



इरकॉन इंटरनेशनल लिमिटेड

(नवरत्न कंपनी)
(भारत सरकार का उपक्रम)

छत्तीसगढ़ रेल परियोजना

IRCON INTERNATIONAL LIMITED

(Navratna Company)
(A Govt. of India Undertaking)

An Integrated Engineering and Construction Company

CHHATTISGARH RAIL PROJECT



No.: IRCON/2060C/CGRP/e-Tender/24-25/Surak-Sendurgarh/EL-02/LOA/16767

Dated 18.11.2024

To,

M/s RS Infraprojects Pvt Ltd

H-70, LANE W-10, Sanik Farms

NEW DELHI 110062

Email ID: projects.power@rsinfra.in

(Letter of Acceptance)

Sub.: "Design, Supply, Erection, Testing & Commissioning of 25 kV, 50 Hz, Single Phase, OHE Traction System, TSS & Switching Posts Work of Surakachhar- Sendurgarh section, along with Associated works in connection with new BG Electrified Rail Corridor in the state of Chhattisgarh Over South East Central Railway." – **Letter of Acceptance.**

Ref.: 1) e-NIT No. IRCON/2060/CGRP/e-TENDER/23-24/Surak- Sendurgarh /EL-02 dtd. 10.06.2024.
2) Corrigendum No-1, dated 18.06.2024
3) Corrigendum No-2, Date: 28.06.2024 & its amendment dated 29.06.2024
4) Technical Bid opened on 08.07.2024 & Financial bid opened on 02.09.2024
5) Your negotiated offer dated 07.10.2024.

1. The Competent Authority has accepted your offer for the work of "Design, Supply, Erection, Testing & Commissioning of 25 kV, 50 Hz, Single Phase, OHE Traction System, TSS & Switching Posts Work of Surakachhar- Sendurgarh section, along with Associated works in connection with new BG Electrified Rail Corridor in the state of Chhattisgarh Over South East Central Railway" at your offered cost of **Rs.176,09,56,283/- (Rupees one seventy six crores, nine lakh, fifty six thousand two hundred eighty three only)** i.e., @ 7.5 % above the tender value, inclusive of all taxes, duties, GST etc. The detailed bill of quantity (BOQ) is enclosed herewith as **Annexure-I.**
2. The completion period of work is **12 (Twelve) months** from the date of issue of letter of acceptance including monsoon period. This LOA shall be treated as notice of commencement of work.
3. It is requested to submit a Performance Security for an amount of **Rs 8,80,47,814/- (Rupees Eight Crore Eighty Lakhs Forty-Seven Thousand Eight Hundred fourteen only)** @ 5% (Five percent) of the contract value in the prescribe form as per clause no 31.1/8.1 of SCC/GCC in favour of IRCON INTERNATIONAL Limited, within 21 days of issue of this letter.
4. Retention money will be recovered from on account/final bills as per clause no. 31.2 of Special Condition of contract and 8.2 of GCC.
5. You will be fully responsible for all manpower and machines deployed for the entire work. IRCON will not be responsible for any violation or mishap on any ground. Further you will strictly comply with all relevant Labour laws (vis PF, ESI, etc.), Bylaws, Labour license, IR Shramik Kalyan, rules, regulations etc., as applicable as per laws of land.

मुख्य महाप्रबंधक(विद्युत)
इरकॉन इंटरनेशनल लिमि., बिलासपुर
Chief General Manager (Elect.)
Ircon International Ltd., Bilaspur

प्रथम तल, द एआरके बिल्डिंग, लिंक रोड, जुडिओ के सामने,
सी. एम. डी. चौक, बिलासपुर (छ. ग.) 495001
1st Floor, The ARK Building, Link Road, Opposite Zudio,
Near CMD Chowk, Bilaspur (C.G.) 495001 Ph : 07752 - 443719
Email : cerl.2059@ircon.org, cewrl.2060@ircon.org

रजि. कार्यालय : सी-4, डिस्ट्रिक्ट सेंटर, साकेत, नई दिल्ली-110017, भारत
Regd. Office : C-4, District Centre, Saket, New Delhi-110017 INDIA
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Page 1 of 24 E-mail: info@ircon.org Web : www.ircon.org

CIN-L45203DL1976GOI008171



6. The rates of following items shall not be taken for future comparison as LAR and quantity shall be restricted for positive variation.
- Schedule A :- OHE-22, 32, 37, 38, 41, 42, 43, 51, 52, 54 and OHE-9(a)
 - Schedule B :- TSS-16, 17, 18, 24, 29, 52, 53
7. You are advised to mobilize the resources to commence the work immediately. Please contact the project office, address-IRCON INTERNATIONAL LIMITED, The ARK Building, 1st Floor, Opposite Zudio Showroom, near CMD Chowk, Link Road, Bilaspur, Chhattisgarh-495001 for further instructions.
8. You have to strictly comply & pay GST on due date for availing of input tax credit by IRCON.
9. The payments are subject to deduction of necessary tax as applicable by laws and shall be made by NEFT/RTGS.
10. This letter will constitute a legal and binding contract between Ircon International limited and M/s RS Infraprojects Pvt Ltd till such time the contract Agreement is signed. You will enter into and execute the contract agreement within 28 days from the date of issue of this letter as per clause no. 32/12.5 of SCC/GCC on the stamp paper of the the requisite value as per the prevailing laws to be arranged at your cost.
11. All other terms and conditions shall be as per Tender documents, which shall form an integral part of this contract and shall be binding on you.
12. This letter is being issued to you in duplicate as per clause No. 23 of Instructions to Tenderer of Tender document, one copy of which may please be returned within 7 (seven) days of the issue of the LOA. Duplicate copy shall be duly stamped and signed and returned as a token of your unconditional acceptance
13. You are requested to contact Project Head./(CGM/Electrical) Bilaspur, Chhattisgarh for further instructions.

Thanking you

Encl: Annexure-I (BOQ)

Yours faithfully
For and on behalf of
Ircon international limited


(N.S. Bharel)

Chief General Manager/Electrical

Copy to:

1. Director/Projects for kind information.
2. CEO/CEWRL, COO/CEWRL & CFO/CEWRL Raipur for kind information please.
3. PD/CGRP, CGM/Elect/CGRP for information & n.a. please.
4. GM/Fin./Bilaspur for information & n.a. please.
5. JGM/E/KHS & RIG and DGM/Elect/BSP for information & n.a..

मुख्य महाप्रबंधक(विद्युत)
इरकॉन इंटरनेशनल लिमि., बिलासपुर
Chief General Manager (Elect.)
Ircon International Ltd., Bilaspur

ANNEXURE-I

Name of Work: Design, Supply, Erection, Testing & Commissioning of 25 kV, 50 Hz, Single Phase, OHE Traction System, TSS & Switching Posts Work of Surakachhar- Sendurgarh section, along with Associated works in connection with new BG Electrified Rail Corridor in the state of Chhattisgarh Over South East Central Railway.

SUMMARY OF BILL OF QUANTITIES

Sl.No	Schedule	Description	Amount (Rs)
1	Schedule-A	25 KV OHE and SWS work	1,07,58,09,119
2	Schedule-B	132KV/25 KV TSS work	31,24,10,261
3	Total Basic amount (Sch. A & B)		1,38,82,19,380
4	GST @ 18%		24,98,79,488
5	Total amount inclusive of GST		1,63,80,98,868
6	Rate Quoted by L-1 Bidder @7.5% above inclusive of GST (i.e. By M/s R.S. Infraprojects Pvt Ltd)		1,76,09,56,283
7	Total awarded cost in words: Rupees one seventy six crores, nine lakh, fifty six thousand two hundred eighty three only		



(N.S. Bharel)

Chief General Manager/Electrical

मुख्य महाप्रबंधक(विद्युत)
इरकॉन इंटरनेशनल लिमि., बिलासपुर
Chief General Manager (Elect.)
Ircon International Ltd., Bilaspur

Schedule-A – OHE work									
Bill of Quantities- DESIGN, SUPPLY, ERECTION, TESTING & COMMISSIONING OF 25 KV, 50HZ, SINGLE PHASE, OHE TRACTION SYSTEM OF GAD-Sendurgarh AND ASSOCIATED WORKS IN CONNECTION WITH NEW BG ELECTRIFIED RAIL CORRIDOR IN THE STATE OF CHHATTISGARH OVER SOUTH EAST CENTRAL RAILWAY (74 RKM/ 170TKM)									
Sr. No.	BOQ item No	Description	Unit	Qty	Supply Rate	Erection Rate	Total Supply Amount	Total Erection Amount	Total
1	2	3	4	5	6	7	8= 5x6	9=5x7	10= 8+9
	OHE General								
1	OHE-1	Preparation of drawings as well of site survey and submission of desired drawings for Overhead Equipment, Switching Stations, Sectioning diagram, Power supply diagram, Schematic diagram of Switching Statons, Traction working rule diagram and Instructions etc. required for commissioning including 4prox.4ly4 and submission of EIG documents							
2	OHE-1 (a)	Submission of all Initial drawings/ Good for construction drawings for OHE	TKM	170	1264	18901	2,14,880	32,13,170	34,28,050
3	OHE-1 (b)	Submission of all As Erected drawings for OHE	TKM	170	543	8099	92,310	13,76,830	14,69,140
4	OHE-1 (c)	Submission of all Initial drawings/ Good for construction switching posts drawings	Job	4	0	23003	0	92,012	92,012
5	OHE-1 (d)	Submission of all As Erected switching post drawings	Job	4	0	9859	0	39,436	39,436
6	OHE-1 (e)	Provision of OHE section diagram board at stations/Cabin	No	5	0	8500	0	42,500	42,500
7	OHE-1 (f)	Preperation and submission of Station work rule (Appendix G) complete with SWR drawing	No	10	0	11000	0	1,10,000	1,10,000

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8	OHE-2	Supply and Erection of Span wire (130 sq.mm) including mounting arrangements with 9-Ton insulators:.	Mtr	2200	808	73	17,77,600	1,60,600	19,38,200
9	OHE-3	Supply and Erection of materials for Termination of single conductor of overhead equipment or a terminating wire with 9-Ton insulators:	Each	23	10796	1095	2,48,308	25,185	2,73,493
10	OHE-4	Supply and Erection of materials for Termination of all aluminum 25 KV feeder conductor single (spider) including feeder wire with 9-Ton insulators:	Mtr	12000	537	239	64,44,000	28,68,000	93,12,000
11	OHE-5	Supply and Erection of material for Termination of copper cross feeder with gantries including cross feeder wire with 9-Ton insulators:	Set	18	45737	1283	8,23,266	23,094	8,46,360
12	OHE-6	Supply and erection of terminal boards in control cubicles for SP/SSP	No.	4	11005	547	44,020	2,188	46,208
13	OHE-7	Supply and Erection of iron clad 240V AC or 110V D.C. board with fuse box in control cubicles,	Set	4	7294	249	29,176	996	30,172
14	OHE-8	Supply and Erection of Maintenance Free Batteries 110V, 40 AH with Battery Chargers:	Set	4	261791	10281	10,47,164	41,124	10,88,288
15	OHE-9 (a)	Supply, Erection, Oil Filtration, Testing and Commissioning of 25 KV/240 Volt, 10 KVA, LT supply transformer with 25 KV D. O. fuse switch, anticlimbing device, insulator, copper jumper and earth electrode etc:	Set	13	198825	14100	25,84,725	1,83,300	27,68,025
16	OHE-9 (b)	Supply, Erection, Oil Filtration, Testing and Commissioning of 25 KV/240 Volt, 25 KVA, LT supply transformer with 25 KV D. O. fuse switch, anticlimbing device, insulator, copper jumper and earth electrode etc:	Set	11	258586	14100	28,44,446	1,55,100	29,99,546

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17	OHE-10	Modification to existing OHE i.e. Transfer of equipment from one mast or support to another, provision of additional bracket assembly/ assemblies on a mast or support, re-adjustment of a head-span, dismantling of Overhead Equipment, dismantling of feeder	Mtr	2000	0	46	0	92,000	92,000
18	OHE-11	Manning of switching station i.e. SP/SSP/TSS	month X location	48	46457	0	22,29,936	0	22,29,936
19	OHE-12	Electrification of switching station building as per specification	Each	4	0	44001	0	1,76,004	1,76,004
20	OHE-13 (a)	Supply & Erection of Earthing arrangement at switching station i. e. earth electrodes, earth bus, 50x6 mm MS flat, 8 SWG GI wire etc. to achieve IR value for energisation	job	4	19161	10058	76,644	40,232	1,16,876
21	OHE-13 (b)	Excavation of Earth to the specified depth below the ground level and to bury 13 meters long rail (or suitable length mast) alongwith supply of rails/ masts & all accessories	each	8	40738	2494	3,25,904	19,952	3,45,856
22	OHE-14	Loading/ Unloading and transportation of all type of steel structures, portals, TTC, copper/ alluminium 6pprox.6ly and SPS etc. other than contractor material.	MTKM	4000	0	77	0	3,08,000	3,08,000
		Sub Total of (A)					1,87,82,379	89,69,723	2,77,52,102
(B)	Building Works								
23	OHE-15	Construction of Switching Station building, RCC work, plastering, brick masonry, retaining wall, filling, compacting and 6pprox.6l work etc. and supply and erection of name board of switching station.	Each	4	570034	0	22,80,136	0	22,80,136
24	OHE-16	Supply and spreading of gravel/ ballast in the switch yard.	Cum	85	1189	9	1,01,065	765	1,01,830

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25	OHE-17 (a)	Earth work involved in filling of earth in any excavation or low lying area (including compaction)	Cum	60	597	0	35,820	0	35,820
26	OHE-17 (b)	Boulder pitching on the slopes at locations of OHE structures/ switching posts	Cum	770	0	2575	0	19,82,750	19,82,750
		Sub Total of (B)					24,17,021	19,83,515	44,00,536
I	Other OHE Items								
27	OHE-18	Supply and Erection of material for termination of double Overhead Equipment conductor with insulators:	Each	500	15626	1506	78,13,000	7,53,000	85,66,000
28	OHE-19	Supply and erection of section insulator assembly with insulators and associated fittings & fasteners for OHE with Bar Insulator	Each	40	100322	7286	40,12,880	2,91,440	43,04,320
29	OHE-20	Supply and Erection of PTFE type short neutral section assembly:.	Each	10	1183920	7473	1,18,39,200	74,730	1,19,13,930
30	OHE-21	Supply and Erection of 25 KV, S.P Isolators 1600 Amps with insulator & with/ without earth contact assembly:	Each	24	103442	7536	24,82,608	1,80,864	26,63,472
31	OHE-22	Supply and Erection of 25 KV double pole isolator with insulator & with/without earth contact assembly:	Each	16	160811	8254	25,72,976	1,32,064	27,05,040
32	OHE-23	Supply and Erection of suitable length of contact wire in the span under any overline structure; complete with supply and erection of end fittings, jumpers, PG clamps etc (however payment of contact wire shall be made under different BOQ item meant for it)	Each	70	2894	3886	2,02,580	2,72,020	4,74,600
33	OHE-24	Supply and erection of large copper jumper (160 sqmm) (Excluding jumper wire) between aluminium bus/ OHE and cross feeder with all associated fittings and materials required for same.	Each	70	11590	550	8,11,300	38,500	8,49,800

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34	OHE-25	Supply and Erection of all types of connectors for aluminium / copper bus bar required for commissioning of switching stations with fasteners.	Each	250	6348	95	15,87,000	23,750	16,10,750
35	OHE-26	Supply and Erection of safety items i.e. Fire extinguishers, set of fire bucket with stand and first aid box, key box with suitable key chain, locks and other misc items required for commissioning of Switching Stations.	Set	4	16866	3086	67,464	12,344	79,808
36	OHE-27	Supply and Erection of 25 KV AC OHE danger board / danger board for height gauge, public / staff caution board, Shock treatment charts at station buildings & SP/SSP etc. required for commissioning of OHE/SWSs.	Each	450	0	1632	0	7,34,400	7,34,400
37	OHE-28	Supply and erection of 25kv 1600/2000 Amps vacuum Interruptor	Each	15	329509	4024	49,42,635	60,360	50,02,995
38	OHE-29	Supply erection testing & commissioning of 25kv 2000 Amps single pole vacuumCircuit breaker with interlocking	Each	1	415331	5249	4,15,331	5,249	4,20,580
39	OHE-30	Supply, Erection, testing & commissioning of Control and Relay Panel for One CB as per RDSO spec. No. TI/PSI/PROTCT/6071 (for one CB)	Each	1	2249050	79578	22,49,050	79,578	23,28,628
40	OHE-31 (a)	Supply and erection of 25 KV Potential Trasformer Type-I or Type-II	Each	13	86765	832	11,27,945	10,816	11,38,761
41	OHE-31 (b)	Supply & erection of 25kV Current Transformer (1500-750/5A)	Each	1	71236	692	71,236	692	71,928
42	OHE-32	Supply and erection of 42 KV Lightning Arrestor complete with its disconnector assembly	Each	17	58170	2305	9,88,890	39,185	10,28,075
43	OHE-33	Supply and installation of cables for all SWS	Mtr	1500	234	20	3,51,000	30,000	3,81,000
44	OHE-34	Supply and erection of Aluminium Jumper with Fastners and fittings	Each	50	2624	306	1,31,200	15,300	1,46,500

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45	OHE-35	Supply and erection of Aluminium Bus Bar 50mm x 39mm	Mtr.	400	570	47	2,28,000	18,800	2,46,800
46	OHE-36	Supply and erection of anti-theft transformer 240 V/2.2. KV, 5 KVA with DO fuse switch. Excavation o cable trench, laying of cables, earthing,jumpering, DG set including dismantling of above equipments	each	0	84668	65045	0	0	0
		Sub Total of I					4,18,94,295	27,73,092	4,46,67,387
(D)	Insulators								
47	OHE-37	Supply of stay arm Porcelain insulator (CD-1050 mm)	Each	4250	3489	0	1,48,28,250	0	1,48,28,250
48	OHE-38	Supply of bracket Porcelain insulator (CD-1050 mm)	Each	4250	3447	0	1,46,49,750	0	1,46,49,750
49	OHE-39	Supply & Erection of 25 kV Support insulator with Fittings and Fasteners	Each	215	3767	150	8,09,905	32,250	8,42,155
		Sub Total of (D)					3,02,87,905	32,250	3,03,20,155
I	OHE Non Ferrous								
50	OHE-40	Supply and Erection of anti-creep wire using 9pprox.9 wire (with supply of insulators, anticreep wire shall be paid separatly).	Each	144	7435	4232	10,70,640	6,09,408	16,80,048
51	OHE-41	Supply and Erection of Over Head Equipment i.e. contact & catenary wire (excluding cost of supply of contact , catenary dropper & Jumper wires) jumper wire, dropper wire, contact / catenary clips, fasteners and all other material required at turn out/ overlaps / diamond crossing. Final checking of OHE and adjustment, inspection to be done by Tower Wagon for commissioning of Conventional OHE.	TKM	170	0	67067	0	1,14,01,390	1,14,01,390
52	OHE-42	Supply of contact wire (HDGCC 107 Sq.mm) and dropper wire	MT	215	1055298	0	22,68,89,070	0	22,68,89,070
53	OHE-43	Supply of cadmium copper catenary wire (65 Sq. mm) and all jumper wires	MT	155	1054674	0	16,34,74,470	0	16,34,74,470

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54	OHE-44	Supply and erection of Copper Strips for equipment earthing	Mtr	200	1584	185	3,16,800	37,000	3,53,800
55	OHE-45	Erection of all type of copper jumpers (other than C, G, ATJ, F jumpers which are covered in OHE erection schedule) Jumper wires will be supplied in separate BOQ schedule)	Each	400	9004	550	36,01,600	2,20,000	38,21,600
		Sub Total of I					39,53,52,580	1,22,67,798	40,76,20,378
(F)	Concreting work								
56	OHE-46	Supply and erection of Concrete for Foundation and Plinth, in all types of soil/soft rock	CUM	10500	4865	1890	5,10,82,500	1,98,45,000	7,09,27,500
57	OHE-47	Supply and erection of Concrete for Foundation and Plinth in extra hard rock requiring use of rock breaker including breaking of exsisting foundation and recast	CUM	6700	5296	5171	3,54,83,200	3,46,45,700	7,01,28,900
58	OHE-48	Supply and erection of Concrete for Foundation and Plinth for Reinforced Concrete.	CUM	800	0	8699	0	69,59,200	69,59,200
		Sub Total of (F)					8,65,65,700	6,14,49,900	14,80,15,600
(G)	OHE Ferrous Items								
59	OHE-49	Supply and Erection of a guy rod assembly:	Each	760	11263	810	85,59,880	6,15,600	91,75,480
60	OHE-50	Supply and Erection of protective screen on FOBs/ ROB:	Each	200	33091	0	66,18,200	0	66,18,200
61	OHE-51	Supply and Erection of bracket assembly without insulators as per OHE plan:	Each	4250	20744	1380	8,81,62,000	58,65,000	9,40,27,000
62	OHE-52	Supply and Erection of regulating equipment (modifie 3 pulley type) with counter weight assembly for conventional OHE	Each	370	99291	3290	3,67,37,670	12,17,300	3,79,54,970
63	OHE-53 (a)	Supply and erection of a structure bond/ Longotudinal bond/ Transverse and Special bond	TKM	170	26174	9225	44,49,580	15,68,250	60,17,830
64	OHE-53 (b)	Supply and erection of Single earth electrode 3 mtr with connection to nearest traction rail/structure	Each	50	2434	1002	1,21,700	50,100	1,71,800

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65	OHE-54	Supply and erection of all types of galvanized steel structures, small parts steel etc.	MT	1825	119767	7799	21,85,74,775	1,42,33,175	23,28,07,950
66	OHE-55	Supply and erection of fencing panels, Uprights, Gate and anti climbing device for SWS	Mtr	290	3794	124	11,00,260	35,960	11,36,220
67	OHE-56	Supply and erection of M-27 x 500 mm Hilty AM8.8 rod and core cutting of 32 mm dia into 400 mm depth an grouting with Hilty RE-500	Each	92	0	15316	0	14,09,072	14,09,072
68	OHE-57	Supply and erection of M-16 x 300mm Hilty V anchor and core cutting of 20 mm dia into 200mm depth and grouting with Hilty RE-500	Each	112	0	7078	0	7,92,736	7,92,736
69	OHE-58	Breaking and removal of concrete from already casted foundation with hand held rock breaker.	Cum	100	0	7942	0	7,94,200	7,94,200
		Sub Total of (G)					36,43,24,065	2,65,81,393	39,09,05,458
(H)	OHE Misc modification/dismantling Items								
70	OHE-59	OHE Miscellaneous Modification/dismantling of existing OHE as per individual rates mentioned below (Item 59(a) to 59I)	LS				75,000	4,00,000	4,75,000
71	OHE-59 (a)	Slewing and reslewing of OHE	span		0	7676			
72	OHE-59 (b)	Splicing and extension of OHE	No.		3521	5061			
73	OHE-59 I	Adjustment of existing OHE & TW checking	span		0	678			
74	OHE-59(d)	Dismantling of OHE	km		0	28965			
75	OHE-59I	Dismantling of mast/ structure upright (by cutting)	Nos.		0	2709			
76	OHE-59 (f)	Dismantling of cantilever	Nos.		0	678			
77	OHE-59 (g)	Dismantling of feeder / return conductor	mtr		0	74			
78	OHE-59 (h)	Dismantling of section insulator	Nos.		0	3070			
79	OHE-59 (i)	Dismantling of SP/DP isolator	Nos.		0	2237			
80	OHE-59 (j)	Dismantling of portal boom pieces	Nos.		0	13831			
81	OHE-59 (k)	Dismantling of TTC boom	Nos.		0	5024			
82	OHE-59 (l)	Dismantling of Guy Rod	Nos.		0	688			

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83	OHE-59(m)	Dismantling of Anti-creep	set		0	4423			
84	OHE-59 (n)	Dismantling of Regulating Equipment with counter weight assembly	Nos.		0	2839			
85	OHE-59 (o)	Dismantling of post insulator	Nos.		0	490			
86	OHE-59 (p)	Dismantling of AT	Nos.		0	11408			
87	OHE-59 (q)	Dismantling of caution board	Nos.		0	82			
88	OHE-59 I	Dismantling of SPS	MT		0	6451			
89	OHE-60	Execution(Erection/dismantling) under power block @100% extra of erection/dismantling rate	LS					5,00,000	5,00,000
		Sub Total of (H)					75,000	9,00,000	9,75,000
(I)	Misc. Electrical General Work								
90	GS-1	Supply, Installation, testing and commissioning of cubical type mast mouted, dust & vermin proof, LT control switch board of 14 SWG CRCA sheet comprising conforming to IS:8623 (latest version), complete with stud type incoming and outgoing terminals suitable for 70 sq mm cable & hinged door & panel lock etc.							
91	GS-1 (i)	a) with TPN MCCB 63A, 35KA, Fixed type (Ics=100% Icu) – 1 no b) Copper busbars 200A (for 10 KVA AT)	Nos.	9	11369	3121	1,02,321	28,089	1,30,410
92	GS-1(ii)	a) with TPN MCCB 150A, 35KA, Fixed type (Ics=100% Icu) – 1 no b) Copper busbars 300A (for 25 KVA AT)	Nos.	10	13507	3708	1,35,070	37,080	1,72,150
93	GS-2	Supply and erection of GI Pipe – class “B” ISI marked with accessories including bends etc. for support of cable with erected pole/recessing in wall/floor/ passing earth strip or passing cable as required:							
94	GS-2(i)	32 mm dia	Meter	50	193	35	9,650	1,750	11,400

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95	GS-2(ii)	40 mm dia	Meter	250	229	39	57,250	9,750	67,000
96	GS-2(iii)	50 mm dia	Meter	100	297	52	29,700	5,200	34,900
97	GS-3	Supply, erection, testing & commissioning of auto change-over type control and distribution panel for colour light signalling supply in 25KV AC traction system as per RDSO 13pprox.131 specifications No.TI/SPC/PSI/CLS/0023 including latest amendment.			0	0			
98	GS-3(i)	For-10 KVA AT	Nos.	4	53046	9321	2,12,184	37,284	2,49,468
99	GS-3(ii)	For25 KVA AT	Nos.	5	112864	19829	5,64,320	99,145	6,63,465
100	GS-4	Supply, laying 1.1KV grade LT XLPE insulator armoured, alumium conductor cable, making good the damages, end terminations with aluminium crimping socket/lugs, provision of cable route markers, testing and commissioning etc. as required as per Technical specifications:							
101	GS-4(i)	2 Crore 16 Sq. mm.	Meter	500	205	52	1,02,500	26,000	1,28,500
102	GS-4(ii)	2 Crore 70 Sq. mm.	Meter	5000	406	72	20,30,000	3,60,000	23,90,000
103	GS-4(iii)	2 Crore 185 Sq. mm.	Meter	18500	837	93	1,54,84,500	17,20,500	1,72,05,000
104	GS-4(iv)	Extra for provision of cable route marker	Nos.	250	247	13	61,750	3,250	65,000
105	GS-5	AC Sub distribution board 40 Amps with DP MCB 40 Amp, 1 for 13pprox.13, and 4 Nos 20 Amps DP MCB for outgoing	Nos.	10	3214	307	32,140	3,070	35,210
		Sub Total of (I)					1,88,21,385	23,31,118	2,11,52,503
	J	Total Cost in Rs. (A+B+C+D+E+F+G+H+I) (Schedule-A)							1,07,58,09,119
	K	GST @ 18% on above (=J*18%)							19,36,45,641
	L	Total Value inclusive of GST (=J+K)							1,26,94,54,760
	M	Quoted value by L-1 Bidder@ 7.5% above Inclusive of GST (Schedule-A) in Rs.							1,36,46,63,867

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Schedule-B (TSS work)
BOQ for DESIGN , SUPPLY , ERECTION , TESTING & COMMISSIONING OF 30/42 MVA , 132/27 KV TRACTION SUBSTATION (Locations – BHINGRA & MATIN TSS)

Sr. No.	BOQ item No	Description	Unit	Qty	Supply Rate	Erection Rate	Total Supply Amount	Total Erection Amount	Total
1	TSS-1	Supply and erection of Concrete for Foundation and Plinth, in all types of soil/ soft rock (other than hard rock)	Cum	1600	4865	1890	77,84,000	30,24,000	1,08,08,000
2	TSS-2	Supply and erection of Concrete for Foundation and Plinth in hard rock	Cum	70	5296	5171	3,70,720	3,61,970	7,32,690
3	TSS-3	Supply & erection of Reinforced concrete for Pier/ Column/ Pile, Cable Trench & Trench Covers, Drain, Baffle Wall and any equipment foundation (if required).	Cum	720	0	8699	0	62,63,280	62,63,280
4	TSS-4	Excavation of Earth to the depth of 1 mtr below ground level for burying 13 mtr long rail.	Nos.	2	40738	2494	81,476	4,988	86,464
5	TSS-5	Soil filling & Compaction in TSS Yard.	Cum	2000	597	0	11,94,000	0	11,94,000
6	TSS-6	Supply and spreading of Ballast/ Gravel in the Switch Yard.	Cum	800	1189	9	9,51,200	7,200	9,58,400
7	TSS-7	Providing of Cross Track in TSS	Route Mtr	160	0	31413	0	50,26,080	50,26,080
8	TSS-8	Supply and fixing of Rails for Transformer	Mtr	40	4814	561	1,92,560	22,440	2,15,000

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9	TSS-9	Supply, Erection, testing & commissioning of 132 kV Tripple Pole SF-6 gas Circuit Breaker (1600 A) with interlock arrangement.	Nos.	4	795328	7474	31,81,312	29,896	32,11,208
10	TSS-10	Supply & erection of 132 kV Tripple Pole Isolator with/without Earth Blade Assembly (manually operated) (1250 A).	Nos.	10	321312	3242	32,13,120	32,420	32,45,540
11	TSS-11	Supply and Erection of 132 kV current transformer assembly (400-200/5A).	Nos.	8	269635	1673	21,57,080	13,384	21,70,464
12	TSS-12	Supply & erection of 120 kV lightning arrestors	Nos.	16	157774	1184	25,24,384	18,944	25,43,328
13	TSS-13	Supply, Erection, testing & commissioning of 25 KV single pole Vacuum Circuit Breaker 2000 A with interlocking 15pplx15.	Nos.	10	415331	5249	41,53,310	52,490	42,05,800
14	TSS-14	Supply & erection of 25 kV Current Transformer (3000-1500/5A)	Nos.	12	106256	1455	12,75,072	17,460	12,92,532
15	TSS-15	Supply & erection of 25 kV current transformers (200-100/5A)	Nos.	2	57211	4075	1,14,422	8,150	1,22,572
16	TSS-16	Supply, Erection, Testing & Commissioning of Numerical Control & Relay Panel suitable for Double Transformers at Traction Substation.	Nos.	2	6012712	186441	1,20,25,424	3,72,882	1,23,98,306
17	TSS-17	Supply, Erection, Testing & Commissioning of Numerical Control & Relay Panel for Shunt Capacitor Bank.	Nos.	2	1463559	74576	29,27,118	1,49,152	30,76,270
18	TSS-18	Supply, Erection, testing and commissioning of 132/27 kV, 30/42 MVA, ONAN/ ONAF, Single Phase Traction Power Transformer as per RDSO Specification	Nos.	4	43120000	1980000	17,24,80,000	79,20,000	18,04,00,000

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19	TSS-19	Supply and Erection of 25 kV Double Pole Isolators (3150 A) with interlocking arrangement & with insulators	Nos.	10	140588	4565	14,05,880	45,650	14,51,530
20	TSS-20	Supply and Erection of 25 kV Single Pole Isolators (3150 A) with interlocking arrangement & with insulators	Nos.	16	69713	2966	11,15,408	47,456	11,62,864
21	TSS-21	Supply, Erection, testing & commissioning of 25kV shunt capacitor banks of 5500 KVAR rating including Dry type low loss series reactor, 25kV Neutral Current Transformer (NCT) and control and relay panel for cap bank, etc.	Set	2	2760318	61762	55,20,636	1,23,524	56,44,160
22	TSS-22	Supply and Erection of 25 kV Vacuum Type Interrupter 2000 A	Nos.	10	329509	4024	32,95,090	40,240	33,35,330
23	TSS-23	Supply & Erection of 25 kV Potential Transformer (Type-1 & Type-II)	Nos.	14	86765	832	12,14,710	11,648	12,26,358
24	TSS-24	Supply & erection of 42 kV Lightning Arrestor.	Nos.	14	58170	2305	8,14,380	32,270	8,46,650
25	TSS-25	Supply, Erection, Oil filtration, testing and commissioning of 25 kV/240 V, 25 KVA Auxiliary (LT) supply transformer, Oil type complete with 25 kV DO fuse switch, anticlimbing device, insulators, copper jumper and Earth electrodes etc.	Nos.	4	258586	14100	10,34,344	56,400	10,90,744
26	TSS-26	Supply and Erection of earth lead of 75mm x 8mm MS flat laid in the ground or exposed as per site requirement	Mtr	2400	182	57	4,36,800	1,36,800	5,73,600

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27	TSS-27	Supply and Erection of Earth leads 50mm x 6mm mild steel flat laid in the ground or exposed as per site requirement	Mtr	2400	89	45	2,13,600	1,08,000	3,21,600
28	TSS-28	Supply and Erection of 8 SWG G.I Wire for earthing	Mtr	240	16	19	3,840	4,560	8,400
29	TSS-29	Supply and erection of 40/36 mm dia MS Rod for earth mat	Mtr	7600	418	20	31,76,800	1,52,000	33,28,800
30	TSS-30	Supply & Erection of earth screen wire (19/2.5mm) including termination	Mtr	800	232	14	1,85,600	11,200	1,96,800
31	TSS-31	Supply and erection of all types of Galvanized steel structures, small parts steel etc.	MT	100	119767	7799	1,19,76,700	7,79,900	1,27,56,600
32	TSS-32	Supply and erection of Fencing Panels, Uprights, Gate and Anti-Climbing device	Mtr	760	3794	124	28,83,440	94,240	29,77,680
33	TSS-33	Supply and Erection of Earth electrode for TSS as per requirement.	Nos.	120	2434	1002	2,92,080	1,20,240	4,12,320
34	TSS-34	Supply and Erection of copper Jumper with fittings and fastener required for TSS	Nos.	48	3276	483	1,57,248	23,184	1,80,432
35	TSS-35	supply and erection of copper cross feeder wire 150 Sq. mm including 9 ton insulators and all materials for its termination	Set	16	45737	1283	7,31,792	20,528	7,52,320
36	TSS-36	Supply of materials and erection of a large copper jumper (160 sq mm) between Aluminium Bus/ OHE and cross feeder with associated fittings	Nos.	8	10188	468	81,504	3,744	85,248
37	TSS-37	Supply and installation of copper control cables of required sizes and strands.	Mtr	20000	187	17	37,40,000	3,40,000	40,80,000

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38	TSS-38	Supply & erection of tubular aluminium busbars 88/76.2 mm dia	Mtr	80	849	85	67,920	6,800	74,720
39	TSS-39	Supply & erection of tubular aluminium busbars 50/39 mm dia	Mtr	600	570	47	3,42,000	28,200	3,70,200
40	TSS-40	Supply & erection of 'ZEBRA' ACSR Conductor	Mtr	800	352	10	2,81,600	8,000	2,89,600
41	TSS-41	Supply & erection of all types connectors, Bus splice & TEE connectors etc. required for commissioning of TSS equipment	Nos.	540	2181	30	11,77,740	16,200	11,93,940
42	TSS-42	Supply & erection of 132 kV Support Insulator with fittings and fasteners	Nos.	30	32912	561	9,87,360	16,830	10,04,190
43	TSS-43	Supply & erection of 25 kV Support Insulator with fittings and fasteners	Nos.	100	3800	150	3,80,000	15,000	3,95,000
44	TSS-44	Supply and erection of 132 KV termination (with/ without adjuster) complete with Disc Insulators	Nos.	32	11930	293	3,81,760	9,376	3,91,136
45	TSS-45	Design and drawings for 132/25 kV Traction Sub-station including Feeding Post and Capacitor Banks & General Electrical cable layout Plan	Nos.	2	0	117184	0	2,34,368	2,34,368
46	TSS-46	Supply & Erection 110 V, 200 AH Low Maintenance Lead Acid Batteries set.	Set	2	327558	16991	6,55,116	33,982	6,89,098
47	TSS-47	Supply & Erection of Battery Chargers for 110 V 200 AH Battery Bank	Nos.	4	192761	9989	7,71,044	39,956	8,11,000
48	TSS-48	Supply, Erection and Commissioning of 240V AC and 110V DC Distribution Boards in the control room for TSS	Nos.	2	30828	700	61,656	1,400	63,056
49	TSS-49	Supply of TSS testing equipments	LS	2	147184	0	2,94,368	0	2,94,368
50	TSS-50	Supply of TSS T&P	LS	2	285639	0	5,71,278	0	5,71,278

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Chief General Manager (Elect.)
Ircon International Ltd., Bilaspur

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51	TSS-51	Supply of single phase Relay testing kit (Megger make) for all types of numerical relays with all accessories with suitable lap top of Dell/HP make of 15.6 inch monitor of 11th/12th generation or latest	Set	1	1061922	0	10,61,922	0	10,61,922
52	TSS-52	Supply erection testing and commissioning of 132 kV CT(400-200/1-1A,CL-0.2s) for metering purpose make as per approved list of CSPC	Nos.	8	503002	1673	40,24,016	13,384	40,37,400
53	TSS-53	Supply erection testing and commissioning of 132 kV PT(132/110V, CL-0.2) for metering purposes make as per approved list of CSPC	Nos.	16	359950	1597	57,59,200	25,552	57,84,752
54	TSS-54	Supply erection testing and commissioning of ABT type meter for metering purpose make as per approved list of CSPC	Nos.	4	333273	1673	13,33,092	6,692	13,39,784
55	TSS-55	Construction of TSS building (as per RDSO design), Piling, RCC work, plastering, brick masonry, retaining wall, Plumbing work, providing 1000 Ltr capacity water tank, construction of septic tank, finished toilet, provision of doors windows, tiling work, filling, compacting and 19approx.19l work etc. and supply and erection of name board of TSS.	Job	2	0	5007113	0	1,00,14,226	1,00,14,226
GS & MISC Items for TSS									

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56	GS-1	Wiring for light/ ceiling fan/ 20pprox. fan/ call bell/ light group etc. Point including circuit wiring, sub-main wiring with Fire Retardant (FR) PVC insulated, multistranded, copper conductor, single core cable on surface/in recessed PVC conduits, distribution boards, sub distribution boards, earthing etc as required, wiring shall be done as per size of cables. No of points permissible in each and sub main as indicated in Explanatory Notes.	Point	160	0	1500	0	2,40,000	2,40,000
57	GS-2	Wiring for power plug point including circuit wiring, sub main wiring, with fire retardant (FR) PVC insulated, multistranded, copper conductor, single core on surface/in recessed PVC conduits, distribution boards, sub distribution boards, earthing with G.I. Pipeelectrode etc as required. Wiring shall be done as per sizes of cables, no. of points permissible in each circuit and sub main as indicated in Explanatory Notes.	Point	40	0	2752	0	1,10,080	1,10,080
58	GS-3	Supply, installation, testing and commissioning of 230 V 1200/1400 mm (Without Regulator) A.C. ceiling fan with double bell bearing and suitable capacitor compelte with wiring with 1.5sq mm FR, PVC insulated, copper conductor single/three core cable as instructed. Etc as required.	Nos.	24	2114	353	50,736	8,472	59,208

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59	GS-4	Supply and fixing of tepped type, electronic fan regulator with suitable rating for the C/Fan on the existing phenolic laminated sheet copper plate/modular plate of switch box, including connections, testing & 21pprox.21ly2121g as required.	Nos.	24	405	94	9,720	2,256	11,976
60	GS-5	Supplying, installation, testing and commissioning of LED lamp 5-15 watts, 250 volts, 2 pin, equivalent to compact 21pprox.21ly21 lamp (11-23 W CFL) completed with electronic ballast.	Nos.	40	212	35	8,480	1,400	9,880
61	GS-6	Supply, erection, testing and commissioning of LED Street Light 70-75 W fitting with luminaries, 220-240V AC 50Hz, CRI>70, IP-65, power factor >0.95 cool while, intergral driver, lumen output 3500lm, confirming to IEC 60598 and IS 10322 and railway specification. Make Crompton Greaves, Phillips, Halonix, Havells.	Nos.	30	17634	527	5,29,020	15,810	5,44,830
62	GS-7	Supply and installation of 1x20W LED Tube light fitting complete with LED lamp similar to 21pprox.21 Model No.TMC 501 P1xT-LED 22W P3241 or equivalent or as per railway specification as approved by engineer.	Nos.	60	1872	126	1,12,320	7,560	1,19,880

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Chief General Manager (Elect.)
Ircon International Ltd., Bilaspur

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63	GS-8	Supply, erection, testing and commissioning of flood light LED light similar of 22pprox.22 model BVP 410 LED 144 CW HE NB FG S3 XT IP 65,220-240V 140W or equivalent as approved by engineer, nominal made of LM6 PDC Housing and cover, mounting C clamp/fixture complete	Nos.	8	46496	630	3,71,968	5,040	3,77,008
64	GS-9	Supplying, erection, testing and commissioning of 300 mm 900 rpm exhaust fan suitable for 1-Phase, 230 Votts, AC supply complete with capacitor, louver shutters, grouting bolts with nuts, making opening/ modification in the wall to suit the size of the fan. Making good the damages. Connections with 1.5 sq mm, FR.PVC insulated, multistranded copper conductor, single core/three cable as instructed, earthing etc. as required.	Nos.	8	3202	524	25,616	4,192	29,808
65	GS-10	Supply & Erection of B Class 40 mm dia GI Pipe	Mtr	80	327	52	26,160	4,160	30,320
66	GS-11	Supply & Erection of B Class 50 mm dia GI Pipe	Mtr	100	422	69	42,200	6,900	49,100
67	GS-12	Supply & Erection of B Class 65 mm dia GI Pipe	Mtr	100	532	90	53,200	9,000	62,200
68	GS-13	Supply & Erection of B Class 80 mm dia GI Pipe	Mtr	200	709	116	1,41,800	23,200	1,65,000
69	GS-14	Supply & Erection of B Class 100 mm dia GI Pipe	Mtr	100	999	164	99,900	16,400	1,16,300
70	GS-15	Supply & Erection of B Class 150 mm dia GI Pipe	Mtr	60	1624	268	97,440	16,080	1,13,520

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71	GS-16	Supply, laying of 2CX16 Sq. mm. 1.1 kV grade LT XLPE insulated armoured, Al conductor cable, making good the damages, end terminations with Al crimping socket/lugs, provision of cable route markers, testing and commissioning etc. as required as per Technical specifications:	Mtr	6000	292	69	17,52,000	4,14,000	21,66,000
72	GS-17	Supply & Erection of 7 mtr G.I Octagonal Pole for Street Light	Nos.	30	15128	3879	4,53,840	1,16,370	5,70,210
73	GS-18	Supply & Erection of Single arm bracket suitable for street light fixture	Nos.	30	455	117	13,650	3,510	17,160
74	GS-19	Supply of furniture set for substation Control Room	Set	2	75134	0	1,50,268	0	1,50,268
75	GS-20	Supply of Ladder Set	Set	2	128561	0	2,57,122	0	2,57,122
76	GS-21	Supply and installation of single phase 2 HP submersible pump set make CRI/CG or equivalent of any reputed make	Nos.	3	44955	9560	1,34,865	28,680	1,63,545
77	GS-22	Supply & connection of single submersible cable of size 1 x 3 x 2.5/4 sq mm	Mtr	200	112	9	22,400	1,800	24,200
78	GS-23	Supply fixing connection testing commissioning of single phase 2 HP control panel	Nos.	2	3203	374	6,406	748	7,154
79	GS-24	Supply & erection of AC Distribution Board 40 A with following MCBs- 1. Incomer MCB 40 A -1 No. 2. Outgoing MCB 6-20 A -4 Nos.	Nos.	4	3214	307	12,856	1,228	14,084
	A	Total Cost in Rs.							31,24,10,261
	B	GST @18% on above (=A*18%)							5,62,33,847

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C	Total Value inclusive of GST (=A+B)		36,86,44,108
D	Quoted value by L-1 Bidder@ 7.5% above Inclusive of GST (Schedule-B) in Rs.		39,62,92,416

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(Signature)
18/11/24

(N.S. Bharel)
Chief General Manager/Electrical

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