



इरकॉन इन्टरनेशनल लिमिटेड

नवरत्न कम्पनी
(भारत सरकार का उपक्रम)

IRCON INTERNATIONAL LIMITED

NAVRATNA COMPANY
(A Govt. of India Undertaking)



SIVOK - RANGPO NEW BG RAIL LINE PROJECT

Project Office : Block - C, 2nd Floor, P.C. Mittal Bus Terminus, P.O. Sevoke Road, Siliguri - 734001
Dist. Darjeeling (W.B.), Tel. No. 0353-2999659, E-mail : 2046.nfr-srrp@ircon.org

Letter of Acceptance

IRCON/ELECT/2046/NFR-SRRP/Pkg SS-1/Vol-6/ 1389

Dated: 17-07-2025

S.T ELECTRICALS PVT. LTD.
J-56, 'S' Block, MIDC Bhosari, Pune
Maharashtra-411026

Sub-"Supply, Erection, testing and commissioning of 11kv/433v sub-stations at Sivok, Riyang, Tista bazaar, Melli & Rangpo Railway stations & external electrification works of railway stations (package ss-01) on sivok-rangpo section of Sivok-Rangpo Rail Project-
Letter of Acceptance.

Ref: 01. NIT No. IRCON/ELECT/2046/NFR-SRRP/Pkg SS-1 Dated: 31.05.2025

02. Corrigendum-01, dated: 09.06.2025

03. Corrigendum-02, dated: 19.06.2025

04. Corrigendum-03, dated: 19.06.2025

05. Technical bid opened on 28.06.2025

06. Financial bid opened on 14.07.2025

With reference to above, this is to inform you that your offer for the subject work of "Supply, Erection, testing and commissioning of 11kv/433v sub-stations at Sivok, Riyang, Tista bazaar, Melli & Rangpo Railway stations & external electrification works of railway stations (package ss-01) on sivok-rangpo section of Sivok-Rangpo Rail Project" has been accepted by Competent Authority at total cost of Rs. 25,46,60,922.20/- Including GST@ 18%. The summary of BOQ accepted by the competent authority is enclosed herewith at Annexure-A.

1. Scope of Work:

The scope of work shall be read as mentioned under Clause No. 5 of Special Condition of Contract.

2. Date of Commencement of the contract:

Date of issue of this Letter of Acceptance shall be treated as the date of commencement of the contract. The contractor shall be expected to mobilize to the site of works and commence execution of the works within 10(ten) days from the date of issue of Letter of acceptance by IRCON as per clause no 6 of Special Condition of Contract.

3. Completion Period:

The work is required to be completed within a period of 18 months including monsoon period from the date of issue of letter of acceptance. The work has to be executed in co-ordination with other agencies working on or near the project.



पंजीकृत कार्यालय : सी-4, डिस्ट्रिक्ट सेंटर, साकेत, नई दिल्ली - 110017, भारत

Regd. Office : C-4, District Centre, Saket, New Delhi-110017, INDIA

TEL : +91-11-29565666, FAX : +91-11-26522000, 26854000, E-mail : info@ircon.org, Web : www.ircon.org

CIN : L45203DL1976GOI008171



4. Defect liability period:

Defect liability Period shall be dealt as per clause no. 46 of Special Condition of Contract. You have to maintain, rectify and make good at his own cost any defect / deficiencies, which may develop in the work or as notified by the Engineer during Defect Liability Period of 12 months from the certified date of completion. However, maintenance during Defect Liability Period shall not include day to day upkeep, cleaning, custody and security of the work. Any defect arising due to defective construction/material/ workmanship in any structure(s) during the period(s) specified above and due to causes enumerated above, the contractor shall rectify the same at no extra cost.

5. Contract Agreement:

In terms of clause No. 25 of Special Condition of Contract, you will enter into and execute the contract agreement within 28 days from the date of issue of this letter.

6. Payment Terms:

The payment will be released as per clause No. 16 of Special Condition of Contract.

7. Mode of Payment and Tax deduction at Source:

Accepted rates shall include all the taxes, duties etc. Income tax and Trade Tax on works contract shall be deducted from the payments to the contractors as per prevailing tariff for which necessary TDS Certificate shall be issued. The taxes and duties shall be dealt under clause no 18 of Special Condition of Contract.

8. Quantity Variation:

The quantities of items shown in the Bill of Quantities are approximate and liable to vary during the actual execution of the work. The Contractor shall be bound to carry out and complete the stipulated work, irrespective of the variations in individual items, specified in the Bill of Quantities. Such variations in quantities shall be paid for in the manner laid down under clause no. 44 of Special Condition of Contract.

9. Price adjustment:

Price quoted by the bidder shall be fixed through the tenderer's performance of the contract and not subject to any variation on any account and will be dealt as per clause no of Special Condition of Contract. PVC will be dealt as per cluse no.13 of special condition of contract.

10. Performance Security and Retention Money:

Performance Security and Retention money shall be dealt as per clause no. 21.1 and 21.2 of Special Condition of Contract respectively. As per sub- Clause No. 21.1(ii) of special condition of Contract, performance security of Rs.1,27,33,046/- (One crore Twenty-seven lakh Thirty-three thousand Forty-six only) i.e. 5% of Contract value of Rs. 25,46,60,922.20/- is to be submitted within 21 days from date of issue of Letter of Acceptance.

11. Insurance:

Insurance shall be dealt as per the clause no. 29 of Special Condition of Contract.

12. Man Power for Sub-Station Work:

The contractor is bound to deploy technical manpower with prescribed experience and qualifications as defined in clause no 61 of Special conditions of contract, for which no payment shall be made to the contractor. Deductions shall be done for non-deployment of manpower as per clause no 61 of Special conditions of contract.



13. Quality Management System:

Implementation of Quality Management System shall be governed by clause no. 65 of Special Condition of Contract.

14. All the terms & conditions will remain same as per tender document. This letter of acceptance along with your submitted offer shall constitute a legal and binding contract between IRCON INTERNATIONAL LIMITED and M/s. S.T Electricals Pvt. Ltd. till such time the formal contract agreement is signed.

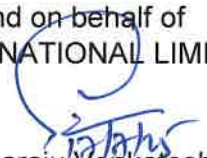
15. Conditions mentioned above in this LOA are a brief reference of the terms of Tender document. Detailed Terms & Conditions other than above shall also be as per NIT/Tender document & corrigendum, which shall be an integral part of this contract and shall be binding on you.

This letter of acceptance is being sent in duplicate. One copy may please be signed, stamped and returned to this office as a token of your unconditional acceptance.

Thanking you,

Encl: Bill of Quantity-Annexure-A

For and on behalf of
IRCON INTERNATIONAL LIMITED.


(Suraparaju Venkatesh)
AGM/Elect. / SRRP

Copy to:

- 1. CGM/Elect/CO - for kind information
- 2. CGM/Fin/SRRP - for kind information

Percentage BoQ

Validate Print Help

Tender Inviting Authority: CGMI/Electrical, IRCON International Limited

Name of Work: Supply, Erection, Testing and Commissioning of 11kV/433V sub-stations at Sivok, Riyang, Tista Bazaar, Meli, & Rangpo Railway Stations & External Electrification works of Railway Station Buildings and Yard lighting (Package SS-01) on Sivok-Rangpo Section of Sivok-Rangpo Rail Project

Contract No: IRCON/ECT/2046/INFR-SRRP/SS-01 Dated 30/05/2025

Name of the Bidder/ Bidding Firm / Company : S. T. ELECTRICALS PVT. LTD.

PRICE SCHEDULE
(This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevant columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)

NUMBER #	Sl. No.	TEXT # Item Description	NUMBER # Quantity	TEXT # Units	NUMBER # Estimated Rate in Rs.	NUMBER # Total Amount Without GST in Rs.	NUMBER # GST @18%	NUMBER # TOTAL AMOUNT With GST in Rs.	NUMBER # TOTAL AMOUNT In Words	TEXT #
1		2	3	4	5	15	16	6		7
1.01		Item Description Schedule-A:Supply, Erection, Testing and Commissioning of 11/0.433kV substations at :- Sivok,Riyang, TistaBazar,Meli,Rangpo	1.00 Nos		181876071.53	181876071.6	32737692.88	214613764.43	INR Twenty One Crore Forty Six Lakh Thirteen Thousand Seven Hundred & Sixty Four and Paise Forty Three Only	
1.02		Schedule-B External Electrification works of Railway Station Buildings and Yard lighting	1.00 Nos		21438929.27	21438929.27	3859007.27	25297936.54	INR Two Crore Fifty Two Lakh Ninety Seven Thousand Nine Hundred & Thirty Six and Paise Fifty Four Only	
1.03		Schedule-C Any other Civil Item not covered above shall be executed under DSR - 2023 for civil works and DSR(E&M)-2022 for electrical works	1.00 Nos		5000000.00	5000000	900000.00	5900000.00	INR Fifty Nine Lakh Only	
Total in Figures								245811700.97	INR Twenty Four Crore Fifty Eight Lakh Eleven Thousand Seven Hundred and Paise Ninety Seven Only	
Quoted Rate in Figures				Excess (+)	3.60%			254660922.20	INR Twenty Five Crore Forty Six Lakh Sixty Thousand Nine Hundred & Twenty Two and Paise Twenty Only	
Quoted Rate in Words										INR Twenty Five Crore Forty Six Lakh Sixty Thousand Nine Hundred & Twenty Two and Paise Twenty Only



SUMMARY

Name of Work: Supply, Erection, Testing and Commissioning of 11kV/433V sub-stations at Sivok, Riyang, Tista Bazaar, Melli, & Rangpo Railway Stations & External Electrification works of Railway Station Buildings and Yard lighting (Package SS-01) on Sivok-Rangpo Section of Sivok-Rangpo Rail Project

Sr. No.	SOR/ NON-SOR	SCHEDULE	Total Amount
		Schedule-A	
1	NON-SOR	Supply, Erection, Testing and Commissioning of 11/0.433kV substations at :-	18,18,76,071.55
a		Sivok 2 x 630 kVA 11/0.433 kV.	
b		Riyang 2 x 500 kVA 11/0.433 kV.	
c		Tista Bazaar 2 x 1000 kVA 11/0.433 kV.	
d		Melli 2 x 500 kVA 11/0.433 kV.	
e		Rangpo 2 x 2000 kVA 11/0.433 kV.	
		Schedule-B	
2	NON-SOR	External Electrification works of Railway Station Buildings and Yard lighting.	2,14,38,929.27
		Schedule-C	
3	SOR	Any other Civil item not covered above shall be executed under DSR - 2023 for civil works and DSR(E&M)-2022 for electrical works (Excluding GST)	50,00,000.00
		Sub-Total (Schedule A, B, C), excluding GST @18% but including all taxes & duties.	20,83,15,000.82
		Contractor Quoted 3.60% above	74,99,340.03
		Total Amount (Schedule A, B, C) excluding GST @18% but including all taxes & duties.	21,58,14,340.85
		Add GST @ 18%	3,88,46,581.35
		Grand Total (Schedule A, B, C), inclusive of GST @18% and all taxes & duties.	25,46,60,922.20



Package : SS-01

Supply, Erection, Testing and Commissioning of 11kV/433V sub-stations at Sivok, Riying, Tista Bazaar, Melli, & Rangpo Railway Stations and associated works complete in all respect for Sivok-Rangpo Rail Project , Package SS-01

BOQ / ESTIMATE FOR ELECTRIC SUB STATION, SIVOK-RANGPO RAIL PROJECT

Package : SS-01
Supply, Erection, Testing and Commissioning of 11kV/433V sub-stations at Sivok, Riyang, Tista Bazaar, Meili, & Rangpo Railway Stations and associated works complete in all respect for Sivok-Rangpo Rail Project, Package SS-01

Sr. No	Item Description	Unit	Quantity					Rate (in INR)		Amount (in INR)				
			Sivok	Riyang	Tista Bazar	Meili	Rangpo	Total	Supply	ETC	Total	Supply	ETC	Total
25-25-25-25-50														
5	Electrical one no Substation @ (Rangpo - 2 nos. 2000 KVA each) 11/0.433kV- Supply, Installation , Testing and Commissioning of the following: Power transformers oil cooled type, insulation class 11 KV with the following main characteristics: Nominal output 2000 KVA Primary voltage 11 KV Secondary voltage 0.433 KV Frequency 50 Hz Altitude up to 1000 m a s l Rates are inclusive of Transformer foundation													
5.01	Each	0	0	0	0	0	2	2	57,89,282.54	14,47,320.63	72,36,603.17	1,15,78,565.08	28,94,641.27	1,44,73,206.35
5.02	Stainless Steel (2mm) automatic power factor correction board with the following main characteristics: Nominal Voltage 0.433KV Frequency 50 Hz Nominal Output 600KVAR Auxiliary circuits voltage 250V supplied by single-phase transformer the power factor correction board will have the following elementary Capacitors: 25-25-25-25-50-50-50-50-50-50-50-50-50-50	Each	0	0	0	0	1	1	32,42,148.01	97,264.45	33,39,412.47	32,42,148.01	97,264.45	33,39,412.47
6	HT Panel													
6.01	Metal-clad (2 mm) 11 KV Panel, 3 Phase, MV arc-proof board. HT Panel shall have rated breaking fault current of 25KA for 3Sec, Numerical Relays, metering arrangement including CTs (400/5/5-5A, 15VA, class 0.5 for metering and 5P10 for protection) - 11 Nos., PTs (for metering and protection), Trivector meter - 6 Nos, etc. shall be SCADA compatible. All VCBs shall be motorized and operable in local / remote mode complete with terminations etc, with the following main electrical characteristics: nominal voltage 12 KV operating voltage 11 KV nominal frequency 50 Hz nominal current at main busbars 630 A The board consists of the following sections: Incoming: 630A, 3 Phase VCB (from 33/11KV Transformers) - 2 nos. 630A, 3 Phase VCB (Bus Coupler) - 1 no. Outgoing: 630A, 3 Phase VCB (for Auxiliary Transformer) - 2 nos. There should be integrated earth switch provision (making type) at feeder side for each VCB in each cable compartment Location : Riyang and Meili yard	Each	0	1	0	0	1	2	4177068.44	5,60,217.00	47,37,285.44	83,54,136.88	11,20,434.00	94,74,570.88
7	Generating set with the following main electrical characteristics: Supply, installation, testing and commissioning of 2000 KVA CPCB-IV, 415 volt 3 phase, 1500 R.P.M, 0.8 PF radiator cooled Silent Diesel Generator set with Inbuilt AMF Panel housed in an acoustic enclosure conforming to latest environment protection regulations for emission and noise levels complete with Diesel Engine developing either 587 BHP at 1500 RPM or actual BHP calculated considering de-rating factor if any whichever is higher. DG Set shall complete with Engine, Alternator, Engine control panel and equipped with Power Command Control System. Manual control Panel consisting of FP 320 Amp Moulded Case Circuit Breaker with meters, CTs and transducers for all metering and protection, fuel pipe line upto 10 metre Antivibration mountings, hospital type silencer, electric starter, batteries & battery charger, fuel tank of 8 hours capacity with level indicator, radiator including control wiring, From Power command controller to DG control Panel, first fill of lubricating oil & all accessories complete with necessary civil work such as excavation, back filling, PCC, Steel Reinforcement, cement concrete foundation, plastering, grouting, chipping, finishing etc. as required complete as per specification and as required. (DG Set foundation shall be cast as per manufacturer shop drawing and deemed to be included in quoted rates). The DG Set Installation work should be as per norms of CEA/ Central Electrical Inspectorate / Pollution control board standards. □	Each	0	0	0	0	1	1	1,37,68,361.20	34,42,090.30	1,72,10,451.50	1,37,68,361.20	3442090.30	17210451.50
	BATTERY CHARGER(For DG Sets)													
	1 Set 12v/24vdc battery charger having protection of over voltage /Under voltage/over charging. Battery charger shall be complete with DC Ammeter,DC Voltmeter & LED indicatings lamps as required. Location : Rangpo													



Sr. No	Item Description	Unit	Quantity				Rate (in INR)				Amount (in INR)			
			Sivok	Riyang	Tista Bazar	Meli	Rangpo	Total	Supply	ETC	Total	Supply	ETC	Total
7.2	Supply, installation, testing and commissioning of 500 KVA GPCCB-IV, 415 volt, 3 phase, 1500 R.P.M, 0.8 PF radiator cooled protection regulations for emission and noise levels complete with Diesel Engine developing either 587 BHP at 1500 RPM or actual BHP calculated considering de-rating factor if any whichever is higher. DG Set shall complete with Engine, Alternator, Engine control panel and equipped with Power Command Control System Manual control Panel consisting of FP 320 Amp Moulded Case Circuit Breaker with meters, CT's and transducers for all metering and protection, fuel pipe line upto 10 metre Antivibration mountings, hospital type silencer, electric starter, batteries & battery charger, fuel tank of 8 hours capacity with level indicator, radiator including control wiring, From Power command controller to DG control Panel, first fill of lubricating oil & all accessories complete with necessary civil work such as excavation, back filling, PCC, Steel Reinforcement, cement concrete foundation, plastering, grouting, chipping, finishing etc. as required complete as per specification and as required. (DG Set foundation shall be cast as per manufacturer shop drawing and deemed to be included in quoted rates). The DG Set Installation work should be as per norms of CEA/Central Electrical Inspectorate / Pollution control board standards.	Each	0	0	1	0	0	1	34,42,090.30	6,72,283.26	41,14,373.56	34,42,090.30	6,72,283.26	41,14,373.56
	BATTERY CHARGER (For DG Sets)													
	1 set 12/24volt Battery Charger having protection of over voltage /under voltage /Over Charging. Battery charger shall be complete with DC Voltmeter, DC ammeter and LED indication lamps are required.													
	Location : Tista Bazaar													
7.3	Supply, installation, testing and commissioning of 160 KVA GPCCB-IV, 415 volt, 3 phase, 1500 R.P.M, 0.8 PF radiator cooled protection regulations for emission and noise levels complete with Diesel Engine developing either 587 BHP at 1500 RPM or actual BHP calculated considering de-rating factor if any whichever is higher. DG Set shall complete with Engine, Alternator, Engine control panel and equipped with Power Command Control System Manual control Panel consisting of FP 320 Amp Moulded Case Circuit Breaker with meters, CT's and transducers for all metering and protection, fuel pipe line upto 10 metre Antivibration mountings, hospital type silencer, electric starter, batteries & battery charger, fuel tank of 8 hours capacity with level indicator, radiator including control wiring, From Power command controller to DG control Panel, first fill of lubricating oil & all accessories complete with necessary civil work such as excavation, back filling, PCC, Steel Reinforcement, cement concrete foundation, plastering, grouting, chipping, finishing etc. as required complete as per specification and as required. (DG Set foundation shall be cast as per manufacturer shop drawing and deemed to be included in quoted rates). The DG Set Installation work should be as per norms of CEA/Central Electrical Inspectorate / Pollution control board standards.	Each	0	1	0	1	0	2	11,34,066.18	2,83,516.54	14,17,582.72	22,68,132.35	5,67,033.09	28,35,165.44
	BATTERY CHARGER(For DG sets)													
	1 set 12/24volt Battery Charger having protection of over voltage /under voltage /Over Charging. Battery charger shall be complete with DC Voltmeter, DC ammeter and LED indication lamps are required.													
	Location : Riyang and Meli yard.													
8	LT Panels, IP55 for													
8.1	Main Distribution Panel for Sub-station													
8.1.1	Stainless Steel (2 mm) MDP for the substation, with the following electrical characteristics: Insulation voltage U _i up to 1000 V Operating voltage U _e up to 433 V Nominal frequency 50 Hz Normal Section Current Rating of the main busbar 3600 A Nominal peak withstand current up to 50 kA. The board consists of the following sections: Incoming consisting of: 4P x 3200 A ACB - 3 Nos. (including bus-coupler) Outgoing consisting of: 4P x 2000A ACB- 2 Nos., 4P x 1000 A ACB - 2 Nos., 4P x 800A ACB-8 Nos., 4P x 500 MCCB - 5 Nos., 4P x 250 MCCB - 5 Nos., 4P x 160A MCCB - 10Nos., 4P x 100A MCCB - 8 Nos., 4P x 63 A MCCB - 2 Nos, 4P x 63 A MCCB - 4 Nos, 4P x 32 A MCCB - 4 Nos Emergency Section Current Rating of the main busbar 3600 A Nominal peak withstand current up to 50 kA The board consists of the following sections: Incoming consisting of: 4P x 1000A ACB- 8 Nos., 4P x 800A ACB-8 Nos., 4P x 250 MCCB - 8 Nos., 4P x 150A MCCB - 14 Nos., 4P x 100A MCCB - 10 Nos. Suitable size and number of ACB, MCCB, MCB, RCBO, Wiring, metering arrangement, auxiliary contacts, contactors (reversing/forwarding), surge voltage arrester, relays, coils, cabinet ventilation, CT, PT, PT100, contact elements for key/knob-operation, indicating lamps, indicating lamp testing unit, copper busbars, glands, cable termination, Spares, etc has to be done by contractor prior to design approval. RCBO's shall be provided for power sockets. The cost of all such items or any other item required shall be inclusive in this item.	Each	0	0	0	0	1	1	1,79,67,398.21	1,50,350.10	1,80,17,748.31	1,79,67,398.21	1,50,350.10	1,80,17,748.31
	Location : Rangpo													
8.1.2	Stainless Steel (2 mm) MDP for the substation, with the following electrical characteristics:													



BOQ / ESTIMATE FOR ELECTRIC SUB STATION, SIVOK -RANGPO RAIL PROJECT

Package : SS-01

Supply, Erection, Testing and Commissioning of 11kV/433V sub-stations at Sivok, Riyang, Tista Bazaar, Meli, & Rangpo Railway Stations and associated works complete in all respect for Sivok-Rangpo Rail Project, Package SS-01

Sr. No	Item Description	Unit	Quantity				Rate (in INR)				Amount (in INR)			
			Sivok	Riyang	Tista Bazar	Meli	Rangpo	Total	Supply	ETC	Total	Supply	ETC	Total
	Insulation voltage U _i up to 1000 V													
	Operating voltage U _e up to 433 V													
	Nominal frequency 50 Hz													
	Normal Section													
	Current Rating of the main busbar 2000 A													
	Nominal peak withstand current up to 50 KA													
	The board consists of the following sections:													
	Incoming consisting of: 4P x 1600 A ACB - 3 Nos. (including bus-coupler)													
	Outgoing consisting of: 4P x 1000A ACB - 4 Nos., 4P x 800A ACB-6 Nos., 4P x 250 MCCB - 4 Nos., 4P x 160A MCCB - 7 Nos., 4P x 100A MCCB - 5 Nos. 4P x 32 A MCCB - 4 Nos													
	Emergency Section													
	Current Rating of the main busbar 1000 A	Each	0	0	1	0	0	1	70,84,687.52	67,516.72	71,52,204.25	70,84,687.52	67,516.72	71,52,204.25
	Nominal peak withstand current up to 50 KA													
	The board consists of the following sections:													
	Incoming consisting of: 4P x 800 A MCCB - 2 Nos., 4P x 400 A MCCB - 2 Nos., 4P x 250 MCCB - 3 Nos., 4P x 160A MCCB - 3 Nos., 4P x 63 A MCCB - 3 Nos.													
	Outgoing consisting of: 4P x 1000A ACB - 2 Nos., 4P x 800A ACB-2 Nos., 4P x 250 MCCB - 3 Nos., 4P x 160A MCCB - 3 Nos., 4P x 63 A MCCB - 3 Nos.													
	Suitable size and number of ACB, MCCB, MCB, RCBO, Wiring, metering arrangement, auxiliary contacts, contactors (reversing/forwarding), surge voltage arrester, relays, coils, cabinet ventilation, CT, PT, PT100, contact elements for key/knob operation, indicating lamps, indicating lamp testing unit, copper busbars, glands, cable termination, Spares, etc has to be done by contractor prior to design approval. RCBO's shall be provided for power sockets. The cost of all such items or any other item required shall be inclusive in this item.													
	Location : Teesta Bazaar													
	8.1.3 Stainless Steel (2 mm) MDP for the substation, with the following electrical characteristics													
	Insulation voltage U _i up to 1000 V													
	Operating voltage U _e up to 433 V													
	Nominal frequency 50 Hz													
	Normal Section													
	Current Rating of the main busbar 1200A													
	Nominal peak withstand current up to 50 KA													
	The board consists of the following sections:													
	Incoming consisting of: 4P x 1000 A ACB - 3 Nos. (including bus-coupler)													
	Outgoing consisting of: 4P x 400 A MCCB - 2 Nos., 4P x 250 A MCCB - 5 Nos., 4P x 125 MCCB - 3 No., 4P x 63A MCCB - 04 nos	Each	1	0	0	0	0	1	13,85,726.29	3,46,431.57	17,32,157.86	13,85,726.29	3,46,431.57	17,32,157.86
	Emergency Section													
	Current Rating of the main busbar 500 A													
	Nominal peak withstand current up to 50 KA													
	The board consists of the following sections:													
	Incoming consisting of: 4P x 400 A MCCB - 2 Nos., 4P x 250 A MCCB - 2 Nos. (incl. bus-coupler)													
	Outgoing consisting of: 4P x 100A MCCB - 1 Nos., 4P x 63A MCCB - 2 Nos., 4P x 32A MCCB - 2 Nos.													
	Suitable size and number of ACB, MCCB, MCB, RCBO, Wiring, metering arrangement, auxiliary contacts, contactors (reversing/forwarding), surge voltage arrester, relays, coils, cabinet ventilation, CT, PT, PT100, contact elements for key/knob operation, indicating lamps, indicating lamp testing unit, copper busbars, glands, cable termination, Spares, etc has to be done by contractor prior to design approval. RCBO's shall be provided for power sockets. The cost of all such items or any other item required shall be inclusive in this item.													
	Location : Sivok yard													
	8.1.4 Stainless Steel (2 mm) MDP for the substation, with the following electrical characteristics													
	Insulation voltage U _i up to 1000 V													
	Operating voltage U _e up to 433 V													
	Nominal frequency 50 Hz													
	Normal Section													
	Current Rating of the main busbar 1000 A													
	Nominal peak withstand current up to 50 KA													
	The board consists of the following sections:													
	Incoming consisting of: 4P x 800 A ACB - 3 Nos. (including bus-coupler)													
	Outgoing consisting of: 4P x 250A MCCB - 3 Nos., 4P x 160 A MCCB - 3 No., 4P x 63A MCCB- 5 nos., 4P x 32 A MCCB- 5 nos													
	Emergency Section													
	Current Rating of the main busbar 300 A	Each	0	1	0	1	0	2	11,15,602.00	22,332.04	11,36,934.03	22,33,203.99	44,664.05	22,77,868.07
	Nominal peak withstand current up to 50 KA													
	The board consists of the following sections:													
	Incoming consisting of: 4P x 250 A MCCB - 2 Nos. (incl. bus-coupler)													
	Outgoing consisting of: 4P x 100A MCCB - 1 Nos., 4P x 63A MCCB - 2 Nos., 4P x 32A MCCB - 2 Nos.													



BOQ / ESTIMATE FOR ELECTRIC SUB STATION, SIVOK -RANGPO RAIL PROJECT

Package : SS-01

Supply, Erection, Testing and Commissioning of 11kV/433V sub-stations at Sivok, Riyang, Tista Bazaar, Meli, & Rangpo Railway Stations and associated works complete in all respect for Sivok-Rangpo Rail Project, Package SS-01

Sr. No	Item Description	Unit	Quantity					Rate (in INR)		Amount (in INR)		Total
			Sivok	Riyang	Tista Bazar	Meli	Rangpo	Supply	ETC	Supply	ETC	
9	Suitable size and number of ACB, MCCB, MCB, RCBO, Wiring, metering arrangement, auxiliary contacts, contactors (reversing/forwarding), surge voltage arrestor, relays, coils, cabinet ventilation, CT, PT, PT100, contact elements for keyknob-operation, indicating lamps, indicating lamp testing unit, copper busbars, glands, cable termination, Spares, etc has to be done by contractor prior to design approval. RCBO's shall be provided for power sockets. The cost of all such items or any other item required shall be inclusive in this item.	Each	0	1	0	1	0	6,50,108.30	19,503.25	6,69,611.55	39,006.50	13,39,223.11
	LT Panel for Station Building											
	9.1 Stainless Steel (2 mm) Panel for the Station Building, with the following electrical characteristics:											
	Insulation voltage U _i up to 1000 V											
	Operating voltage U _e up to 433 V											
	Nominal frequency 50 Hz											
	Normal Section											
	Current Rating of the main busbar 400A											
	Nominal peak withstand current up to 50 KA											
	The board consists of the following sections:											
	Incoming consisting of: 4P x 250A MCCB - 1 No.											
	Outgoing consisting of: 4P x 160A - 2 Nos., 4P x 100-2 nos., 4P, 63A- 8 nos, 4P x 32 A MCCB - 8 Nos.											
	Emergency Section											
	Current Rating of the main busbar 125A											
9.2	Nominal peak withstand current up to 50 KA	Each	0	1	0	1	0	6,50,108.30	19,503.25	6,69,611.55	39,006.50	13,39,223.11
	The board consists of the following sections:											
	Incoming consisting of: 4P x 100A MCCB - 2 Nos. (incl. 1 bus-coupler)											
	Outgoing consisting of: 4P x 40A MCCB - 5 Nos., 4P x 63A MCCB - 4 Nos											
	Suitable size and number of MCCB, MCB, RCBO, Wiring, metering arrangement, auxiliary contacts, contactors (reversing/forwarding), surge voltage arrestor, relays, coils, cabinet ventilation, CT, PT, PT100, contact elements for keyknob-operation, indicating lamps, indicating lamp testing unit, copper busbars, , glands, cable termination, Spares, etc has to be done by contractor prior to design approval. RCBO's shall be provided for power sockets. The cost of all such items or any other item required shall be inclusive in this item.											
	LT Panel for Service Buildings											
	Stainless Steel (2 mm) Panel for the Service Building, with the following electrical characteristics:											
	Insulation voltage U _i up to 1000 V											
	Operating voltage U _e up to 433 V											
	Nominal frequency 50 Hz											
	Normal Section											
	Current Rating of the main busbar 250A											
	Nominal peak withstand current up to 50 KA											
	The board consists of the following sections:											
	Incoming consisting of: 4P x 200A MCCB - 1 Nos											
10	Outgoing consisting of: 4P x 63A MCCB - 2 Nos., 4P x 100A MCCB - 1 No.	Each	0	1	0	1	0	6,50,108.30	19,503.25	6,69,611.55	39,006.50	13,39,223.11
	Emergency Section											
	Current Rating of the main busbar 100A											
	Nominal peak withstand current up to 50 KA											
	The board consists of the following sections:											
	Incoming consisting of: 4P x 63A MCCB - 2 Nos (incl. 1 bus-coupler)											
	Outgoing consisting of: 4P x 40A MCCB - 2 Nos											
	Suitable size and number of MCCB, MCB, RCBO, Wiring, metering arrangement, auxiliary contacts, contactors (reversing/forwarding), surge voltage arrestor, relays, coils, cabinet ventilation, CT, PT, PT100, contact elements for keyknob-operation, indicating lamps, indicating lamp testing unit, copper busbars, glands, cable termination, Spares, etc has to be done by contractor prior to design approval. RCBO's shall be provided for power sockets. The cost of all such items or any other item required shall be inclusive in this item.											
	Supply, installation, testing & commissioning of LT Outdoor Feeder Panel Double Door, compartmentalised & slanting roof with Canopy standard made of metal with following switchgears and Necessary arrangement be made for termination of incoming cables and out going cables using cables alleys. Makes of switchgears L&T/ABB/Siemens/as per approved list(Manufacturing shells taken up after accord approval from Engineer -in-Charge)											
	INCOMER											
	125Amps 4P MCCB 38KA Fixed Type-1No											
	125 Amps spread Link-2 Set											
	0-500V Digital Voltmeter with Volt Selector switch-1No											
	0-150A Digital Ammeter with Ammeter Selector Switch-1No											
OUTGOING	150/5,15VA,CL-1 Current Transformer-3 Nos	Each	0	2	0	2	0	0	164356.4356	164356.4356	657425.7426	657425.7426
	Phase Indicator Lamps R,Y,B-3 Nos											
	6 Amps SP SP MCB for Contol-3 No											
	250A Copper Busbar-1set											



BOQ / ESTIMATE FOR ELECTRIC SUB STATION, SIVOK -RANGPO RAIL PROJECT

Package : SS-01

Supply, Erection, Testing and Commissioning of 11kV/433V sub-stations at Sivok, Rhyang, Tista Bazaar, Melli, & Rangpo Railway Stations and associated works complete in all respect for Sivok-Rangpo Rail Project, Package SS-01

Sr. No	Item Description	Unit	Quantity					Rate (in INR)		Amount (in INR)	
			Sivok	Rhyang	Tista Bazar	Melli	Rangpo	Total	Supply	ETC	Total
	63Amps 4P MCCB 25K Thermal magnetic release with O/L,S/C Protection-4 Nos.										
	40 Amps 4P MCCB 10KA-4 Nos										
	32Amps DP MCB 10KA-6Nos										
	50Amps TP Contactor-1No										
	Timer Switch 24 Hours-1No										
	Auxiliary Contactor-1No										
	Indicating Lamps-3Nos										
	Push Button-1No.										
11	Power Supply System- Supply, Installation , Testing and Commissioning of the following :- MV Cables										
11.1	Supply & installation of MV copper cable type N-2XH(S)(F)2Y, 11KV, 3C x 300 sqmm										
a	Supply and Installation of MV copper cable type N-2XH(S)(F)2Y, 11KV, 3C x 300 sqmm in existing cement concrete cable trench	mtr	100	100	100	100	100	500	9,700.61	2,201.97	11,902.58
b	Supply and making cable end terminations heat shrink type, testing, commissioning for the following of 11 KV grade, 3 core 300 sq mm XLPE copper conductor armoured cable including termination kit complete heat shrinkable sleeve, etc. as per the specifications.	Nos.	4	4	4	4	4	20	39671.37186	15851.81714	55,523.19
c	Supply and Installation underground (outside) of MV copper cable type N-2XH(S)(F)2Y, 11KV, 3C x 300 sqmm in HDPE Pipe 160 mm dia buried including excavation, refilling, bricks, sand, route markers and name plate, etc. The cost of HDPE pipe is included in this item.	Mtr	100	100	100	100	100	500	10,218.36	2,434.72	12,653.07
d	Supply and Installation on tunnel wall/bridge with all associated material/accessories as shown in the drawings. The cost of GI pipe with fire resistant paint & additional mechanical protection.	mtr	15	15	15	15	15	75	4,869.44	3,246.29	8,115.73
12	Supply, laying, testing & commissioning of 1100 v grade, armoured, FRLS XLPE Copper (Cu) Conductor Cables (Asper IS/7098 Part-1) on Trays/walls/columns/indoors/pipes/ trenches including the cost of supports with suitable clamps, saddles, hooks, bolts etc. and including the cost of proper dressing of cables, markers providing identification tags, earthing of gland, lugs armouring etc. Complete as per specifications, as per site requirement:-										
a	4C x 10 sqmm (Copper)	500	500	500	500	500	500	2500	520.535631	130.13143	650.67
b	4C x 16 sq mm (Copper)	100	100	100	100	100	100	500	765.694127	191.421054	957.12
c	4C x 50 sqmm (Copper)	100	100	100	100	100	100	500	2,219.47	554.87	2,774.34
d	4C x 120 sqmm (Copper)	150	150	150	150	150	150	750	5,198.70	1,299.68	6,498.38
12	Supply, laying, testing & commissioning of 1100 v grade, armoured, FRLS XLPE Copper (Cu) Conductor Cables (Asper IS/7098 Part-1) on Trays/walls/columns/indoors/pipes/ trenches including the cost of supports with suitable clamps, saddles, hooks, bolts etc. and including the cost of proper dressing of cables, markers providing identification tags, earthing of gland, lugs armouring etc. Complete as per specifications, as per site requirement:-										
a	4C x 35sqmm (Copper)	Meter	150	150	150	150	150	750	986.14	246.54	1,232.68
b	4C x 185sqmm (Copper)	Meter	750	750	750	750	750	3750	5,062.18	1,285.55	6,327.72
c	4C x 240sqmm (Copper)	Meter	100	100	100	100	100	500	6,567.81	1,641.95	8,209.77
d	4C x 400sqmm (Copper)	Meter	100	100	100	100	100	500	8,271.96	2,067.99	10,339.94
f	1C x 630 sqmm (Copper)	Meter	0	0	100	0	200	300	29,605.34	2,831.06	32,436.40
13	Supply erection/ fixing of fire extinguishing equipments (ISI) Marked, Rubber mat (ISI marked), G.I. fire buckets filled with clean dry sand held on free standing steel stand, first aid box with medicine (ISI marked) and associated materials, shock treatment chart on aluminium frame, schematic diagram of HT/LT installation & transformer data on white hylem sheet with aluminium frame & fixing/ providing in the sub station area.	Each	0	1	0	1	1	3	66,973.48	10,932.19	79,805.67
14	Supply and laying of Fire Retardant 2.5mm Insulation Mat of Class B 33kV class manufactured as per IS 15652:2006 duly tested by CPRI. Test certificate to be provided by the manufacturer/contractor. Dimension of mat shall be 1000mm x 2000mm	Each	0	30	0	30	0	60	0.00	3082.648812	3,082.65
15	EARTHING										
	Supply, erection, testing and commissioning of the maintenance free earth pit as per manufactures with 3.0 m, 50 mm dia electrode with outer part of GI pipe, along with backfill compound (50 Kg) as required to achieve low earth value. Rates are inclusive of pit cover.	Each	6	6	6	6	6	30	8,770.43	5,267.24	14,037.67
16	Supply, Installation, testing & commissioning of 110V battery charger, 100AH SMF battery along with stand. The rate includes the items such as incoming cable from source & outgoing cable to 11kV relay panel complete as per technical specifications.	Each	1	1	1	1	1	5	3,41,929.50	85482.375	4,27,411.88



BOQ / ESTIMATE FOR ELECTRIC SUB STATION, SIVOK -RANGPO RAIL PROJECT

Package : SS-01

Supply, Erection, Testing and Commissioning of 11kV/433V sub-stations at Sivok, Riyang, Tisia Bazaar, Melli, & Rangpo Railway Stations and associated works complete in all respect for Sivok-Rangpo Rail Project, Package SS-01

Sr. No	Item Description	Unit	Quantity						Rate (in INR)		Amount (in INR)	
			Sivok	Riyang	Tisia Bazar	Melli	Rangpo	Total	Supply	ETC	Supply	ETC
17	Diploma/ B Tech/B.E Engineer (Electrical) for overall supervision of works under the direct control of Engineer-in-charge. The contractor has to provide separate Supervisor, Quality & SHE Engineer for the works as per contract document/scope and in no case shall this item be operated for Supervision. Quality & SHE Engineer of contractor works by contractor.	Man-months	12							67,135.80	0.00	8,05,629.61
18	Manning manpower of substations (2 shift/day min)	Man-months	25						0.00	48,807.70	0.00	12,20,192.52
19	Mahindra Scorpio or equivalent with heating/cooling facility with a travel limit of 4000 km/month and Rs. 9/km for extra kms exceeding monthly limit of 4000 kms.	Vehicle-Months	18						37,714		0.00	6,78,847.14
	Grand Total Amount (Rs)								15,04,18,948.48		15,04,18,948.48	2,96,56,369.89
	Labour Cess @ 1%								15,04,189.48		15,04,189.48	2,96,563.70
	Grand Total Amount with Labour Cess (Rs)								15,19,23,137.96		15,19,23,137.96	2,99,52,933.59
												18,00,75,318.37
												18,00,753.18
												18,18,76,071.55



Schedule: B

Bill of Quantities (BOQ) -EE (External Electrification)

S No	DSR Item No	Description	Unit	Quantity					Rate (in INR)			Amount (in INR)			
				Sivok	Rivang	Tista Bazar	Meili	Rangpo	Total	Supply	ETC	Total	Supply	ETC	Total
1		Supply,erection, testing and commissioning of Stainless Steel Feeder pillar for external lightning with the following electrical characteristics :- Insulation voltage Ui up to 1000 V Operating voltage Ue up to 1000 V Nominal frequency 50 Hz Nominal current up to 100 A Current Rating of the Al main busbar 200 A Nominal peak withstand current up to 15 KA The control panel comprises mainly: Incoming consisting of: 4P x 63 A MCB- 1 Nos. with timer for automatic switching On & OFF of street lights at sun set & sun rise or twilight(Auto ON, Auto OFF, Auto modes) with manual override facility. Outgoing consisting of: 4P x 16 A MCB - 12 Nos	Nos.	1.00	1.00	1.00	1.00	2.00	6.00	3,10,179.07	77,544.76	3,87,723.83	18,61,074.40	4,65,268.58	23,26,342.98
2		LIGHTING													
2.1		Supply,erection, testing and commissioning of Ceiling / Wall mounted 40 W LED light fixture, IP 65 similar to Havells Cat No. MAGNUMGRANDNE IP6640WLED857SPC or equivalent	Nos.	30.00	30.00	30.00	30.00	30.00	150.00	0.00	3,526.43	3,526.43	0.00	5,28,964.79	5,28,964.79
2.2		Supply, installation, testing and commissioning of 6 meter high hot dip galvanized octagonal pole with 130 mm bottom A/F & 70 mm to A/F made up of 3mm HT sheet along with base plate of size 200*200*12 mm thick including 4 Nos of M16 x 450 long J type EN 8 grade foundation bolt along with templates without bracket	Nos	20.00	40.00	40.00	40.00	60.00	200.00	0.00	7,958.51	7,958.51	0.00	15,91,702.08	15,91,702.08
2.3		Supply, Installation, testing and commissioning of 1 metre long hot dip galvanized single arm special bracket(Model : Type 5) cross arm made up of GI pipe suitable to mount on pole having 70 mm AF	Nos	18.00	38.00	38.00	38.00	58.00	190.00	0.00	2,549.15	2,549.15	0.00	4,84,338.45	4,84,338.45
2.4		Supply, Installation, testing and commissioning of 1 metre long hot dip galvanized double arm special bracket(Model : Type 5) cross arm made up of GI pipe suitable to mount on pole having 70 mm AF	Nos.	2.00	2.00	2.00	2.00	2.00	10.00	0.00	3,192.60	3,192.60	0.00	31,925.99	31,925.99
2.5		Supply, Fitting, Connection and testing of outdoor type luminaries 45 watt LED integril type street light in die cast aluminum spigot housing with IP 66 protection complete with optical acrylic diffuser constant current , electronic driver of 140-280 volt AC and high voltage, open and short circuit protection and all other accessories, connection cable of required length etc.	Nos	22.00	42.00	42.00	42.00	62.00	210.00	0.00	3,474.94	3,474.94	0.00	7,29,737.12	7,29,737.12
2.6		Supply, erection, testing & commissioning of hot dipped Galvanised , 16 Meter high mast system in two section suitable for local wind speed permissible as per IS 875 along with head frame for 12 nos. 240 W luminaries (IP 66) , complete with all accessories, foundation bolts manufactured from special steel along with nuts, washers, anchor plate and common template including RCC foundation, carriage, raising & lowering anangement suitable for LED luminaries symmetrically arranged & control gear boxes and lighting final, etc., twin dome avialior obstruction lights, control panel, multi core flexible copper conductor cable, connection to earthing system and fencing panel as per requirement.	Each	2.00	2.00	3.00	2.00	5.00	14.00	0.00	3,99,293.14	3,99,293.14	0.00	55,90,103.99	55,90,103.99
2.7		Supply, installation, Testing and commissioning of outdoor stand mounted feeder pillar with 32A TPN MCB incomer, single dial time switch, 25A TP contractor for the automatic switching of luminaries, power foot control with 2 no 9A contractors and raise lower push button, incoming 4x 10 sq. mm and outgoing 2.5 sq. mm terminals	Each	2.00	2.00	3.00	2.00	5.00	14.00	0.00	36,102.36	36,102.36	0.00	5,05,432.97	5,05,432.97
3		FAN													



7		Supply, Installation, Testing & Commissioning of Outdoor type feeder Pillar with 14 SWG CRCA Sheet, double door, compartmentalised & slanting roof (300 mm extended), suitable for 3 phase , 4 wire, 440 V, 50 Hz, AC supply, weather and vermin proof with earth bus , locking arrangement, cable alley, gland plate complete as required including associated civil work .Panel should be made as per CPRI guideline and approval shall be taken before manufacturing.- Incoming:- 1 No, 250 A , 4P MCCB with Thermal Magnetic Release. 01 No Digital VAF Meter 01 Set R,Y,B Phase Indicating Lamp with 2A control MCB 15 VA CT, class-1 Bus Bar:- 400A TPN Copper Bus Bar Outgoing:- 02 No. 4P, 160A, 25KA MCCB with Thermal magnetic release 05 No. 4P, 100A, 25KA MCCB with Thermal magnetic release. 01 No , 4P, 32 A, 25 KA MCCB	Each	1	2	0	2	2	7	0.00	1,74,278.40	1,74,278.40	0.00	12,19,948.80	12,19,948.80	
8		Supplying and laying of following size DWC HDPE pipe alongwith all accessories (coupler, endcap etc.) (SI marked complete with fitting, cutting, jointing etc. direct in ground (75 cm below ground level) including excavation and refilling the trench														
8.1	14.16.4	160 mm dia	mtr	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	5,000.00	0.00	405.29	405.29	0.00	20,26,452.62	20,26,452.62
8.2	14.16.3	120 mm dia	mtr	800.00	500.00	500.00	500.00	500.00	500.00	2,800.00	0.00	301.75	301.75	0.00	8,44,900.86	8,44,900.86
8.3	14.16.1	83 mm dia	mtr	500.00	125.00	125.00	125.00	125.00	125.00	1,000.00	0.00	184.95	184.95	0.00	1,84,949.17	1,84,949.17
		Total Amount												54,22,532.65	2,12,26,662.64	2,12,266.63
		Labour Cess @ 1%												54,225.33	1,58,041.30	2,12,266.63
		Grand Total Amount with Labour Cess (Rs)												54,76,757.98	1,59,62,171.28	2,14,38,929.27

