TP Central Odisha Distribution Limited | TP Nothern Odisha Distribution Limited | TP Southern Odisha Distribution Limited | TP Western Odisha Distribution Limited

CENTRALIZED CONTRACTS GROUP

Corrigendum-1 / Response to Pre-Bid Queries

31.01.2024

NIT No.: TPCODL / CCG / 23-24 / 1000000550

Tender Description: Rate Contract - Supply of Conductor at TPCODL, TPNODL & TPSODL for One Year

The pre-bid queries as received against the referred tender enquiry and CCG/CEQG (TP-Odisha) responses on the same are placed below:

S. No.	Tender Reference	Pre-Bid Query raised by Bidder	CCG/CEQG (TP-Odisha) response
1		With regard to Pre-Qualification Requirement (PQR) for Experience, we have supplied huge quantity of ACSR Conductors, being a standard product. Therefore, you are requested to modify the PQR-Experience as 20% supply of any conductor during the last 5 years instead of only AAA Conductor.	As per NIT; (already mentioned for ACSR) **The bidder must have supplied for 11kV -Conductor (ACSR / AAAC) / Cable;** a. A minimum order of 20% of tender qty. during last 5 years Or, b. A single order of 15% of tender qty. nos. in last 5 years Or, c. Two orders of 10% of tender qty. in each, whichever is maximum in last 5years
2		With respect to submission of two performance certificates, the requirement should be modified as two performance certificates towards supply of any conductor from any DISCOMS/PSUs/Government Departments through Turnkey Contractors/Reputed Companies, during the last 5 years.	As per NIT; At least 2 Performance Certificate by any Discoms / PSUs / Reputed Companies is to be submitted. The work against these issued certificates should be completed in last 07 years from the date of bid submission. In case the bidder has got previous association with Tata Power / TPCODL / TPNODL / TPWODL / TPSODL for supply of similar product, performance feedback of the same will be solely considered irrespective of the performance certificate issued by bidder's other customers.
3	ENG-GEN-4003 Point 7.1	ACCEPTANCE TESTS Wrapping Test and Density Test (using Hygrometer) is not required for AAAC Conductors	Noted and all test shall be performed as per IS 398 Part-4

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Tender Description: Rate Contract - Supply of Conductor at TPCODL, TPNODL & TPSODL for One Year

1.1 Scope of work

Bids are invited from interested Bidders to award Rate Contract (RC) for Procurement of Conductor as mentioned below:

Sl. No.	Item Description	UOM	TPCODL Qty.	TPNODL Qty.	TPSODL Qty.	TPWODL Qty.	TOTAL QTY
1	AAA conductor, 55 mm^2	Mtr.	10,000	3,50,000	30,000	-	3,90,000
2	AAA Conductor, 80 mm^2	Mtr.	-	3,50,000	4,03,582	-	7,53,582
3	AAA Conductor, 100 mm^2	Mtr.	2,50,000	11,01,700	6,81,244	-	20,32,944
4	AAA Conductor, 148 mm^2	Mtr.	1,75,000	2,33,500	3,59,108	-	7,67,608
5	AAA Conductor, 232 mm^2	Mtr.	1,00,000	4,61,300	29,640	-	5,90,940
6	ACSR Conductor 50 mm^2	Mtr.	-	25,000	-	-	25,000
7	ACSR Conductor 80 mm^2	Mtr.	-	41,176	-	-	41,176
8	ACSR Conductor 420 mm^2 (Zebra)	Mtr.	10,000	-	-	-	10,000

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31.01.2024

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Tender Description: Rate Contract - Supply of Conductor at TPCODL, TPNODL & TPSODL for One Year

ANNEXURE-I : Price Schedule

S. No.	Item Description	Unit	Qty.	HSN/ SAC Code	Unit Ex-Work Price (Rs./ Unit)	Freight (Rs./ Unit)	GST (Rs/ Unit)	All Inclusive Unit Rate (Rs.)	Total All Inclusive Value (Rs.)
A	B	C	D	E	F	G	H	I=(F+G+H)	J=(DxI)
1	AAA Conductor, 55 mm^2	Mtr	3,90,000						
2	AAA Conductor, 80 mm^2	Mtr	7,53,582						
3	AAA Conductor, 100 mm^2	Mtr	20,32,944						
4	AAA Conductor, 148 mm^2	Mtr	7,67,608						
5	AAA Conductor, 232 mm^2	Mtr	5,90,940						
6	ACSR Conductor 50 mm^2	Mtr	25,000						
7	ACSR Conductor 80 mm^2	Mtr	41,176						
8	ACSR Conductor 420 mm^2 (Zebra)	Mtr	10,000						
GRAND TOTAL AMOUNT (Rs.)									

NOTE:

- Prices shall be firm till the validity of the contract.
- The bids will be evaluated commercially on **Line-Item** basis.
- The unit price to be entered in column "F" & "G" of above table is exclusive of GST.
- The prices mentioned above shall be on FOR basis for all the TPNODL, TPCODL & TPSODL locations.
- Issuance of Release Orders (RO) shall be done by respective Discoms as per their requirement.
- The material shall be delivered as per the location captured in the release order.
- The bidders are advised to quote prices strictly in the above format. Failing to do so, bids are liable for rejection.
- The bidder must fill each and every column of the above format. ***Mentioning "extra/inclusive"/other conditions in any of the column may lead for rejection of the price bid.***
- No cutting/ overwriting in the prices is permissible.
- The quantity mentioned above are for evaluation purpose only and may vary as per actual site requirement.

Note:

This document shall be an integral part of the tender and bidder shall submit signed/stamped copy of this document along with technical bid, as a token of acceptance. The tender document stands modified only to the extent stipulated herein above in this document. All other terms & conditions shall be strictly followed as per Bid documents.

CONTENTS

1.0 SCOPE

This specification covers the technical requirements of design, manufacture, testing at manufacturer's works, packing, forwarding, unloading at site/store and performance of ACSR conductors for trouble free and efficient operation.

2.0 APPLICABLE STANDARDS

ACSR Conductors covered by this specification shall unless otherwise stated, be designed, manufactured and tested in accordance with latest revisions of relevant Indian Standards/ IEC/ International Standards and shall conform to the regulations of local statutory authorities.

Indian Standards	**Title**
IS 209:1992	Zinc Ingot (Amendment I).
IS 398:1996 (Part II)	Aluminum conductors for overhead transmission purposes for Aluminum Conductors, galvanized steel reinforced.
IS 1778:1980	Reels and drums for bare conductors (Amendment I).
IS 2633:1986	Methods for testing uniformity of coating of zinc coated articles.
IS 4026:2007	Aluminium ingots, billets and wire bars (EC grade).
IS 4826:1979	Hot dipped galvanized coatings on round steel wires.
IS 5484:1997	EC grade Aluminium produced by continuous casting and rolling.
IS 6745:1972	Method of determination of mass of zinc coating on zinc coated iron and steel articles.
IS 7623: 1993(2nd Rev)	**Lithium base grease for industrial purposes**

In case of any conflict on any technical particular in the specification, the stricter requirement mentioned in the relevant standard shall be valid.

3.0 CLIMATIC CONDITIONS OF THE INSTALLATION

The material shall be suitable for following climatic conditions,

- Maximum Ambient Temperature 50 ºC
- Maximum Daily Average Ambient Temperature 40 ºC
- Minimum Ambient Temperature 2 ºC
- Maximum Humidity 99.7 %
- Minimum Humidity 15 %
- Average Annual Rainfall 1800 mm
- Average Wind Speed prevailing in the area 200 km/hr.
- Average Thunderstorms prevailing in the area 70 days per annum
- Average dust storms prevailing in the area 20 days per annum
- Average number of rainy days per annum 160
- Maximum Altitude above sea level 1200 m
- Seismic Level 0.24g to 0.48g

The atmosphere is generally laden with mild acid and dust in suspension during the dry months and is subjected to fog in cold months. The design of equipment and accessories shall be suitable to withstand seismic forces corresponding to an acceleration of 0.3 g.

4.0 GENERAL TECHNICAL PARTICULARS

S no	Parameter	Unit	ZEBRA	GOAT	WOLF	DOG	RACOON	RABBIT	SQUIRREL
	Cross-sectional are		420	400	150	100	80	50	22
1	Current Carrying Capacity	A	780	648	418	320	260	205	112
2	Total Nominal Area of conductor	Sq. mm	484.5	399.97	194.86	118.5	92	62	24.5
3	Approx. diameter of Conductor	mm	28.62	25.97	18.13	14.15	12.27	10.05	6.33
4	Ultimate Tensile Strength of the ACSR conductor	kg	13289	13848	6867	3305	2744	1861	776
5	Sectional Area of Aluminium	Sq. mm	428.9	324.3	158.1	105	78.83	52.88	20.98
6	Max. Calculated DC Resistance of conductor @ 20ºC	Ohm /Km	0.06868	0.0891	0.1871	0.2792	0.3712	0.5524	1.394
7	Nominal Area of Steel	Sq. mm	55.59	75.63	36.88	13.5	13	9	3.5
8	Minimum Purity of Aluminium	%	99.5	99.5	99.5	99.5	99.5	99.5	99.5
9	Number of Aluminium Strands	Nos.	54	30	30	6	6	6	6
10	Minimum Diameter of Aluminium Strand	mm	3.18	3.71	2.59	4.72	4.09	3.35	2.11
11	Maximum Diameter of Aluminium strand	mm	3.21	3.75	2.62	4.77	4.13	3.38	2.13
12	Minimum Breaking Load of Aluminium Strand after Stranding	kN	1.23	1.71	0.85	2.64	1.98	1.36	0.60
13	Maximum resistance of Al strand at 20 Deg.C	Ohm /m	0.003626	0.002614	0.005490	0.00165	0.002194	0.003265	0.008237

14	Number of Steel Strands	Nos.	7	7	7	7	1	1	1
15	Nominal Diameter of Steel Strand	mm	3.18	3.71	2.59	1.57	4.09	3.35	2.11
16	Maximum Diameter of steel strand	mm	3.24	3.78	2.64	1.60	4.17	3.42	2.15
17	Minimum Diameter of steel strand	mm	3.12	3.64	2.54	1.54	4.01	3.28	2.07
18	Minimum Breaking Load of steel Strand after Stranding	kN	9.91	13.50	6.57	2.57	16.4	11.00	4.37
19	Minimum purity of Zinc	%	99.95	99.95	99.95	99.95	99.95	99.95	99.95
20	Minimum weight of zinc coating after stranding	gm/ m^2	237.5	247	218.5	180.5	261.25	237.5	199.5
21	Minimum no. dips after strandingfor zinc uniformity test	Nos.	2 dips of 1 minute each and 1 dip of half minute	2 dips of 1 minute each and 1 dip of half minute	2 dips of 1 minute each and 1 dip of half minute	1 dips of 1 minute each and 1 dip of half minute	3 dips of 1 minute each and 1 dip of half minute	2 dips of 1 minute each and 1 dip of half minute	1 dips of 1 minute each and 1 dip of half minute
22	Minimum number of twists in torsion test Strand dia (after stranding)	Nos.	16	16	16	16	16	16	16
23	Lay ratio of Steel Core	Max. Min.	28 13	28 13	28 13	28 13	-	-	-
24	Lay ratio Aluminium core outermost layer	Max. Min.	14 10	14 10	14 10	14 10	14 10	14 10	14 10
25	Lay ratio Aluminium core beneath outermost layer	Max. Min.	16 10	16 10	16 10	-	-	-	-
26	Lay ratio Aluminium core innermost layer with 3 layers	Max. Min	17 10	-	-	-	-	-	-

		27	Standard length of stranded conductor	M	2000	2000	2000	2000	2000	2000	2000
		28	Tolerance on standard length of conductor	%	±5	±5	±5	±5	±5	±5	±5
		29	Direction of lay for outermost layer		Right hand	Right hand	Right hand	Right hand	Right hand	Right hand	Right hand
		30	Approx. Standard linear mass of conductor	kg/km	1621	1489	726	394	319	214	85
		31	Approx. Weight of Aluminium	kg/km	1186	896	437	288	216	145	58
		32	Approx. Weight of Steel	kg/km	435	593	289	106	103	69	27
		33	Density of Aluminium wire	g/cm^3	2.703	2.703	2.703	2.703	2.703	2.703	2.703
		34	Density of galvanized steel wire	g/cm^3	7.8	7.8	7.8	7.8	7.8	7.8	7.8

5.0	**GENERAL CONSTRUCTION**	The conductors shall be constructed as per IS 398 (Part II)/ BS 215 part 2. The steel strands shall be uniformly grease coated as anti-corrosive agent in Zebra, Goat and wolf conductors. **Neutral Lithium** based Grease shall complied to IS 7623
5.1	**MATERIALS**	5.1.1 The materials shall be as per clause 4.0 & 6.0 of IS 398 (Part II). The Aluminium conductor strands shall be drawn from 99.5% pure electrolytic EC grade Aluminum rods. 5.1.2 Aluminum raw material shall be procured from **NALCO, BALCO, HINDALCO and VEDANTA only.** 5.1.3 The galvanized steel wire shall be drawn from high carbon steel rods produced by either acid or base open hearth process, electric furnace or basic oxygen process. The zinc used for galvanizing shall be electrolyte high grade zinc not less than 99.95 % purity. The coating on galvanized steel wire shall be applied by hot process. **5.1.4 Steel raw material shall be from Tata Steel, Jindal steel, SAIL only** **5.1.5 Grease shall be from BPCL, HPCL, Balmer Lawrie only**
5.2	**SURFACE CONDITIONS**	5.2.1 Surface conditions of the conductor shall be generally as per clause 7.0 of IS 398 (Part II). The wires used for standard conductor shall be smooth and free from imperfections, such as spills and split The conductor shall be free from points, sharp edges, abrasions and other departures from smoothness on uniformity of surface contour that would increase radio interference and corona losses. When subjected to tension up to 50% of the ultimate strength of the conductor, the surface shall not depart from the cylindrical form on any part of the compartment, parts or strands, more relative to each other in such a way as to get out of place and disturb the longitudinal smoothness of the conductor. 5.2.2 The zinc coating on steel wire shall be uniform, adherent, smooth and free from such imperfections as flurry, ash and dross inclusions, bare patches, black spots, pimples, lumpiness, runs, rust stains, bulky white deposits, and blisters
5.3	**STANDARD SIZES**	Size of the wire shall be as specified in the Guaranteed Technical Requirement of this specification.
5.4	**JOINTS IN**	The wires shall be drawn in continuous length, without joints, except those made in wire rod or

	WIRES	before drawing operation.
5.5	**STRANDING**	The wires used in the construction of galvanized steel-reinforced Aluminum conductor shall, before stranding, satisfy all the relevant requirements of the IS 398- Part II. Steel wires shall be formed during stranding so that they remain intact when the conductor is cut for jointing operation. The lay ratio shall comply as per the Clause No.4 of this specification.
6.0	**NAME PLATE AND MARKING**	The conductor shall be wound on non-returnable wooden reels or drums conforming to IS 1778:1981. Drum shall be marked with the following: a) Reference to the Standards. b) Manufacturer's name c) Size and the type of conductor d) Net weight of the conductor (in kg) e) Gross weight of the conductor (in kg) f) Length of the conductor (in meter). g) No. of short length on the drum (if any). h) Marking of PO no. i) Direction of rotation of the drum. j) Gross mass. k) Country of manufacture. l) Year of manufacture. "PROPERTY OF TPNODL" shall be written in bold letters.
7.0	**TESTS**	All routine, acceptance & type tests shall be carried out in accordance with the relevant IS/IEC. All acceptance tests shall be witnessed by the purchaser/his authorized representative. All the components shall also be type tested as per the relevant standards. Following tests shall be necessarily conducted on the conductors in additions to others specified in the IS standards: **In case of any conflict on any technical particular in the specification, the stricter requirement mentioned in the relevant standard shall be valid.*
7.1	**TYPE TEST**	

S. No	Test	Clause No.	
		13.6	Reference Standard
1	Resistance Test on Aluminum wire	13.2	IS 398 part- 2
2	Measurement of diameter of individual Aluminum	13.5.1	IS 398 part- 2
3	Wrapping test on aluminum wire	13.3	IS 398 part- 2
4	Breaking load on aluminum wire	13.8	IS 398 part- 2
5	Measurement of lay ratio of Aluminum Layers	13.2	IS 398 part- 2
6	Measurement of diameter of individual Steel	13.5.2	IS 398 part- 2
7	Wrapping test on steel wire	13.3	IS 398 part- 2
8	Breaking load on Steel wire	13.4.1	IS 398 part- 2
9	Torsion Test on steel Wire	13.4.2	IS 398 part- 2
10	Elongation Test Steel Wire	4.2	IS 398 part- 2
11	Uniformity of Zinc coating	4.1	IS 4826
12	Mass of Zinc coating	13.8	IS 398 part- 2
13	Measurement of lay ratio of Steel	13.11	IS 398 part- 2
14	Stress strain test on conductor (For Aluminium Area 100mm2 & Above)	13.10	IS 398 part- 2
15	Ultimate Breaking Load Test	13.9	IS 398 part- 2
16	Surface condition Test		

7.2	**ROUTINE**	

S.	Test	Clause No.

	TEST	No		13.6	Reference Standard
		1	Resistance Test on Aluminum wire	13.2	IS 398 part- 2
		2	Measurement of diameter of individual Aluminum	13.5.1	IS 398 part- 2
		3	Wrapping test on aluminum wire	13.3	IS 398 part- 2
		4	Breaking load on aluminum wire	13.8	IS 398 part- 2
		5	Measurement of lay ratio of Aluminum Layers	13.2	IS 398 part- 2
		6	Measurement of diameter of individual Steel	13.5.2	IS 398 part- 2
		7	Wrapping test on steel wire	13.3	IS 398 part- 2
		8	Breaking load on Steel wire	13.4.1	IS 398 part- 2
		9	Torsion Test on steel Wire	13.4.2	IS 398 part- 2
		10	Elongation Test Steel Wire	4.2	IS 398 part- 2
		11	Uniformity of Zinc coating	4.1	IS 4826
		12	Mass of Zinc coating	13.8	IS 398 part- 2
		13	Measurement of lay ratio of Steel	13.11	IS 398 part- 2

7.3 ACCEPTANCE TEST

SNO	Test	Clause No.	Reference Standard
1	Resistance Test on Aluminum wire	13.6	IS 398 part- 2
2	Measurement of diameter of individual Aluminum wire	13.2	IS 398 part- 2
3	Wrapping test on aluminum wire	13.5.1	IS 398 part- 2
4	Breaking load on aluminum wire	13.3	IS 398 part- 2
5	Measurement of lay ratio of Aluminum Layers	13.8	IS 398 part- 2
6	Measurement of diameter of individual Steel wire	13.2	IS 398 part- 2
7	Wrapping test on steel wire	13.5.2	IS 398 part- 2
8	Breaking load on Steel wire	13.3	IS 398 part- 2
9	Torsion Test on steel Wire	13.4.1	IS 398 part- 2
10	Elongation Test Steel Wire	13.4.2	IS 398 part- 2
11	Uniformity of Zinc coating	4.2	IS 4826
12	Mass of Zinc coating	4.1	IS 4826
13	Measurement of lay ratio of Steel	13.8	IS 398 part- 2
14	Raw material invoice document verification	5.1.2, 5.1.4 & 5.1.5	ENG-HV-2020
15	Visual & surface smoothness test for Aluminum wire	5.21	ENG-HV-2020
16	Visual & surface smoothness test for steel wire	5.22	ENG-HV-2020
17	Grease coating on steel wires	5.0	ENG-HV-2020
18	Packaging & Marking	12.0 & 6.0	ENG-HV-2020
19	Conductor Surface smoothness and length verification	12.1	ENG-HV-2020

8.0 TYPE TEST CERTIFICATES

The bidder shall furnish the type test certificates of the cable for the tests as mentioned as above as per the corresponding standards. All the tests shall be conducted by CPRI/ERDA/Third Party NABL as per the relevant standards. Type test should have been conducted in certified Test Laboratories during the period not exceeding 5 years from the date of opening the bid. In the event of any discrepancy in the test reports i.e. any test report not acceptable or any/all type tests (including additional type tests, if any) not carried out, same shall be carried out without any cost implication to TPNODL.

9.0 PRE-DESPATCH INSPECTION

The Material shall be subject to inspection by a duly authorized representative of the TPNODL. The inspection shall be carried out as per TPNODL specification, ITP and relevant IS standards and may be made at any stage of manufacture at the discretion of the purchaser and the equipment, if found unsatisfactory as to workmanship or material, the same is liable to rejection. Bidder shall grant free access to the places of manufacture to TPNODL's representatives at all times when the work is in progress. Inspection by the TPNODL or its authorized representatives shall not relieve the bidder of his obligation of furnishing equipment in accordance with the specifications. Material shall be dispatched after specific MDCC

		(Material Dispatch Clearance Certificate) is issued by TPNODL. Following documents shall be sent along with material: a) Test reports b) MDCC issued by TPNODL c) Invoice in duplicate d) Packing list e) Drawings & catalogue f) Guarantee / Warrantee card g) Delivery Challan h) Other Documents (as applicable)
10.0	**INSPECTION AFTER RECEIPT AT STORE**	The material received at TPNODL store will be inspected for acceptance and shall be liable for rejection, if found different from the reports of the pre-dispatch inspection and one copy of the report shall be sent to each Engineering and Contracts departgment.
11.0	**GUARANTEE:**	Bidder shall stand guarantee towards design, materials, workmanship & quality of process/ manufacturing of items under this contract for due and intended performance of the same, as an integrated product delivered under this contract. In the event any defect is found by the Purchaser up to a period of at least 12 months from the date of commissioning or 24 months from the date of last supplies made under the contract whichever is later, (the time scale of 12/24 months could be enhanced subject to mutual agreements). Bidder shall be liable to undertake to replace/rectify such defects at its own costs, within mutually agreed time frame, and to the entire satisfaction of the Purchaser, failing which the Purchaser will be at liberty to get it replaced/rectified at Bidder's risks and costs and recover all such expenses plus the Purchaser's own charges (@ 20% of expenses incurred), from the Bidder or from the "Security cum Performance Deposit" as the case may be. Bidder shall further be responsible for 'free replacement' for another period of THREE years from the end of the guarantee period for any 'Latent Defects' if noticed and reported by the Purchaser.
12.0	**PACKING**	12.1 The conductor shall be wound on non-returnable wooden reels or drums conforming to IS 1778:1981 Conductor drums shall be so constructed as to have required mechanical strength so that the drum flanges and other components do not break during transport, in actual use or in storage. The flanges and the outside surface of the barrel shall be free from protruding materials/projections/ unevenness/ sharp edges that can damage the conductor or hands of the operator during rotation of drums. Material preservation shall be applied to the entire drum. 12.2 The conductor shall be supplied in the standard length of 2.00km. Not less than 95% of the conductor shall be supplied in standard lengths and the remaining 5% required to be supplied in one drum only and length of pieces shall not be less than 500 meters. The number of pieces if in the drum shall be indicated on the conductor drum. 12.3 No of standard length @ 2000 mtr +/- 5% pur drum shall be as follows: ZEBRA: 1 | GOAT: 1 | WOLF: 1 | DOG: 1 | RACCOON: 2 | RABBIT: 3 | SQUIRREL: 5 12.4 Conductor wound on wooden drum shall be convered by recyclable polyethylene sheet.
13.0	**TENDER SAMPLE**	NA
14.0	**TRAINING**	NA
15.0	**QUALITY CONTROL**	The bidder shall submit with the offer Quality assurance plan indicating the various stages of inspection, the tests and checks which will be carried out on the material of construction, components during manufacture and bought out items and fully assembled component and

		equipment after finishing. As part of the plan, a schedule for stage and final inspection within the parameters of the delivery schedule shall be furnished. The Purchaser's engineer or its nominated representative shall have free access to the manufacturer's/sub-supplier's works to carry out inspections. **Rejection and Retest** During inspection if any one of the test pieces first selected fail to pass the tests, three further samples from the same batch shall be selected as per IS, one of which shall be from the length from which the original test sample was taken, unless that length has been withdrawn by the supplier. If all of the three test pieces from these additional samples satisfy the requirements of the tests, the batch represented by these samples shall be deemed to comply with the standard. In case, the test pieces from any of the three additional samples fail, the batch represented shall be deemed not to comply with the standard.

16.0	**MINIMUM TESTING FACILITIES**	Bidder shall have adequate in house testing facilities for carrying out all routine tests & acceptance tests as per relevant International / Indian standards.
17.0	**MANUFACTURING ACTIVITIES**	The successful bidder will have to submit (after placement of RC) technical compliance document as per RC line items for getting approval before mass manufacturing. Bidder shall start manufacturing of mass quantity only after getting Cat-A approved specification/ GTP/ drawings as per intimation from TPNODL.
18.0	**SPARES, ACCESSORIES AND TOOLS**	NA
19.0	**DRAWINGS AND DOCUMENTS**	Following drawings and documents shall be prepared based on TATA POWER- DDL specifications and statutory requirements and shall be submitted with the bid: a) Completely filled in Technical Particulars. b) Type test Certificates Following Drawings/Documents shall be submitted after the award of the contract.

S No	Description	For Approval	For Review Information	Final Submission
1	Technical Parameters	√		√
2	Technical details and test certificates of conductor.		√	√
3	Cross sectional Drawing of the conductor		√	√
4	QA & QC Plan	√	√	√

All the Documents and Drawings shall be in English Language

20.0	**GUARANTEED TECHNICAL PARTICULARS**	**All clauses and points in the Specification to be complied.**
21.0	**SCHEDULE OF DEVIATIONS**	**(TO BE ENCLOSED WITH THE BID)** All deviations from this specification shall be set out by the Bidders, clause by Clause in this

schedule. Unless specifically mentioned in this Schedule, the tender shall be deemed to confirm the purchaser's specifications:

S.No.	Clause No.	Details of deviation with justifications

We confirm that there are no deviations apart from those detailed above.

Seal of the Company:

Signature

Designation

Annexure - I Inspection Testing Plan

SNO	TEST	Clause No.	Reference Standard
1	Resistance Test on Aluminum wire	13.6	IS 398 part- 2
2	Measurement of diameter of individual Aluminum wire	13.2	IS 398 part- 2
3	Wrapping test on aluminum wire	13.5.1	IS 398 part- 2
4	Breaking load on aluminum wire	13.3	IS 398 part- 2
5	Measurement of lay ratio of Aluminum Layers	13.8	IS 398 part- 2
6	Measurement of diameter of individual Steelwire	13.2	IS 398 part- 2
7	Wrapping test on steel wire	13.5.2	IS 398 part- 2
8	Breaking load on Steel wire	13.3	IS 398 part- 2
9	Torsion Test on steel Wire	13.4.1	IS 398 part- 2
10	Elongation Test Steel Wire	13.4.2	IS 398 part- 2
11	Uniformity of Zinc coating	4.2	IS 4826
12	Mass of Zinc coating	4.1	IS 4826
13	Measurement of lay ratio of Steel	13.8	IS 398 part- 2
14	Raw material invoice document verification	5.1.2, 5.1.4 & 5.1.5	ENG-HV-070
15	Visual & surface smoothness test for Aluminum wire	5.21	ENG-HV-070
16	Visual & surface smoothness test for steel wire	5.22	ENG-HV-070
17	Grease coating on steel wires	5.0	ENG-HV-070

18	Packaging & Marking	12.0 & 6.0	ENG-HV-070
19	Conductor Surface smoothness and length verification	12.1	ENG-HV-070