the contract.
1.5	The rate shall also be inclusive of carrying out topography survey of site to establish levels and coordinates at suitable intervals, form existing grid levels and coordinates furnished by the owner, establish bench marks, setting out the location and levels of the proposed structures, constructions and making references, pillars and other identification marks etc. No separate payment will be made towards the same.
1.6	The quantities of the various items mentioned in the BOQ cum Rate Schedule are approximate and may vary up to any extent or be deleted altogether. The overall variation in contract value on execution shall be dealt as per GCC. Contractor has to obtain prior approval of BHEL/ Customer before procurement of bought out items/ building materials.
1.7	BHEL Engineer's decision shall be final and binding on the contractors regarding clarification of items in BOQ cum Rate schedule with respect to the other sections of the contract.
1.8	In case of any discrepancy between item description, relevant specification, clarification shall be sought at tender stage itself. Otherwise it shall be assumed that the contractor has quoted for the more stringent requirement.

3X800 MW NLC TALABIRA THERMAL POWER PROJECT (NTTPP)						
BOQ CUM RATE SCHEDULE						
Civil, Structural & Architectural works of Entire Roads & Drains (Excl Main Power Block Area): - Complete road works with RCC Drains including bitumen works along with kerb stone & shoulder/walkway & RCC Box Culverts & Hume Pipes wherever applicable, laying of sand bed and Paver Block for Walkways of roads etc at 3 X 800 MW NLC TALABIRA TPP (NTTPP), Jharsuguda, Odisha State, India.						
ST NO	Item Description	UNIT	QUANTITY	RATES (INR)= VALUE FOR PACKAGE-A * WEIGHTAGE / (QUANTITY*100) (ROUNDED OFF TO TWO PLACES AFER DECIMAL)	AMOUNT (INR) TOTAL QUOTED= PRICE * QUANTITY	WEIGHTAGE %
100	EARTH WORK: Earth work in excavation, backfilling and disposal including all labour, equipments etc complete as per specification, drawing and as directed by engineer- in-charge for the following.					
101	Earth work in excavation in all types of soil including ash which can be excavated by any means including setting out, levelling, dewatering (but excluding special type of dewatering viz. well point method), dressing the sides & bottom, all lifts, ramming/compacting the excavated bottom, stacking, disposal of surplus excavated materials within a lead upto 1Km, spreading/levelling of disposed materials etc all complete for following depths below ground level.					
a	Depth from ground level but not exceeding 2 m	CUM	75067	-	-	1.013659438218070%
b	Depth exceeding 2 m but not exceeding 4 m	CUM	49588	-	-	0.838627651406947%
c	Depth exceeding 4 m but not exceeding 6 m	CUM	2500	-	-	0.052767985112882%
A107	Earthwork in Back filling upto any depth below ground level around foundations, plinths, trenches, drains etc to proper grade and level in layers not exceeding 300 mm thickness using/with selected materials from compulsorily excavated earth available within a lead upto 1 Km and compacted as specified including re-excavation of stacked earth, watering, ramming/compaction by manual/mechanical means, dressing etc all complete.for the following.			-	-	
a	at least 90% maximum dry density as per IS-2720 (Part-VII)	CUM	24500	-	-	0.308348573877017%
A108	Earthwork in Back filling upto any depth below ground level around foundations, plinths, trenches, drains etc to proper grade and level in layers not exceeding 300 mm thickness using/with selected earth directly from excavation within a lead upto 1Km and compacted as specified including watering, ramming/compaction by manual/mechanical means, dressing etc all complete.for the following:			-	-	
a	at least 90% maximum dry density as per IS-2720 (Part-VII)	CUM	24500	-	-	0.150962322627290%
A109	Extra over ST No. 101 and 103 to 108, ST No. 2401 for carriage of material/earth for every 500m or part thereof beyond an initial lead of 1km.			-	-	
a	Carriage for stacking/ backfilling of serviceable material/ earth	CUM	78000	-	-	0.132935992309224%
b	Carriage for disposal of serviceable/unserviceable material/ earth	CUM	19000	-	-	0.032381844280452%
200	CONCRETE WORK: Providing and placing concrete work including cost of labour, materials (unless otherwise specified in BOQ/contract specification) and equipment for handling, transportation, batching, mixing, curing (excluding cost of centering, shuttering and reinforcement) with mechanised equipments like batching plant, transit mixer, concrete pump etc. complete as per drawing, specifications and as per direction of engineer in charge for the following. (Cement will be supplied by BHEL free of cost unless otherwise noted)			-	-	
A202	Concrete of grade M10 (1 part cement, 3 part sand, 6 parts of 40 mm graded aggregate by volume) as lean concrete, levelling course, mud mat under and around foundations/floors below finished floor level upto depth of 10m from FFL.	CUM	2786	-	-	1.394710312987250%
A205	Providing and laying Design Mix cement concrete conforming to IS:456 & IS 10262-2009 for reinforced concrete works with sand and graded hard stone aggregate of 20mm nominal size in foundations/substructure, grade slab, paving, drains, under floors etc for any shape, position or thickness etc complete including use of plasticizer/ superplasticizer conforming to IS:9103 (latest) to achieve required slump in concrete all complete as per specification & drawing below finished floor level upto a depth of 10m from FFL, for the following.			-	-	
a	M 25 Grade	CUM	50	-	-	0.027400022083459%
b	M 30 Grade	CUM	30000	-	-	16.526539635602400%
213	Providing and laying Design Mix cement concrete as per IS:456 & IS 10262-2009 for reinforced concrete works using graded aggregate for Concrete in precast works like roof slabs/trench covers, fins, lintels, chajias, beams, columns, wall panels, facias etc.at all levels in all kinds of work including formwork/moulds, curing, rendering the top exposed surface with cement sand mortar (1:3), handling, storing, transpoting, all leads, erection without damage, setting in position with cement sand mortar (1:3), filling the gaps between adjacent precast units with M30 grade concrete or cement sand mortar (1:3) and including making of holes for bolts for fixing, welding etc.complete with graded aggregate (20/12.5/10 mm) and as per specification and drawing for following grades.			-	-	
a	M25	CUM	500	-	-	0.474584114555613%
b	M30	CUM	2000	-	-	1.904891487429202%
300	FORMWORK: Providing, fixing and removing formwork at all elevations for all structures, as per specifications and including all labour, material, scaffoldings and centering etc. complete as per drawing, specifications and as per direction of engineer in charge for the following.			-	-	
301	Fairface form work with good quality water proof ply wood of minimum 12mm thickness and smooth surface below finished ground floor level for foundations, footings, base of columns, walls, columns, pilasters, beams & slabs (for which scaffolding work not required for vertical support of bottom face of formwork), mass concrete, trenches, grade slab, paving etc.including chamfering of edges as per drawing, specification and instruction of engineer in charge.			-	-	
a	Upto Depth 10m From FGL	SQM	183147	-	-	16.903517792065200%
400	REINFORCEMENT WORK : Reinforcement work including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling etc at all level as per specification, drawings and as directed by engineer - In - charge.			-	-	
A402	Transporting, straightening, cutting, bending, placing in position at any level, binding in position of CRS (corrosion resistant steel) reinforcements of TMT steel of grade Fe-500D/Fe-550/Fe-550D conforming to IS:1786 including cost of binding wire, labour, scaffolding, transportation to & from stores etc complete all as per specifications, drawings and as directed by Engineer. (BHEL shall supply reinforcement steel free of cost)	MT	2900	-	-	4.362376525492280%
700	MS EMBEDMENTS: Embedments including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling etc. at all level as per specification, drawings and as directed by engineer - In - charge.			-	-	
701	Supply, fabricating and fixing of mild steel embedments, inserts, pipe sleeves, angle pieces, rungs of various diameters, plates of dimensions as required etc. including welding, bolting, cutting, drilling, scaffolding, setting etc. all complete.	MT	68	-	-	0.979152505909084%
703	Same as above items 701 & 702 with BHEL supplied material free of cost including loading, transportation, unloading etc. all complete from BHEL store to plant site.			-	-	
A	Mild steel embedments, inserts, pipe sleeves, angle pieces, rungs of various diameters, plates of dimensions as required etc.	MT	10	-	-	0.034172678259687%
704	Supplying, fabricating, erecting and installing following items in concrete/brickwall for all kind of works, including setting material in concrete, layout, scaffolding, cutting, forming, grinding, drilling, bolting, welding, jointing, testing etc. all complete.			-	-	
b	100mm dia PVC pipes	Kg	10000	-	-	0.506048254747146%
2200	SANITARY: Sanitary work including all labour, material (unless otherwise specified in BOQ/contract specification), equipment etc. at all level as per specification, drawings and as directed by engineer - in - charge.			-	-	
A2208	Providing, laying light duty non pressure NP3 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc all complete under the Road works for the following			-	-	
a	200mm dia	RM	900	-	-	0.159287209719633%
b	300mm dia	RM	50	-	-	0.014237523436668%
c	500mm dia	RM	600	-	-	0.217653189774925%
d	600mm dia	RM	600	-	-	0.267817153730898%
e	900mm dia	RM	500	-	-	0.301924645254579%
2300	STRUCTURAL WORKS: Structural steel works including all labour, material (unless otherwise specified in BOQ/contract specification), equipments unless otherwise specified, transportation, handling etc. at all level as per specification, drawings and as directed by engineer - in - charge.			-	-	
2307	Supplying, fabrication, erection and alignment of factory made electroforged galvanised grating units with mild steel having minimum galvanisation conforming to IS:2062 in flooring, platforms, drain and trench covers, walk-ways, passages, staircases with edge binding strips and anti-skid nosing in treads etc. including fixing clamps, fittings, fixtures, all taxes, duties, packing, grinding, drilling, welding, edge preparation, etc. all complete.			-	-	
a	Minimum galvanisation of 610 g/sqm	MT	150	-	-	2.552154736373290%

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2400	ROAD WORKS: Road works including all labour, material (unless otherwise specified in BOQ/contract specification), equipment etc. as per specification, drawings and as directed by engineer - in - charge. (Cement will be supplied by BHEL free of cost unless otherwise noted)			-	-	
A2401	Preparation of sub grade by excavating earth to required depth for all types of soil/ rock, dressing to camber and consolidating the base including making good the undulation etc and stacking/disposal of surplus earth within a lead upto 1 km etc. all complete.	CUM	48521	-	-	0.786235846310171%
A2405	Providing & laying water bound macadam base course in layers of required thickness with laterite (63mm down-graded), stone screening and blinding material including screening sorting, spreading to template and consolidation with road roller including carriage, spreading and consolidation of blinding material moorum etc all complete. This shall be laid in two layers of 115mm consolidated thickness.	CUM	35104	-	-	12.941259593839000%
A2406	Providing & Laying water bound macadam base course (WBM) construction with 40mm downgraded Blue Granite Metal laid in two layers of 75mm consolidated thickness of each layer, screening & binding material including screening, sorting, spreading to template & consolidation with road roller including carriage spreading & consolidation of binding material moorum etc all complete as per specification, drawings and as per direction of Engineer-in-charge.	CUM	3100	-	-	1.168027544260160%
B2411	Providing, mixing & laying 40 mm thick bituminous concrete (BC) in a single course composed of suitable small size aggregate premixed with bituminous binder using medium setting grade bitumen on a prepared base including mixing, applying, rolling etc all complete.	SQM	29750	-	-	1.219616160216400%
2412	Providing and applying liquid seal coat comprising of an application of a layer of bituminous binder using medium setting grade bitumen at the rate of 9.8kg/10sqm followed by a cover of stone chips at the rate of 0.09 cum/10sqm including rolling etc all complete.	SQM	29750	-	-	0.475829570140862%
A2413	Supplying and laying 250mmx150mmx300mm deep precast concrete Kerb stone of grade M-25 with 20 mm nominal size stone aggregate and of shape as per detailed drawing including fixing with cement mortar (1:2) in 13mm thick joints, finishing of joints with neat cement paste, making drainage opening where required etc all complete.	RM	15170	-	-	0.762537408859080%
2414	Providing & laying edge protection on edges of black topping using brick on edge (bricks with crushing strength of 75 kg/cm2) with full brick width (230 mm) etc all complete.Bricks to be placed longitudinally.	RM	50	-	-	0.001158077009925%
A2415	Supply and laying 150mm dia R.C.C NP-3 type Hume pipe in raised shoulders as rain water drains as per detailed drawing including fixing with cement mortar (1:3) in 13mm thick joints, finishing of joints with neat cement paste etc all complete. Payment Breakup - a) On receipt of materials at site - 50%; b) On completion of erection & fixing - 50%.	RM	500	-	-	0.068421182264420%
A2416	Dismantling of existing road consisting of premix carpet, kerb stone/ brick on edge, bitumen macadem course, WBM, preparing subgrade to receive new WBM including camber consolidation including disposal of debris within a lead of 3 km etc all complete.	SQM	500	-	-	0.008058149777863%
	CONCRETE ROAD: Providing and placing concrete work in road including cost of labour, materials (unless otherwise specified in BOQ/contract specification) and equipment for handling, transportation, batching, mixing, placing, vibrating and curing (excluding cost of centering, shuttering and reinforcement) with mechanised equipments like batching plant, transit mixer, concrete pump etc. complete as per drawing, specifications and as per direction of engineer in charge for the following:(Cement will be supplied by BHEL free of cost unless otherwise noted)			-	-	
A2418	Concrete of grade M10 (1 part cement, 3 part sand, 6 parts of 40 mm graded aggregate by volume) as lean concrete, levelling course, mud mat under and around foundations/floors at any depth below finished floor level etc including cleaning the pothole/patch area, removing loose materials, and applying a bonding agent or cement slurry to ensure adherence between old and new concrete. (Cement will be supplied by BHEL free of cost as per TCC)	CUM	11500	-	-	5.536115466700120%
A2419	Providing and laying reinforced cement concrete of grade M30 using 20 mm nominal size stone aggregate with approved admixture (if required), provision for necessary joints including compaction, finishing to lines and grades, curing and providing & fixing forwork etc. all complete. (Excluding the cost of reinforcement and dowel bar) (Cement will be supplied by BHEL free of cost as per TCC)	CUM	23556	-	-	13.053844055870000%
2421	Providing & laying Dry Lean Cement Concrete (DLC) of grade M15 with 20 mm nominal size graded stone aggregate over a prepared sub-grade including compaction, finishing, curing etc all complete. (Cement will be supplied by BHEL free of cost as per TCC)	CUM	11000	-	-	5.505962332349900%
2422	Providing & laying 75 mm thick anti skid interlocking concrete paver blocks of M30 grade of concrete of approved colour and pattern as per specification and recommendation of manufacturer.	SQM	23565	-	-	3.246943913573950%
2423	Providing and laying 50mm thick sand/moorum layer below concrete pavers including compaction etc all complete as per specification, drawing and as directed by Engineer.	SQM	23565	-	-	0.238627964157587%
2424	Transporting, straightening, cutting, bending, placing in position at any level, binding in position of corrosion resistant steel -HCRM re-bars of approved make with steel of grade Fe-500D/Fe-550/Fe-550D confirming to IS:1786 norms including cost of binding wire, labour, scaffolding, transportation to & from stores etc complete all as per specifications, drawings and as directed by Engineer. (BHEL shall supply reinforcement steel free of cost)	MT	1145	-	-	1.722386593685740%
2425	Providing and fixing in position MS dowel bar reinforcement including surface painted with bitumen and greasing, dowel end caps with cotton fills etc all complete as per specification, drawing and as directed by Engineer.	MT	226	-	-	2.697282729035160%
2426	Providing, straightening cutting, bending, placing in position at any level, binding in position of steel reinforcement of mild steel reinforcements including cost of binding wire, labour, scaffolding transportation to & from stores etc all complete as per specifications, drawings and as directed by Engineer.	MT	15	-	-	0.170498276171628%
2428	Providing & installation of bitumen impregnated fibre board of specified 20 mm thickness confirming to IS 1838 as joint filler including nailing, coating of both faces with coal tar pitch/bitumin etc. all complete as per specification, drawing and as directed by engineer.	RM	7660	-	-	0.785308231017091%
2429	Providing and filling in position hot applied bitumen sealing compound (Grade A) of specified thick 20mmx25mm confirming to IS 1834 including cleaning, mixing, heating, pouring/injecting sealing compound in gaps in joints, sealant primer etc all complete as per specification, drawing and as directed by Engineer.	RM	30640	-	-	0.321353751822851%
2430	Providing and laying debonding strip/tape of specified thickness before applying sealant including cleaning etc all complete as per specification, drawing and as directed by Engineer.	RM	500	-	-	0.003577079438025%
A2431	Manufacturing, supplying and fixing retro reflective overhead signage boards made up of 2 mm thick aluminium sheet, face to be fully covered with high intensity and encapsulated lens type heat activated retro reflective sheeting conforming to type - III of ASTM-D-4956-01 as approved by Engineer-in-charge, letters, borders etc. as per IRC : 67-2001 in silver white with blue colour back ground and with high intensity grade, pasted on substrate by pressure sensitive adhesive backing which shall be activated by applying pressure conforming to class II of ASTM-D-4956-01 and fixing the same to the plate of structural frame work by means of suitable sized aluminium alloys, rivets or bolts & nuts @ 300 mm centre to centre all along the periphery as well as in two vertical rows along with theft resistant measures, including the cost of painting with two or more coats of epoxy paint in grey colour on the back side of aluminium sheet including appropriate priming coat. The rate includes the cost of rounding off the corners, lowering down the structural frame work from the gantry, fixing and erecting the same in position all complete as per drawings, specification and direction of the engineer-in-charge.(Structural frame work including M.S. plate to be provided separately in St no B2431. Rectangular area of the sheet only shall be measured for payment).	SQM	100	-	-	0.055646116353342%
B2431	Supply, fabrication and fixing of mild steel posts/frame for sign board including painting etc all complete.	MT	5	-	-	0.075058361929821%
						1.00