

TENDER SPECIFICATION

Ref: BHEL/PSSR/SAS/SCT/T-31/2021-22

Date: 30.12.2021

ESP R&M works at Unit.No.1,3 & 4 at NALCO, Damanjodi SPP
(Balance works)

AT

NALCO-Damanjodi, Steam cum Power Plant Alumina Refinery,
Orissa

VOLUME-II

PRICE BID



BHARAT HEAVY ELECTRICALS LIMITED

(A Government of India Undertaking)

Power Sector – Southern Region

Services After Sales Division - , Ek Tara Building

39, Sarojini Devi Road, Secunderabad-500 003.

PRICE BID

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PRICE BID

PART-A

Instruction to Bidders:

1. The quantity indicated in the BOQ in Part C of Price Bid is approximate only and is liable for variation. Payment will be as per actual quantity executed and as certified by BHEL Engineer.
2. Tenderers are requested to affix their company seal and authorized signature in all pages.
3. Bidders shall quote 'Total Amount' in the format enclosed as a separate Excel File in BHEL NIC e-Procurement portal for the subject tender and upload the same under 'Packet details - > Tender covers -> Finance '(Cover Type Description – Price Bid)' and same shall be taken into account for evaluation and awarding and hence, shall be complete in all respect for the full scope of work defined in specification and in accordance with terms & conditions of the tender. Any other entry elsewhere in the price bid shall be treated as Null and Void. Quoting of rates in any other form/formats will not be entertained.
4. The above mentioned 'Total amount' is for the entire Bill of Quantity (BOQ) given in Part -C of the Price Bid.
5. Based on the quantities of individual item and the 'Total amount' as mentioned above, unit rate of individual item shall be derived. This unit rate shall be rounded off to four decimal places.
6. Bidders to note that this is an item rate contract. Payment shall be made for the actual quantities of work executed at the unit rate arrived at as per Sl No.5 above.

Part C : Bill of Quantities

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Sl.No.	Description of work	UOM	Qty	Weightage for amount of each item (Nearest to the 7 decimal points) w.r.t. the total amount
I	ERECTION WORKS			
1	<i>Material Handling</i>			
(a)	Unloading of material from trailer/vegans etc. DB/Stock register entry and preparation of MRC duly signed by BHEL and Customer.	1,414.85	MT	0.0088082
(b)	Stacking at storage yard/stores and verified as per trailer/wagon loading advice slip/Packing slip.	1,471.66	MT	0.0025506
(c)	Verification, restacking and preparation of short supplies MDR,SAR,etc and duly signed by BHEL resident manager with respect to availability and proper maintenance of records upto last date of billing period	3,609.46	MT	0.0015639
(d)	Final Reconciliation of the materials and submission of all relevant documents and submission of final bill and duly certified by BHEL Resident Manager	1,414.85	MT	0.0006292
2	<i>Dismantling</i>			
2A	Dismantling of inlet & outlet duct Components, Gates/ Dampers, HVR, Insulation,Ammonia dosing system Etc and transporting to BHEL/ Customer stores/ Storage yard with in the customer plant. Inlet duct 3 nos and outlet duct 3 nos.			
(a)	Satisfactory Completion of Dismantling of Ducts in all respects.	4.00	Passes	0.0431313
(b)	Shifting of dismantled materials to dump yard/Scrap yard/ Other area as directed by BHEL/NALCO.	4.00	Passes	0.0025371
(c)	Cleaning of structures after dismantling and cleared for new erection, Area Cleaning, Temporary Structures Cutting/ Removal and return of scrap.	4.00	Passes	0.0025371
(d)	Completion of contractual obligation	4.00	Passes	0.0025371
2B	Dismantling of ESP pass items like insulators, Heating elements, Inner & Outer roof, LR ,TR beams, Side casing Walls, Funnel etc. and transporting to BHEL/ Customer Stores/ Storage yard with in the customer plant.			

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(a)	Satisfactory Completion of Dismantling in all respects.	5.00	Passes	0.0560707
(b)	Shifting of dismantled materials to dump yard/Scrap yard/ Other area as directed by BHEL/NALCO.	5.00	Passes	0.0032983
(c)	Cleaning of structures after dismantling and cleared for new erection, Area Cleaning, Temporary Structures Cutting/ Removal and return of scrap.	5.00	Passes	0.0032983
(d)	Completion of contractual obligation.	5.00	Passes	0.0032983
2C	Dismantling of ESP for Unit 1,3 & 4 like structural, Components, Internals, EE, CE, rapping & drive mechanisms, hopper, ALI, all electrical Panels/ Cables/ trays/ transmitters/ heaters, platforms, etc., and transporting to BHEL/customer stores/ Storage yard with in the customer plant except one LTMSB and two ACP Panels of Unit No:3.			
(a)	Satisfactory Completion Dismantling of above components in all respects.	5.00	Passes	0.1056717
(b)	Shifting of dismantled materials to dump yard/Scrap yard/ Other area as directed by BHEL/NALCO.	5.00	Passes	0.006216
(c)	Cleaning of structures after dismantling and cleared for new erection, Area Cleaning, Temporary Structures Cutting/ Removal and return of scrap.	5.00	Passes	0.006216
(d)	Completion of contractual obligation	5.00	Passes	0.006216
3	Upgradation			
(a)	On pre assembly wherever applicable (if not applicable, this portion shall be clubbed with placement in position)	2,131.00	MT	0.0503699
(b)	Placement In Position	2,234.17	MT	0.0704114
(c)	Alignment	2,237.75	MT	0.052893
(d)	Welding/ Bolting / Fixing	2,238.41	MT	0.0705447
(e)	Completion of Hoppers along with all doors, heating elements, poking doors etc.	2,238.42	MT	0.0176363
(f)	Completion of inner,outer roof,insulator housing, rectifier transformers, Pent House mono rails, Hoists etc.	2,238.41	MT	0.0176362
(g)	Erection of emitting and collecting rapping system with all drives	2,238.41	MT	0.0176362

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Sl.No.	Description of work	UOM	Qty	Weightage for amount of each item (Nearest to the 7 decimal points) w.r.t. the total amount
(h)	Air tightness Test	2,238.41	MT	0.0070545
(i)	Gas Distribution Test	2,792.00	MT	0.0087992
(j)	Charging Of ESP Fields	2,238.41	MT	0.0105817
(k)	PG Test Completion	2,792.00	MT	0.0043996
(l)	Trial Operation Of ESP	2,238.41	MT	0.0035272
(m)	Painting	2,792.00	MT	0.0087992
(n)	Area Cleaning, Temporary Structures Cutting/ Removal and Return Of Scarp	2,792.00	MT	0.0043996
(o)	Punch List Points/ Pending Points Liquidition	2,792.00	MT	0.0043996
(p)	Material Reconciliation	2,238.41	MT	0.0035272
(q)	Completion of contractual obligation.	2,238.41	MT	0.0035272
4	Erection of Parallel Pass			
(a)	On pre assembly wherever applicable (if not applicable, this portion shall be clubbed with placement in position)	806.24	MT	0.0190567
(b)	Placement In Position	882.48	MT	0.0278119
(c)	Alignment	882.48	MT	0.020859
(d)	Welding/ Bolting / Fixing	884.66	MT	0.0278805
(e)	Completion of Hoppers Along with all doors, heating elements, poking doors etc.	923.00	MT	0.0072722
(f)	Completion of inner, outer roof insulator housing, Rectifier transformers, Pent House mano rails, Hoists etc.	923.00	MT	0.0072722
(g)	Erection of emitting and collecting rapping system with all drives	923.00	MT	0.0072722
(h)	Air Tightness Test	923.00	MT	0.0029089
(i)	Gas Distribution Test	923.00	MT	0.0029089
(j)	Charging Of ESP Fields	923.00	MT	0.0043633
(k)	PG Test Completion	923.00	MT	0.0014544
(l)	Trial Operation Of ESP	923.00	MT	0.0014544
(m)	Painting	923.00	MT	0.0029089

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(n)	Area Cleaning, Temporary Structures Cutting/ Removal and Return Of Scarp	923.00	MT	0.0014544
(o)	Punch List Points/ Pending Points Liquidition	923.00	MT	0.0014544
(p)	Material Reconciliation	806.24	MT	0.0012704
(q)	Completion of contractual obligation.	806.24	MT	0.0012704
5	Dismantling Ash Handling System			
5A	Ash handling system: Dismantling of wet ash handling system and dry ash handling system for Pass -A of Units # 1,3 shall be in the scope of contractor.			
(a)	Satisfactory Completion of Dismantling of ASH handling system Works in all respects.	2.00	Unit	0.004503
(b)	Shifting Of Dismantled Material to dump yard/Scrap yard/other area as directed by BHEL/NALCO.	2.00	Unit	0.0002649
(c)	Cleaning Of Structures after Dismantling and Cleared for new erection,Area cleaning ,Temporary Structure Cutting/Removal And Return of Scrap.	2.00	Unit	0.0002649
(d)	Completion of Contractual obligation.	2.00	Unit	0.0002649
5B	Ash handling system: Dismantling of wet ash handling system and dry ash handling system for Pass -B of Units # 1,3&4 shall be in the scope of contractor. (Terms of payment:AA)	3.00	Unit	0.0079465
6	Reconnection of Ash Handling			
6A	Ash handling system: Dismantled dry ash handling system shall be re-connected with new hopper erected incl.painting wherever required for pass -A of units#1&4			
(a)	Completion of Re-Erection.	1.00	Units	0.004503
(b)	Cleaning of ash after dismantling.	1.00	Units	0.0004238
(c)	Painting.	2.00	Units	0.0002119
(d)	Trail operation test.	2.00	Units	0.000106
(e)	Testing and punch list point.	2.00	Units	0.0002119
(f)	Completion of Contractual obligation.	1.00	Units	0.000106

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6B	Ash handling system: Dismantled dry ash handling system shall be Re-connected with new hopper erected incl.painting wherever required for pass -B of units#1&4.	2.00	Units	0.0105953
7	Ducts, Gates & Dampers			
(a)	Pre-assembly.	320.37	MT	0.0142014
(b)	Placement in position.	371.84	MT	0.0296689
(c)	Alignment and welding.	371.84	MT	0.0098897
(d)	Restoration of flue gas conditioning system/Ammonia Dosing System.	501.00	MT	0.0008883
(e)	Completion of leak test and permanent supports.	371.84	MT	0.0032965
(f)	Charging of ducts.	371.84	MT	0.0026372
(g)	Trial operation of unit.	501.00	MT	0.0008883
(h)	Area cleaning, Temporary structures cutting/ Removal and Return of scrap.	501.00	MT	0.0008883
(i)	Punch list points/ Pending points Liquidation.	501.00	MT	0.0008883
(j)	Material Reconciliation.	501.00	MT	0.0008883
(k)	Completion of contractual obligation.	320.37	MT	0.0005681
8	Insulation			
(a)	Completion Of Required Scaffoldings, Huck Welding and lagging Of wool	245.54	MT	0.0277703
(b)	Cladding Including Completion Of Final Sheeting Work	245.54	MT	0.0128171
(c)	Material Reconciliation.	245.54	MT	0.0012817
(d)	Completion of contractual obligation.	245.54	MT	0.0008545
9	Electrical Works			
9A	Erection, Testing & Commissioning of Electrical Items (Supplied by BAP/ Ranipet, EDN, RMSG) as per SOW in pass A of Unit#1 and Unit#3 excluding ESPSG(ACP) panel of Unit No.#3 (Terms of payment:BB)	2.00	Unit	0.0282542
9B	Erection, Testing & Commissioning of Electrical Items (Supplied by BAP/ Ranipet, EDN, RMSG) as per SOW in pass B of Unit#1 and Unit#3 excluding ESPSG(ACP) panel of Unit No.#3 (Terms of payment:BB)	2.00	Unit	0.0282542

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9C	Erection, Testing & Commissioning of Electrical Items (Supplied by BAP/ Ranipet, EDN, RMSG) as per SOW in pass C of Unit#1 and Unit#3 (Terms of payment:BB)	2.00	Unit	0.0282542
9D	Erection, Testing & Commissioning of Electrical Items (Supplied by BAP/ Ranipet, EDN, RMSG) as per SOW in pass A of Unit#4			
(a)	Gas Distribution Test	1.00	Unit	0.0002119
(b)	PG Test	1.00	Unit	0.0002119
9E	Erection, Testing & Commissioning of Electrical Items (Supplied by BAP/ Ranipet, EDN, RMSG) as per SOW in pass B of Unit#4	1.00	Unit	0.0211907
II.i.	Control Panel shifting, ESPSG Hook-up work and other misc electrical works in ESP control room for Unit#1 details in clause no.2.1.28. A &B of scope of works	Unit	1	0.00278375
II.ii.	Misc electrical works in ESP control room for Unit#3 details in clause no. 2.1.29 of scope of works	Unit	1	0.00278375
III	Pending Punch points : Pending works for Duct and ESP of Unit#4			
1	Specific for PASS – A			
(a)	Illumination of Pass-A of Unit#4.	Lumpsum	1	0.0006357
(b)	IOS for Unit#4 Pass- A of Unit#4.	Lumpsum	1	0.0002119
(c)	Erection of Interlock JB Termination of Power cables of I/C-2 of U#4, ACP pass-A in Old PCC panel (customer), ALI system--Dressing of GI conduit used for cabling between probe and SPU unit in all hoppers. ALI system--Replacement of faulty probes in U#4, pass-A hoppers.	Lumpsum	1	0.0002119
(d)	Removal of Scaffolding.	Nos.	150	0.0001539
2	Common for PASS – A & B			
(a)	Erection of hoist (Common)	Lumpsum	1	0.0002119
(b)	Re-erection of dismantled structure of outlet duct.	Lumpsum	1	0.0002055
Total Weightage				1.00000000