

संदर्भ सं.: भा.वि.प्रा./ सी.एच.क्यू./इ.आर./ इ.- इ./रांची/सीएटी-II/WO/2023/272

दिनांक : 14.03.2023

Ref: AAI/CHQ/ER/E-E/Ranchi/ CAT-II/WO/2023

स्पीड पोस्ट द्वारा / By Speed Post#

सेवा में	To,
मेसर्स जे.सी.सी. इंजीनियर्स प्राइवेट लिमिटेड फ़र्स्ट फ्लोर, रघुनाथ मार्केट, टेलीफोन एक्सचेंज के पास, पठानकोट- 145001 jccpl@ymail.com	M/s JCC Engineers Private Limited First Floor, Raghunath Market, Near Telephone Exchange, Pathankot -145001 jccpl@ymail.com

विषय: बिरसा मुंडा हवाई अड्डा, रांची में कैट- II लाइटिंग का प्रावधान.

Name of Work: Provision of CAT-II Lighting System at Birsa Munda Airport, Ranchi.

Ref: i) Tender ID No. 2022_AAI_137821_1.

ii) Your e-Tender (Envelope-I) opened on dated 19.01.2023.

iii) Your Financial Bid (Envelope-II) opened on dated 16.02.2023.

iv) Reverse auction completed on dated 21.02.2023.

v) Corrigendum 1 published on 22.12.2022

महोदय/Dear Sir(s),

- उपरोक्त कार्य के लिए आपकी ई-निविदा अध्यक्ष, भारतीय विमानपत्तन प्राधिकरण की ओर से आपके द्वारा (रिवर्स नीलामी के बाद) उद्धृत कुल रु. 12,69,15,617/- (बारह करोड़ उनसठ लाख पंद्रह हजार छह सौ सत्रह मात्र) (बिना जीएसटी के) जो कि निविदा की न्यायोचित लागत रु. 12,83,13,966/- (बिना जीएसटी के) से 1.09 % कम है।

Your e-tender for the work mentioned above is hereby accepted on behalf of the Chairman, Airports Authority of India, at the item rates (after reverse auction) quoted by you totaling to **Rs. 12,69,15,617/-** Excluding GST (Rupees Twelve Crore Sixty Nine Lakh Fifteen Thousand Six Hundred Seventeen Only) (excluding GST) which is 1.09% below the justified cost of Rs. 12,83,13,966/- (excluding GST).

- उप-महाप्रबंधक/ संयुक्त महाप्रबंधक (अभि.-विद्युत) (अभि-विद्युत), भारतीय विमानपत्तन प्राधिकरण, बिरसा मुंडा हवाई अड्डा, रांची इस कार्य के प्रभारी अभियंता होंगे। आपसे अनुरोध है कि आप / आपके द्वारा अधिकृत प्रतिनिधि संविदा करार पर हस्ताक्षर करने एवं उसे पूरा करने हेतु दिनांक 28.03.2023 तक उप-महाप्रबंधक (अभि-विद्युत), भारतीय विमानपत्तन प्राधिकरण, पूर्वी क्षेत्र, निगमित मुख्यालय, सफदरजंग हवाई अड्डा, नई दिल्ली - 110003 के कार्यालय में उपस्थित हों। संविदा करार रु 100.00 (सौ रुपये मात्र) के न्यायिकेतर (नॉन ज्युडिशियल) स्टाम्प पेपर (नई दिल्ली) पर बनाया जाएगा और स्टाम्प पेपर की लागत आपको वहन करनी होगी।

DGM / Joint General Manager (Engg. -Elect.), Airports Authority of India, Birsa Munda Airport, Ranchi shall be the Engineer-in-Charge of the work. You are requested to attend / depute your authorized representative to the office of the **Dy. General Manager (Engg.-Elect.), AAI, CHQ, Eastern Region, Safdarjung Airport, New Delhi - 110003** by **28.03.2023** to sign and complete the contract agreement. The contract agreement shall be executed on a non-judicial stamp paper (New Delhi) of value Rs.100.00 (Rupees One Hundred only) and the cost of stamp paper shall be borne by you.



3. आपकी निविदा के साथ प्राप्त बयाना राशि रु. **21,40,000/-** (रुपये इक्कीस लाख चालीस हजार मात्र) को अनुबंध दस्तावेज के खंड संख्या 1 ए पृष्ठ 21 पर की शर्त के अनुसार सुरक्षा जमा के हिस्से के रूप में माना और परिवर्तित किया जाएगा। कृपया रुपये **42,05,781/-** (बयालीस लाख पाँच हजार सात सौ इक्यासी मात्र) इस पत्र के जारी होने की तारीख से 10 दिनों के भीतर सुरक्षा जमा के रूप में जमा करें, ऐसा न करने पर अनुबंध दस्तावेज की खंड संख्या 1 ए पृष्ठ 21 पर की शर्त के अनुसार कटौती की जाएगी।
The Earnest Money amount of **Rs. 21,40,000/-** (Rupees Twenty One Lakhs Forty Thousand Only) received along with your tender will be treated and converted as part of security deposit as per condition of Clause no 1A on page 21 of contract document. Please deposit **Rs. 42,05,781/-** (Rupees Forty Two Lakh Five Thousand Seven Hundred Eighty One Only) towards security within 10 days from the date of issue of this letter, failing which, the same will be deducted as per condition of clause no 1A on page 21 of the contract document.
4. आपसे अनुरोध है कि अवार्ड पत्र जारी करने की तारीख से 60 दिनों के भीतर रुपये **38,07,469.00** (अड़तीस लाख सात हजार चार सौ उनहतर मात्र) की प्रदर्शन बैंक गारंटी, संलग्न प्रोफार्मा के अनुसार निविदा दस्तावेज के पृष्ठ जीसीसी-19 के खंड 1 के अनुसार बैंक गारंटी के रूप में परिशिष्ट-XI में परिशिष्ट-XI-A में संलग्न वचन पत्र के साथ जमा करें।
You are requested to submit Performance Bank Guarantee of **Rs. 38,07,469.00** (Rupees Thirty Eight Lakh Seven Thousand Four Hundred Sixty Nine Only) within 60 days from the date of issue of award letter in the form of bank guarantee as per clause 1 at page GCC-19 of tender document as per performa appended at appendix-XI along with letter of undertaking as appended in appendix- XI-A.
5. आपसे अनुरोध है कि अनुबंध श्रम (विनियमन एवं उन्मूलन) अधिनियम 1970 और अनुबंध श्रम (विनियमन एवं उन्मूलन) केन्द्रीय नियमावली 1971 बाल श्रम (निषेध और विनियमन) अधिनियम 1986, निर्माण श्रमिक (रोजगार और सेवा की शर्त का विनियमन) अधिनियम 1996, भवन और अन्य निर्माण श्रमिक कल्याण उपकार अधिनियम 1996 जैसा कि निविदा के जीसीसी के पृष्ठ संख्या जी.सी.सी- 67 पर धारा-19 में निर्दिष्ट है तथा केन्द्रीय और राज्य सरकारों के नियमों का अनुपालन करें।
You are requested to comply with the provisions of Contract Labour (Regulation & Abolition) Act of 1970 and Contract Labour (Regulation and Abolition) Central Rules-1971 Child Labour (Prohibition & Regulation) Act 1986, Construction Workers (Regulation of Employment and Condition of Service) Act 1996, Building and other construction Workers Welfare cess Act 1996 as specified in Clause-19 on Page No. GCC-67 of Tender document and rules of Central and State Governments.
6. आपको उप-महाप्रबंधक (अभि-विद्युत)/ संयुक्त महाप्रबंधक (अभि.-विद्युत), भारतीय विमानपत्तन प्राधिकरण, बिरसा मुंडा हवाई अड्डा, रांची से संपर्क करने का भी निर्देश दिया जाता है जो आपको तुरंत साइट सौंपने की व्यवस्था करेंगे।
You are also directed to contact the DGM/ Joint General Manager (Engg.-Elect.), Airports Authority of India, Birsa Munda Airport, Ranchi immediately, who will arrange to handover the site to you.
7. कृपया ध्यान दें कि कार्य करने के लिए समय 12 (बारह) महीने होगा और कार्य प्रारम्भ की गणना इस पत्र के जारी होने की तारीख के दसवें दिन से की जाएगी।
Please note that the time allowed shall be Twelve months for work and same shall be reckoned from the tenth day of the date of issue of this letter.
8. कृपया ध्यान दें कि दोष दायित्व अवधि कार्य समाप्ती होने की तारीख से 24 (चौबीस) महीने की होगी।
Please note that the defect liability period shall be 24 (Twenty Four) Months from the certified date of completion of work.



9. अनुबंध के संबंध में पत्राचार सामान्य रूप से प्रभारी अभियंता को संबोधित किया जाना चाहिए।
Any further correspondence in connection with this contract should normally be addressed to the Engineer – in – Charge.
10. संदर्भ के तहत दिए गए पत्र समझौते का हिस्सा होंगे।
The letters under reference shall form part of the Agreement.
11. कृपया इस पत्र की पावती भेजें तथा इसके साथ में संलग्न इस पत्र की दूसरी प्रति पर स्वीकारोक्ति के रूप में विधिवत हस्ताक्षर करके अधोहस्ताक्षरी को वापस भेजें।
Please acknowledge the receipt and return the duplicate copy of this letter enclosed herewith after signing it to undersigned as a token of acceptance.
12. कृपया ध्यान दें कि यदि उपरोक्त में हिंदी और अंग्रेजी संस्करण के प्रावधान में कोई अंतर / विसंगति या विरोधाभास है, तो अंग्रेजी संस्करण मान्य होगा।
Please note if there is any difference / discrepancy or contradiction in the provision of Hindi and English version in above, the English version shall prevail.

धन्यवाद / Thanking you,

संलग्नक / Enclosure: मदों की सूची / Bill of Quantity.(15 pages)

भवदीय /Yours Faithfully,


14/03/2023
उप-महाप्रबंधक(अभि-विद्युत) / Dy. General Manager (Engg.-Elect.)
पूर्वी क्षेत्र, निगमित मुख्यालय, / Eastern Region, CHQ,
सफदरजंग हवाईअड्डा, नई दिल्ली/ Safdarjung Airport, New Delhi.
कृते अध्यक्ष, भा.वि.प्रा. / On behalf of Chairman, AAI.

Bill of Quantities

Name of Work : Provision of CAT II Lighting System at Birsa Munda Airport, Ranchi

Tender ID: 2022_AAI_137821_1

S.No.	Description of Item	Qty	Unit	Rate	Amount
SUB HEAD-I, SUPPLY OF ITEMS					
1	Design, supply and installation of Frangible & tiltable type pole/ lattice mast (base mounted/central hinge /counter balanced type) of following height as mentioned below complying with relevant ICAO standards suitable for Cat -II Approach light system (baratte type) as per the indicative profile attached including necessary foundation as per specifications required and as per directions of the Engineer In charge.				
1.01	a)0.3-0.5 mtr. Frangible Pole	10	Each	10000.00	100000
1.02	b)0.5 -1.2 mtr. Frangible Pole	30	Each	12000.00	360000
1.03	c)2.0-2.5 mtr. Frangible Pole	14	Each	30000.00	420000
1.04	d)2.5-3.0 mtr. Frangible Pole	10	Each	30000.00	300000
1.05	e)3.0-3.5 mtr. Frangible Lattice	1	Each	100000.00	100000
1.06	f)3.5-4.5 mtr. Frangible Lattice	4	Each	120000.00	480000
1.07	g)4.5-5.5 mtr. Frangible Lattice	2	Each	145000.00	290000
1.08	h)6.5-8.5 mtr. Frangible Lattice	8	Each	175000.00	1400000
1.09	i)8.5-10.5 mtr. Frangible Lattice	15	Each	225000.00	3375000
1.10	j)10.5-12.5 mtr. Frangible Lattice	6	Each	300000.00	1800000
2	Supply of FAA Certified Inset type LED high intensity Runway CENTRE LINE (CL) light fitting for aviation visual aids requirements complete with shallow base and matching body of the fitting, inner body of the fitting, inner body and outer cover made of die cast aluminium complete with LED lamp of 6.6 Amps current with connected heat resistant accessories, prism assembly, optical assembly, "O" ring seal, pressure relief test plug, hardware, lenses and all standard accessories and ready for site installation as per specifications complete as required. a) Bidirectional Centerline fitting (RED/White)	64.00	Each	52000.00	3328000
3	Supply of FAA Certified Inset type LED high intensity Runway CENTRE LINE (CL) light fitting for aviation visual aids requirements complete with shallow base and matching body of the fitting, inner body of the fitting, inner body and outer cover made of die cast aluminium complete with LED lamp of 6.6 Amps current with connected heat resistant accessories, prism assembly, optical assembly, "O" ring seal, pressure relief test plug, hardware, lenses and all standard accessories and ready for site installation as per specifications complete as required. b) Bidirectional Centerline fitting (White/White)	108.00	Each	52000.00	5616000

Bill of Quantities

Name of Work : Provision of CAT II Lighting System at Birsa Munda Airport, Ranchi

Tender ID: 2022_AAI_137821_1

S.No.	Description of Item	Qty	Unit	Rate	Amount
4	Supply of FAA Certified Inset type LED high intensity Runway CENTRE LINE (CL) light fitting for aviation visual aids requirements complete with shallow base and matching body of the fitting, inner body of the fitting, inner body and outer cover made of die cast aluminium complete with LED lamp of 6.6 Amps current with connected heat resistant accessories, prism assembly, optical assembly, "O" ring seal, pressure relief test plug, hardware, lenses and all standard accessories and ready for site installation as per specifications complete as required. c) Bidirectional Centerline fitting (RED / Blank)	20.00	Each	52000.00	1040000
5	Supply of FAA Certified Inset type LED Uni directional high intensity TOUCH DOWN ZONE (TDZ) (White) light fitting for aviation visual aids requirements complete with shallow base and matching body of the fitting, inner body and outer cover made of die cast aluminium complete LED lamp of 6.6 amps current with connected heat resistant accessories, prism assembly, optical assembly, "O" ring seal, pressure relief test plug, hardware, clear lenses and all standard accessories and ready for site installation as per specifications complete as required.	189.00	Each	52000.00	9828000
6	Supply of Inset type LED Uni directional high intensity SIDE ROW (SR) (RED Color) Approach light fitting for aviation visual aids requirements complete with shallow base and matching body of the fitting, inner body and outer cover made of die cast aluminium complete with LED lamp of 6.6 amps current with connected heat resistant accessories, prism assembly, optical assembly, "O" ring seal, pressure relief test plug, hardware, red lenses and all standard accessories and ready for site installation complete as required.	13.00	Each	95000.00	1235000
7	Supply of Elevated type LED Uni directional high intensity SIDE ROW (SR) (RED Color) Approach light fitting for aviation visual aids requirements complete with base plate, breakable coupling, mounting assembly, gasket complete with LED lamp of 6.6 amps current and all standard accessories and ready for site installation as per specifications complete as required.	44.00	Each	65000.00	2860000

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Name of Work : Provision of CAT II Lighting System at Birsa Munda Airport, Ranchi

Tender ID: 2022_AAI_137821_1

S.No.	Description of Item	Qty	Unit	Rate	Amount
8	Supply of Inset type LED fittings suitable for Uni directional high intensity APPROACH CENTRE LINE (APCL) (White) light fitting for aviation visual aids requirements complete with shallow base and matching body of the fitting, inner body and outer cover made of die cast aluminium complete with LED lamp of 6.6 amps current with connected heat resistant accessories, prism assembly, optical assembly, "O" ring seal, pressure relief test plug, hardware, clear lenses and all standard accessories and ready for site installation as per specifications complete as required.	9.00	Each	95000.00	855000
9	Supply of Elevated type LED Uni directional high intensity APPROACH CENTRE LINE (APCL) (White) light fitting for aviation visual aids requirements complete with base plate, breakable coupling, mounting assembly, gasket complete with LED lamp of 6.6 amps current and all standard accessories and ready for site installation as per specifications complete as required.	139.00	Each	65000.00	9035000
10	Supply of Elevated type LED unidirectional approach sequenced flashing light fixtures (White) with Flash Field control Unit with IP67 protection, driver unit, connected heat resistant accessories etc. The lights shall be compatible with the controller supplied and should be capable of flashing at frequencies 1 or 2 Hz at three different brillancies and suitable for remote operation. The fixtures together with the other lights of the same flashing system should be connected to the flash master control unit. The overall power consumption of light & flashing control field units should be less than 70W and suitable to works on Single Phase 230V+ 10%, 50 Hz, single phase, AC Supply etc. as per specifications complete as required.	21.00	Each	155000.00	3255000
11	Supply of Flash master control unit (FMCU) with touch screen in metallic cabinet box. The controller cabinet feed the power supply to FFU's for flashing & powerline communication between FMCU and FFU's via 3 - wires standard installation cable connected in one parallel circuit to all LED sequential flashing light fixtures (inset & elevated). The powerline communication includes the information to each light fixtures i.e. luminance level, flashing frequency, synchronization information for the sequence, light monitoring information etc. The lights shall be compatible with the controller supplied and should be capable of flashing at frequencies 1 or 2 Hz at three different brillancies and suitable to works on Single Phase 230V+ 10%, 50 Hz, single phase, AC Supply/p & O/P circuit breaker, suitable for remote operation, ethernet port etc. complete as required and confirming to relevant standards, specifications as per the requirements.	2.00	Each	600000.00	1200000

Bill of Quantities

Name of Work : Provision of CAT II Lighting System at Birsa Munda Airport, Ranchi

Tender ID: 2022_AAI_137821_1

S.No.	Description of Item	Qty	Unit	Rate	Amount
12	Supply of FAA Certified Inset type LED high intensity THRESHOLD (THD) (Green) light fitting for aviation visual aids requirements complete with shallow base and matching body of the fitting, inner body and outer cover made of die cast aluminium complete with LED lamp of 6.6 amps current with connected heat resistant accessories, prism assembly, optical assembly, "O" ring seal, pressure relief test plug, hardware, green prism / lenses and all standard accessories and ready for site installation as per specifications complete as required.	38.00	Each	65000.00	2470000
13	Supply of FAA Certified Inset type LED high intensity END (RED) light fitting for aviation visual aids requirements complete with shallow base and matching body of the fitting, inner body and outer cover made of die cast aluminium complete with LED lamp of 6.6 amps current with connected heat resistant accessories, prism assembly, optical assembly, "O" ring seal, pressure relief test plug, hardware, red prism / lenses and all standard accessories and ready for site installation as per specifications complete as required.	21.00	Each	55000.00	1155000
14	Supply of FAA Certified Inset type LED Uni directional Stop Bar (RED) light fitting suitable for straight section/straight section (off set) / curved section for aviation visual aids requirements complete with shallow base and matching body of the fitting, inner body and outer cover made of die cast aluminium complete with LED lamp of 6.6 amps current with connected heat resistant accessories, prism assembly, optical assembly, "O" ring seal, pressure relief test plug, hardware, red prism / lenses and all standard accessories and ready for site installation as per specifications complete as required.	66.00	Each	55000.00	3630000
15	Supply of LED high intensity Runway guard light, Elevated, A pair of unidirectional, flashing yellow lights as per ICAO Annex 14. (1 set = 2 unit of light, one at left side and other at right side of taxiway)	8.00	Each	215000.00	1720000
16	Supply of inset type LED Uni directional Intermediate holding position (Yellow) light fitting for aviation visual aids requirements complete with shallow base and matching body of the fitting, inner body and outer cover made of die cast aluminium complete with LED lamp of 6.6 amps current with connected heat resistant accessories, prism assembly, optical assembly, "O" ring seal, pressure relief test plug, hardware, yellow prism / lenses and all standard accessories and ready for site installation as per specifications complete as required.	23.00	Each	55000.00	1265000

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Name of Work : Provision of CAT II Lighting System at Birsa Munda Airport, Ranchi

Tender ID: 2022_AAI_137821_1

S.No.	Description of Item	Qty	Unit	Rate	Amount
17	Supply of Inset type LED Uni-directional Rapid Exit Taxi Indicator (yellow) light for aviation visual aids requirements complete with shallow base and matching body of the fitting, inner body of the fitting, inner body and outer cover made of die cast aluminium complete with LED lamp of 6.6 Amps current with connected heat resistant accessories, prism assembly, optical assembly, "O" ring seal, pressure relief test plug, hardware, lenses and all standard accessories and ready for site installation as per specifications complete as required.	13.00	Each	55000.00	715000
18	Supply of FAA Certified inset type LED Bidirectional Runway Edge light fitting for aviation visual aids requirements complete with shallow base and matching body of the fitting, inner body and outer cover made of die cast aluminium complete with LED lamp of 6.6 amps current with connected heat resistant accessories, prism assembly, optical assembly, "O" ring seal, pressure relief test plug, hardware, prism / lenses and all standard accessories and ready for site installation as per specifications complete as required. a) Bidirectional White/Yellow or White/White	13.00	Each	85000.00	1105000
19	Supply of Elevated type LED Omnidirectional Taxiway Edge light fixtures (Blue) for aviation visual aids requirements complete with base plate, breakable coupling, mounting assembly, gasket, BLUE lens complete with LED lamp of 6.6 amps current and all standard accessories and ready for site installation as per specifications complete as required.	315.00	Each	6000.00	1890000
20	Supply of 2 x 4 sqmm secondary lead made out of multi stranded copper conductor EPR insulated & PCP sheathed, anti-termite & anti rodent treated 600 V grade cable as specified in particular specifications as required.	19800.00	Mtr	180.00	3564000
21	Supply of 1 x 6 sq.mm, 5 KV grade, AFL cable, type-C stranded tinned copper conductor, XLPE insulated with copper braided screened	115060.00	Mtr	180.00	20710800
22	Supply of 6 sqmm, 5 KV grade plug and receptacle of type I, class 'B' connector and suitable field attachment with 5 KV grade XLPE insulated, PE sheathed, single core copper conductor screened cable as required.	1124.00	Each	600.00	674400
23	Supply 2 pin plug and receptacles suitable for 2X4 Sq. mm copper conductor secondary lead	1124.00	Each	850.00	955400

Bill of Quantities

Name of Work : Provision of CAT II Lighting System at Birsa Munda Airport, Ranchi
Tender ID: 2022_AAI_137821_1

S.No.	Description of Item	Qty	Unit	Rate	Amount
24	Supply of following rating completely enclosed rubber covered isolating transformer for use of 6.6 amps series airport lighting circuits having nominal voltage rating of 5KV and all rated for operation on 50 Hz. The transformer shall be water tight and shall be designed for direct burial in the earth or installation in a base confirming to the specifications, complete as required. a) 15 Watt 6.6/6.6 Amps	315.00	Each	3500.00	1102500
25	Supply of following rating completely enclosed rubber covered isolating transformer for use of 6.6 amps series airport lighting circuits having nominal voltage rating of 5KV and all rated for operation on 50 Hz. The transformer shall be water tight and shall be designed for direct burial in the earth or installation in a base confirming to the specifications, complete as required. b) 45 Watt 6.6/6.6 Amps	291.00	Each	5000.00	1455000
26	Supply of following rating completely enclosed rubber covered isolating transformer for use of 6.6 amps series airport lighting circuits having nominal voltage rating of 5KV and all rated for operation on 50 Hz. The transformer shall be water tight and shall be designed for direct burial in the earth or installation in a base confirming to the specifications, complete as required. c) 65 Watt, 6.6/6.6 Amp	442.00	Each	6000.00	2652000
27	Supply of following rating completely enclosed rubber covered isolating transformer for use of 6.6 amps series airport lighting circuits having nominal voltage rating of 5KV and all rated for operation on 50 Hz. The transformer shall be water tight and shall be designed for direct burial in the earth or installation in a base confirming to the specifications, complete as required. d) 100 Watt, 6.6/6.6 Amp	35.00	Each	7500.00	262500
28	Supply of LED Guidance signage board (as per ICAO standard) of various sizes made out of 2 mm thick anodized aluminium frame with suitable angel support, 1.5 mm thick aluminium back symbols of sign should be screen printed on inside of sign face made of self-adhesive 3M film applied on the inside face with required coloring. Sign board shall be uniformly internally illuminated with required LED's i/c all other accessories to achieve uniform illumination level and with suitable converter to operate on 2.8 Amp to 6.6 Amp AC made for water tightness and locking arrangements, mounting legs with frangible coupling & base frame complete as per specifications etc. as required meeting ICAO Annexure 14 Vol.1.	40.00	Sq. Mtr	50000.00	2000000

Bill of Quantities

Name of Work : Provision of CAT II Lighting System at Birsa Munda Airport, Ranchi

Tender ID: 2022_AAI_137821_1

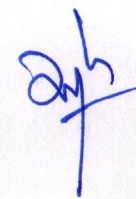
S.No.	Description of Item	Qty	Unit	Rate	Amount
29	Supply, Installation, Testing & Commissioning of 160 KVA capacity 3 phase input, 3 phase output IGBT based, modular type, true online double conversion type with isolation transformer, harmonic filter etc. 2 nos UPSs with provision to run in load sharing mode suitable to drive constant current regulators(CCR) with 100% unbalanced load at output at full load condition with standard features like 100% rated static bypass, maintenance bypass facilities active input power factor correction, phase sequence corrector, pure sinewave output, compatibility of generator supply, user friendly LCD display and battery management features integrated with main UPS controller, operating condition 415V +15%, -20%, 3 phase, 50Hz ±5%, IP20 capable of running at 100% 2 phase/single phase unbalance load with 3phase of output and as per the enclosed technical specification. The job also includes.. (a) Supply, Installation, Testing & Commissioning suitable capacity SMF batteries to give a backup time of minimum 30 minutes at full load with each UPS System along with suitable rating switch gears, interconnection between battery bank and UPS , battery rack etc. as required. (b) Supply, Installation, Testing and Commissioning of necessary switchgears, cables etc. for synchronisation of the UPSs on load sharing mode.	2.00	Each	4200000.00	8400000
30	Supply of following size 1.1 KV grade XLPE insulated, PVC sheathed, armoured Copper conductor conforming to IS 7098 (Part I) amended upto date. a) 3 C x 25 Sq. mm.	500.00	Mtr	1000.00	500000
31	Supplying of 1100V grade multicore stranded Aluminium Conductor XLPE insulated core laid up, extruded inner sheath of PVC, galvanised steel strip armoured & overall PVC sheathed armoured cables a) 3.5 X 35 Sq.mm	500.00	Mtr.	250.00	125000
32	Supplying of 1100V grade multicore stranded Aluminium Conductor XLPE insulated core laid up, extruded inner sheath of PVC, galvanised steel strip armoured & overall PVC sheathed armoured cables b) 3.5 X 50 Sq.mm	2500.00	Mtr.	350.00	875000
33	Supplying of 1100V grade multicore stranded Aluminium Conductor XLPE insulated core laid up, extruded inner sheath of PVC, galvanised steel strip armoured & overall PVC sheathed armoured cables c) 3.5 X 240 Sq.mm	500.00	Mtr.	1300.00	650000

Bill of Quantities

Name of Work : Provision of CAT II Lighting System at Birsa Munda Airport, Ranchi

Tender ID: 2022_AAI_137821_1

S.No.	Description of Item	Qty	Unit	Rate	Amount
34	Fabrication & supply of MS transformer housing box of size 750mm x 350 mm x 450 mm (H) made out 6 mm thick MS heet and top cover 10 mm thick MS sheet with two compartment as per drawing and all inserts should be suitable for M-10 size bolt shall be of SS including painting of box with one coat of primer & two coats of black enamel paint etc. as per specifications as required .	133.00	Each	15000.00	1995000
35	Fabrication & supply of MS transformer housing box of size 600mm x 350 mm x 450 mm (H) made out 6 mm thick MS sheet and top cover 10 mm thick MS sheet with two compartment as per drawing and all inserts should be suitable for M-10 size bolt shall be of SS including painting of box with one coat of primer & two coats of black enamel paint etc. as per specifications as required .	83.00	Each	12000.00	996000
36	Fabrication & supply of MS transformer housing box of size 350mm x 350 mm x 450 mm (H) made out 6 mm thick MS sheet and top cover 10 mm thick MS sheet as per drawing and all inserts should be suitable for M-10 size bolt shall be of SS including painting of box with one coat of primer & two coats of black enamel paint etc. as per specificalitons as required.	249.00	Each	7500.00	1867500
Total of SH-I					109612100
SUB HEAD-II INSTALLATION, TESTING & COMMISSIONING					
37	Installation, testing and Commissioning of inset type fitting with core cutting, aligning and setting i/c providing sealing material and installation of Isolating Transformer, switching device, Crimping / Jointing of Plug receptacles & other accessories required for commissioning i/c supply of all materials except isolating transformer etc. complete as required. a) Fitting size up to 8 " / 12"	547.00	No	10000.00	5470000
38	Installation, testing & commissioning of Elevated type approach / runway edge / threshold / end / taxiway light fixtures/ Runway Guard light/Sequential flashing Lights on existing transformer housing boxes and installation of isolating transformers, switching device i/c supply of all materials except isolating transformer etc. complete as required.	501.00	Each	300.00	150300



Bill of Quantities

Name of Work : Provision of CAT II Lighting System at Birsa Munda Airport, Ranchi

Tender ID: 2022_AAI_137821_1

S.No.	Description of Item	Qty	Unit	Rate	Amount
39	Installation of rectangular MS Transformer housing box of Size 750mm x 350mm X 450mm height including excavation of surface in soil etc , providing three nos. 250 mm long 15 mm dia 'B' class GI pipe in the bottom surface for drainage of water etc., cutting & threading of pipe i/c leveling of housing box with suitable instrument etc. and installation of housing box by providing base cement concrete of 1:3:6 of size 950 x 550 x 150 mm thick, and PCC of 1:2:4 all around the housing box of width not less than 100 mm and making suitable pedestal of 300mm & 100 mm thick & making slope to the level with the surface all around the housing box, painting, lettering, numbring etc i/c disposal of excavated material and making good the same as original complete as required.	127.00	Each	6000.00	762000
40	Installation of MS transformer housing box of size 600mm x 350 mm x 450 mm (H) including excavation of surface in soil etc , providing two nos. 250 mm long 15 mm dia 'B' class GI pipe in the bottom surface for drainage of water etc., cutting & threading of pipe i/c leveling of housing box with suitable instrument etc. and installation of housing box by providing base cement concrete of 1:3:6 of size 800 x 550 x 150 mm thick, and PCC of 1:2:4 all around the housing box of width not less than 100 mm and making suitable pedestal of 300mm & 100 mm thick & making slope to the level with the surface all around the housing box, painting, lettering, numbring etc i/c disposal of excavated material and making good the same as original complete as required.	79.00	Each	5000.00	395000
41	Installation of MS transformer housing box of size 350mm x 350 mm x 450 mm (H) including excavation of surface in soil etc , providing one nos. 250 mm long 15 mm dia 'B' class GI pipe in the bottom surface for drainage of water etc., cutting & threading of pipe i/c leveling of housing box with suitable instrument etc. and installation of housing box by providing base cement concrete of 1:3:6 of size 550 x 550 x 150 mm thick, and PCC of 1:2:4 all around the housing box of width not less than 100 mm and making suitable pedestal of 300mm & 100 mm thick & making slope to the level with the surface all around the housing box, painting, lettering, numbring etc i/c disposal of excavated material and making good the same as original complete as required.	237.00	Each	3500.00	829500

Bill of Quantities

Name of Work : Provision of CAT II Lighting System at Birsa Munda Airport, Ranchi
Tender ID: 2022_AAI_137821_1

S.No.	Description of Item	Qty	Unit	Rate	Amount
42	Installation of guidance signboards of various sizes i/c supply & installation of suitable isolating transformer and providing secondary leads etc. i/c supply of all materials, i/c pedestal upto 1m all around the signage with 1:2:4 (cement, concrete, coarse) of thickness 100mm with neat cement finish plaster, testing and commissioning etc. as required.	20.00	Job	10000.00	200000
43	Supply & laying of 01 No. 63 mm dia size PN10, PE 80 rating HDPE pipe through trenchless technology (HDD) upto a depth of approx. 2 meter as required and as specified.	2900.00	Mtr.	600.00	1740000
44	Supply and laying of double wall corrugated high density polyethylene (DWC HDPE pipe) pipe conforming to IS:14930 (part-2) with latest amendment, complete along with 4mm nylon rope with accessories like couplers, bends, tee etc. in the soil for GLF work upto 750 mm deep, back filling & making good the same as per site requirement a) OD 63 mm/ ID 50 mm DWC	49900.00	Mtr.	300.00	14970000
45	Supply of 50 mm dia OD ISI marked HDPE pipe as per IS:4984:2016, of rating PE 80, PN 10 with 4 mm nylon rope complete as required	360.00	Mtr.	150.00	54000
46	Laying of 50 mm dia OD HDPE pipe in soil including providing the socket at transformer housing upto a depth of 500 mm from the finished surface and refilling the same as required including consolidation & disposal of un-used material etc. as required as per the direction of engineer in charge.	360.00	Mtr.	200.00	72000
47	Laying of 63mm /50 mm dia (OD), HDPE pipe in hard surface to connect the consecutive transformer housing boxes and transformer housing box to Runway centreline / other fitting / location at a suitable depth. The laying shall be done in hard surface / PQC/ bitumin by cutting the surface using jack hammer/ hydraulic excavator cutter etc. upto a depth of 500 mm of finished surface and making the same good and disposal of un-usable materials etc. i/c drawing 4 mm thick nylon rope in the complete length of HDPE pipe, suitable for drawing the cable and earth wire in the pipe after re-carpeting etc. complete as required, as per the direction of Engineer-in-Charge.	360.00	Mtr.	1000.00	360000

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Name of Work : Provision of CAT II Lighting System at Birsa Munda Airport, Ranchi

Tender ID: 2022_AAI_137821_1

S.No.	Description of Item	Qty	Unit	Rate	Amount
48	Laying of one number PVC insulated & PVC sheathed armoured aluminium / copper conductor power cable of grade exceeding .4 KV but not exceeding 11 KV of size not exceeding 25 sq. mm. in the existing cable duct / masonry trench/ RCC/HUME/METAL/HDPE pipes etc. as required. (Feeder & looping cable)	100000.00	Mtr.	35.00	3500000
49	Laying of one number 2 X 4 sq. mm AFL secondary cable along with 1 X 4 sq. mm earth cable of voltage grade not exceeding 1.1 KV in the cable duct / masonry trench / RCC / HUME / METAL / GI / HDPE pipes etc. as required.	4420.00	Mtr.	35.00	154700
50	Kerf cutting with machine in taxiway/runway/apron of PQC/bituminous surface of depth upto 50 mm and width upto 15 mm for 1 or 2 nos secondary lead along with earth cables and laying of secondary lead and earth cable by wrapping cotton tape i/c refilling the same by suitable sealing material (PIDILITE) etc complete as required and as per instruction of EIC.	8600.00	Mtr.	550.00	4730000
51	Kerf cutting with machine in taxiway/runway/apron of PQC/bituminous surface of depth upto 80 mm and width upto 15 mm for 3 or 4 nos secondary lead along with earth cables and laying of secondary lead and earth cable by wrapping cotton tape i/c refilling the same by suitable sealing material (PIDILITE) etc complete as required and as per instruction of EIC.	2200.00	Mtr.	600.00	1320000
52	Making connection of secondary Connectors (male & Female) of size 2 x 4 Sq.mm multi stranded annealed conductor CPE sheathed unshielded cable of 600 V grade on one end.	1048.00	Job	200.00	209600
53	Earthing with 'B' class G. I. earth pipe 4.5 mtrs. long x 40 mm dia i/c accessories and providing masonry enclosures with cover plate having locking arrangement & watering pipe etc. i/c charcoal/ coke and salt complete as required.	80.00	Each	8000.00	640000
54	Providing and laying earth connection from earth electrode with 6 SWG dia G.I. Wire in 15 mm dia G.I. pipe medium class from earth electrode including connection with G.I. thimble excavation and re-filling as required.	570.00	Mtr.	200.00	114000
55	Providing and fixing 6 SWG G. I. wire on surface or in recess for loop earthing as required.	57530.00	Mtr.	23.00	1323190

Bill of Quantities

Name of Work : Provision of CAT II Lighting System at Birsa Munda Airport, Ranchi
Tender ID: 2022_AAI_137821_1

S.No.	Description of Item	Qty	Unit	Rate	Amount
56	Providing and laying of yellow/ green 4 Sq.mm earth cable in existing HDPE/DWC Pipe/Kerf.	19800.00	Mtr.	50.00	990000
57	Making connection of 5 KV grade, 6 Sq.mm Copper conductor Screened cable with plug & receptacle i/c connecting continuity wire for screen etc. complete as required.	1048.00	Job	200.00	209600
58	Taking GPS based co-ordinates on complete length of main runway, cable route etc. by using total station for installation of CAT-I/II approach lighting system and taking the level, making the approach profile at each point with mast foundation level and identifying the locations of light fixtures, route of cable etc. based on GPS co-ordinates and marking, submission of reports / drawings as required and as per directions of the Engineer In charge.	1.00	Job	300000.00	300000
59	Numbering of Airfield Light Fixtures on the base/ top surface/ RCC foundation of light fixture with good quality of black color enamel paint etc. complete as required.	1048.00	Job	100.00	104800
60	Supply, Installation, Testing and Commissioning of TTA type indoor cubicle LT panel as per IEC 61439, IP42, suitable for 415V+/-10%, 3 Phase, 4 wire 50 Hz AC supply system, fabricated in compartmentalized modular design from CRCA sheet steel of 2 mm thick for frame work and covers, 3 mm thick for gland plates i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having TPN Aluminium alloy bus bars with 100% size neutral bus as that of phase bus, supported with SMC bus bar supports, with short circuit withstand capacity as per design subject to minimum 35 kA for 1 sec, bottom base channel of MS section not less than 75 mm x 40 mm, fabrication shall be done in transportable sections, entire panel shall have a common Copper earth bus bar of size as per IS 3043 subject to minimum 32 mm x 5 mm at the rear with 2 Nos. earth stud, solid/ flexible copper connections from main earth bus bar to switchgears with required size of Cooper conductors/ bus bars and control wiring with 2.5 sqmm FRLS PVC insulated copper conductor cable, cable alleys, cable gland plates in two halves, including control and interlocking of incomers, bus coupler and providing following switchgears/ accessories as per specifications.	1.00	Job	1064815.00	1064815
	Incomer				

Bill of Quantities

Name of Work : Provision of CAT II Lighting System at Birsa Munda Airport, Ranchi

Tender ID: 2022_AAI_137821_1

S.No.	Description of Item	Qty	Unit	Rate	Amount
	2 Nos. 630A, 4P MCCB, Microprocessor based release (Ics = Icu = 35kA) with inbuilt O/L , S/C & E/F protection as per specification and each incomer shall be provided with following accessories.				
	1 Set of phase indicating LED lamps with 2 amp back up MCB.				
	1 No. 96 x 96 sqmm Digital MFM meter and 3 nos. Cast resin CTs of ratio 630/5A , Class 0.5 accuracy and 10 VA burden, suitable to measure voltage, Ampere, Frequency, Power Factor, KVA, KW, KVAH, KWH, MDI & Individual Odd Harmonics for voltage and current including THD upto 31st Order with RS-485 port.				
	1 Set of ON/ OFF/TRIP Indicating LED Lamps With 2 Amp MCB				
	Bus coupler				
	1 Nos. 630A 4P MCCB, Microprocessor based release (Ics = Icu = 35kA) with inbuilt O/L , S/C & E/F protection as per specification with following accessories.				
	1 Set of ON/ OFF/TRIP Indicating LED Lamps With 2 Amp MCB				
	Electrical & Mechanical Interlocking between both incomers & Bus coupler				
	Busbars				
	4P aluminium bus bars of 800A capacity with heat shrinkable coloured sleeves incl. SMC bus bars supports at required intervals complete for cross section, size supports & their spacing etc. for withstanding fault level of 35 KA for 1 sec.				
	The electrical panel shall be fully ventilated to maintain internal body temp. < 40 deg 'C' when room amb. temp. is equal of less than 35 deg 'C'. Required ventilation fans shall be provided and tested.				
	Outgoings				
	12 Nos - (9 +03Spares). 160A 4P MCCB with built in thermal magnetic release with adjustable thermal setting (Ics = Icu =25 KA)				
	09 Nos. (6 Nos +3 spares) 125A 4P MCCB with built in thermal magnetic release with adjustable thermal setting (Ics = Icu =25 KA)				
	12 (9 Nos. + 3 spares) 63A 4P MCCB with built in thermal magnetic release with adjustable thermal setting (Ics = Icu =25 KA)				
	26 (20 Nos. + 6 spares) 32A 4P MCCB with built in thermal magnetic release with adjustable thermal setting (Ics = Icu =25 KA)				

Bill of Quantities

Name of Work : Provision of CAT II Lighting System at Birsa Munda Airport, Ranchi

Tender ID: 2022_AAI_137821_1

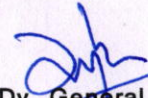
S.No.	Description of Item	Qty	Unit	Rate	Amount
	For each busbar section-1 Set Surge protection device Type 2 (Class C), 4 Module, MOV type suitable for 8/ 20μs surge, Voltage Protection level Up < 1.5kV, Operating Temperature -40 deg 'c' - +80 deg 'C', Connected Between 3Nos. phase to neutral and 1Nos. neutral to earth with discharge Current I _{max} . ≥ 40KA Per module & I _n ≥ 20kA per Module. SPD with built in fuse and pluggable type . For connecting SPD minimum 10sqmm copper wire must be used & length of connecting leads shall not be more than 500mm for per mode connection including all necessary accessories. The SPD shall be compliant and tested from KEMA KEUR / VDE / NABL tested as per IEC 61643-11 / UL. 1 Set of earth leakage relay (ELR) (30-3000mA) with CBCT & TRIP due to earth leakage Indicating LED Lamps with 2 Amp MCB for each outgoing MCCB.				
61	Laying of one number PVC insulated & PVC sheathed XLPE power cable of 1.1 KV grade of following size in the existing masonry open duct as required a) Upto 35 sqmm	450	Mtr.	35.00	15750
62	Laying of one number PVC insulated & PVC sheathed XLPE power cable of 1.1 KV grade of following size in the existing masonry open duct as required b) Above 35 sqmm and upto 95 sqmm	2300	Mtr.	50.00	115000
63	Laying of one number PVC insulated & PVC sheathed XLPE power cable of 1.1 KV grade of following size in the existing masonry open duct as required c) Above 185 sqmm and upto 400 sqmm	400	Mtr.	100.00	40000
64	Construction of masonry Chamber 2m x 1.2 m x 1.5m (deep) inside, in precast cement concrete solid block made from 1:1.5:3 (1 Cement: 1.5 coarse and sand : 3 graded stone aggregate 20 mm nominal size) in cement mortar 1:4 (1 cement :4 coarse and sand) including necessary excavation, foundation concrete 1:5:10 (1 cement :5 fine sand : 10 graded stone aggregated 40 mm nominla size) of thickness 100 mm and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard design.	12	Each	25000.00	300000

Bill of Quantities

Name of Work : Provision of CAT II Lighting System at Birsa Munda Airport, Ranchi
Tender ID: 2022_AAI_137821_1

S.No.	Description of Item	Qty	Unit	Rate	Amount
65	Providing and placing in position 150 mm thick, factory made machine batched & machine precast RCC Rectangular Covers on chambers of various sizes of M-25 grade cement concrete for RCC work, including cost of centering, shuttering, reinforcement of 8 mm dia TMT mm dia bar for hooks etc, i/c cost of cartage, all leads & lift, handling at site etc. all complete as per direction of Engineer-in-Charge. Slab Size - 2.4 mtr x 1.6 mtr.	12	Each	10000.00	120000
66	Supplying and making end termination with brass compression gland and Aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE Aluminium conductor cable of 1.1 KV grade as required. a)3.5 X 35 Sq.mm	4	Set	500.00	2000
67	Supplying and making end termination with brass compression gland and Aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE Aluminium conductor cable of 1.1 KV grade as required. b)3.5 X 50 Sq.mm	50	Set	800.00	40000
68	Supplying and making end termination with brass compression gland and Aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE Aluminium conductor cable of 1.1 KV grade as required. c) 3.5 X 240 Sq.mm	4	Set	1000.00	4000
69	Supplying and making end termination with brass compression gland and Copper lugs for following size of PVC insulated and PVC sheathed / XLPE Copper conductor cable of 1.1 KV grade as required. a) 3C x 25 Sq. mm.	72	Set	600.00	43200
Total of SH-II					₹ 4,03,43,455.00
Total (SH-I + II)					₹ 14,99,55,555.00
Less amount reduced during Reverse Auction @ 15.364511					₹ 2,30,39,937.74
Total amount after Reverse Auction (excluding GST)					₹ 12,69,15,617.00

(Rupees Twelve Crore Sixty Nine Lakhs Fifteen Thousand Six Hundred and Seventeen Only)

 14/03/2023
 उप-महाप्रबंधक(अभि-विद्युत) / Dy. General Manager (Engg.-Elect.)
 पूर्वी क्षेत्र, निगमित मुख्यालय, / Eastern Region, CHQ,
 सफदरजंग हवाईअड्डा, नई दिल्ली/ Safdarjung Airport, New Delhi.
 कृते अध्यक्ष, भा.वि.प्रा. / On behalf of Chairman, AAI