



AAI/TUT/E-E/TUT-113/2023-24/866

दि:/Date 21.02.2024

सेवा में / To

M/s. Saraswat Engineering Services,
6 vanrai shopping complex opp,
Nirlon W E Highway Goregaon,
East Mumbai -400 065.

**विषय /Sub: "Development of Tuticorin Airport: Extension of Runway with blast pad, RESA, taxiway, Apron, GSE Area, Isolation Bay, New Domestic Terminal Building and Miscellaneous work
SH: Providing of additional HT panels for feeding existing sub-station at Tuticorin Airport."**

Ref: Your e-tender (Tender ID : 2024_AAI_181337_1) opened on 01.02.2024.

महोदय / Dear Sir(s),

- 1) Your e-tender for the work mentioned above is hereby accepted on behalf of Chairman, Airports Authority of India, at the item rates quoted by you totalling to **Rs. 92,46,293.00 (Rupees Ninety Two Lakh Forty Six Thousand Two Hundred and Ninety Three Only)** plus applicable GST which is 9.45% below the justified cost of Rs.1,02,10,801.00. (Excluding GST).
- 2) Jt. General Manager (Engg-Elect.), Airports Authority of India, Tuticorin Airport, Tuticorin – 628 103, shall be the Engineer-in-charge of the work. You are requested to attend the Office of Jt. General Manager (Engg-Elect.), AAI, Tuticorin Airport by **27.02.2024** to sign and complete the contract agreement. The contract agreement shall be executed on a non-judicial stamp paper of value Rs. 100.00 (Rupees One Hundred Only) and cost of the stamp paper shall be borne by you.
- 3) Please deposit Rs.9,24,629.00 (Rupees Nine Lakh Twenty Four Thousand Six Hundred and Twenty Nine Only) towards security deposit 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 at Page No.16 of GCC 2017 contract document.

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विमानपत्तन निदेशक का कार्यालय भारतीय विमानपत्तन प्राधिकरण, तूत्तिकोरिन हवाई अड्डा,
तूत्तिकोरिन-628103

O/o The Airport Director, Airports Authority of India, Tuticorin Airport, Tuticorin – 628103
दूरभाष/TEL: 0461-2271863 फैक्स/FAX:0461-2271110 ई-मेल/E-mail: apd-tuticorin@aai.aero
वैबसाइट/Website: www.aai.aero



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- 4) You are requested to comply with the provisions of Contract Labour (Regulation and abolition) Act of 1970 and Contract Labour (Regulation and Abolition) Central Rules 1971, Child Labour (Prohibition and Regulation) and 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 No.19 on Page No.50 of GCC of tender and rules of Central and State Governments.
- 5) You are also directed to contact Asst. General Manager (Engg-Elect), AAI, Tuticorin Airport, immediately who will arrange to hand over the site to you.
- 6) Please note that the time allowed for carrying out the work shall be **02 Months** and the same shall be reckoned from 01.03.2024.
- 7) Any further correspondence in connection with the contract should normally be addressed to the Engineer-in-Charge.
- 8) Please acknowledge the receipt and return the duplicate copy of this letter enclosed herewith after signing it to the undersigned as a token of acceptance.
- 9) This work order is allotted the number **TUT-113** which shall be quoted by you for all future correspondence in connection with this work order.

Encl: Schedule of Quantities

भवदिय / Yours faithfully,

**Asst. General Manager (Engg-Elect.),
For and on behalf of the Chairman,
Airports Authority of India.**

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**AIRPORTS AUTHORITY OF INDIA
TUTICORIN AIRPORT::TUTICORIN**

Schedule of Quantities

Name of work :Development of Tuticorin Airport: Extension of Runway with blast pad, RESA, taxiway, Apron, GSE Area, Isolation Bay, New Domestic Terminal Building and Miscellaneous work.

SH: Providing of additional HT panels for feeding existing sub-station at Tuticorin Airport

Sl.No.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	HT Panel & HT side works				
1	Supplying, Installation, testing and commissioning of outdoor type, concrete pedestral mounted, self standing, double door, conforming to IP 54 and above, metal clad 22 kV VCB Panel with 3 No. VCB's, totally enclosed & fully interlocked, horizontal drawout, horizontal isolation type breaker as per relevant IS as amended upto date and additional specifications, having capacities as mentioned below, single break, trip free mechanism, manually charged and auto/manually closing breaker suitable for use on 22 kV , 3 Phase, 50 Hz A.C supply with short circuit fault level of 350 MVA, complete with self contained, fully interlocked, rack in and rack out mechanism, air insulated but encapsulated 3 phase 50 Hz, 22 kV, copper bus bars of fault level of min 26.3 kA for 03 sec, breaker featured with mechanical ON/OFF indicator with hand trip device, spring release coil, shunt trip coil and auxiliary switch of 4NO + 4NC and equipped with following switchgears and accessories i/c connections suitable for 3x 300 sq.mm XLPE 22 kV cable (cable entry from bottom) end termination with heat shrinkable jointing material etc. as required. (Note:- Cost of end termination not included in this item, the cost of the concrete pedestral is included) (a) Incoming - 1No 800 Amp. VCB (b) 1 No. - 22 KV /110 Volts PT Class 0.5 accuracy and 100 VA burden with 1 No. Voltmeter (0.15KV), digital type, and protection fuses MCB for HT metering upto 24 KV on incomer. (c) 1 No. - (0 - 300 A) Ammeter, digital type, selector switches for ammeters. (d) 1 No. Microprocessor based numerical relay with O/L, E/F, S/C, UV and OV protection. (e) 1 No. Set of dual core dual ratio 3 CTs 300/150/5/5 A of 15 VA burden and accuracy Class - 0.5 for metering and class 5P 10 for protection. (f) LED indication for all phases for 3 phase, trip, on and off. (a) Outgoing -2 Nos. 800 A VCB (b) 2 Nos. - (0-100 A) Ammeters, digital type. (c) 2 Nos. - Microprocessor based numerical relays with O/L, E/F, S/C, UV and OV protection. (d) 2 Nos. - Set of dual core dual ratio 3 CTs 100/50/5/5A of 15 VA burden and accuracy Class 1.0 for metering and class 5P10 for Protection. (e) LED indication for all phases for 3 phase, trip, on and off.	1	Job	32,52,671.00	32,52,671.00

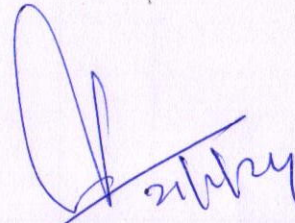
Sl.No.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
2	Supplying, Installation, testing and commissioning of an extension of existing indoor HT panel with an indoor type floor mounted metal clad 22 kV VCB Panel with 1 No. VCB's, totally enclosed & fully interlocked, horizontal drawout, horizontal vertical isolation type breaker as per relevant IS as amended upto date and additional specifications, having capacities as mentioned below, single break, trip free mechanism, manually charged and auto/manually closing breaker suitable for use on 22 kV , 3 Phase, 50 Hz A.C supply with short circuit fault level of 350 MVA, complete with self contained, rack in and rack out mechanism, air insulated but encapsulated 3 phase 50 Hz, 22 kV, copper bus bars of fault level of 26.3 kA for 03 sec, extended from the existing HT panel, breaker featured with mechanical ON/OFF indicator with hand trip device, spring release coil, shunt trip coil and auxiliary switch of 4NO + 4NC, space heater, light, limit switch for the door, and equipped with following switchgears and accessories i/c connections suitable for 3x 300 sq.mm XLPE 22 kV cable (cable entry from bottom) end termination with heat shrinkable jointing material etc. as required. (Note:- Cost of end termination not included in this item) (a) 1 Nos. 800 A VCB (b) Ammeter 3 phase with SS CI- 0.5, aux 100-230 VAC 96. sq.mm (c) 1 Nos. - Microprocessor based numerical relays with O/L, E/F, S/C, UV and OV protection, Feeder protection relay nom 110V AC aux 18-60 V DC with 6 digital input and digital output with RS485. (d) 1 Nos. - Set of dual core dual ratio 3 CTs 100/50/5/5A of 15 VA burden and accuracy Class 1.0 for metering and class 5P10 for Protection. (e) Power Analyzer CI-1 with RS485 AUX 90-270 V AC/DC 96 sq.mm (f) Annunciator 8 Windows with RS485 PORT 18 - 60 V DC with P.B. stand by 230V AC with AC/DC FAIL	1	Job	12,04,273.00	12,04,273.00
3	Supply, installation, testing and commissioning of BIS Compliant Class A Power Quality Meter within a outdoor enclosure confirming to IP 54 and above, on a concrete pedestal of min 1 mtr height above ground level, outdoor type, with Revenue ABT Metering Features, Graphical & Analytical TFT Display, Smart Data logging, TOD Parameters, Simultaneous Six Communication Ports: (RS232, RS485, Ethernet TCP/IP, Ethernet TCP/IP with SFP support, USB & Optical Port), Communication Protocol: (DLMS, MODBUS & IEC 61850), Aux Supply: Self + Aux Powered (48-230V AC/DC), Accuracy Class: 0.2s, (Spec as per Tamil Nadu) (Compliance to IEC61000:4-30 Ed: 3, IS17036, IS14697, IS15959, EN50160 and IEEE519-2014) as per the specifications of TANGEDCO provided in the technical specifications, including installation as per the TANGEDCO norms, including necessary termination with the outputs of from TANGEDCO CT/PT meter in co-ordination with TANGEDCO, including commissioning support & training etc. complete as required. Model No: ProQ 100 of make: Secure enerfy meter or equivalent (The Price Quoted shall be inclusive of Supply, Commissioning Support & Training to End Customer at Site & MRT Coordination Support)	1	Job	8,88,886.00	8,88,886.00



Sl.No.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
4	Supply of following size 22 kV grade stranded compacted circular Aluminium conductor, screened with extruded semi conducting compound, XLPE insulated, insulation screened with extruded semi conducting compound in combination with copper tape, cores laid up, inner sheath of thermoplastic tape,galvanised flat steel strip armoured and overall Extruded PVC outer sheathed cable conforming to IS 7098 (Part-II)/2011 with latest ammendments as required. 3Cx 185 sq.mm	800	Mtr	1,409.00	11,27,200.00
5	Laying one number PVC insulated and PVC sheathed/XLPE power cable of 22 kV grade of following size in the existing RCC/HUME/Metal/HDPE pipe is required. 3 x 185 sq.mm HT cable	795	Mtr	196.00	1,55,820.00
6	Supplying and making outdoor cable end termination with heat shrinkable jointing kit complete with all accessories including lugs suitable for following size of 3 core, XLPE aluminium conductor cable of 22 kV grade as required : 300 sq.mm	1	Job	11,185.00	11,185.00
7	Supplying and making outdoor cable end termination with heat shrinkable jointing kit complete with all accessories including lugs suitable for following size of 3 core, XLPE aluminium conductor cable of 22 kV grade as required : 300 sq.mm	1	Job	11,185.00	11,185.00
8	Supplying and making outdoor cable end termination with heat shrinkable jointing kit complete with all accessories including lugs suitable for following size of 3 core, XLPE copper conductor cable of 22 kV grade as required : 185 sq.mm	1	Job	10,856.00	10,856.00
9	Supplying and making indoor cable end jointing with cast resin compound, including lugs and other jointing materials, for following size of 3 core, XLPE copper conductor cable of 22 KV grade as required : 185 sq.mm	1	Mts	9,019.00	9,019.00
10	Supplying and laying of 110 mm dia PN 6 PE 63 HDPE pipe ISI marked along with all accessories like socket, bend, couplers etc. conforming to IS 4984, complete with fitting and cutting, jointing etc. direct in ground (120 cm below ground level) including excavation and refilling the trench but excluding sand cushioning and protective covering etc., complete as required.	775	Mts	1,005.00	7,78,875.00
11	Supplying and laying of 110 mm size PN 6, PE 63 HDPE pipe ISI marked along with all accessories like socket, bend, couplers etc. conforming to IS 4984 complete with fitting and cutting, jointing etc.in the existing trench ., complete as required.	20	Mts	760.00	15,200.00
12	Providing and laying of 150mm dia B class G.I pipe below 1.2 mtr, across road including cutting bituminous road and refilling with concrete to the original finish etc. complete as required.	24	Mtrs	10,254.00	2,46,096.00

Sl.No.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
13	Excavation for cable trenches in soft soil, depth upto 1.2 m including dressing of sides lift upto 1.5 m, getting out the excavated soil, refilling with excavated soil after laying of cable/ pipe/ for site requirement etc. and disposal of surplus excavated soil as directed, within a lead of 50 meters, without ramming and watering etc as required.	4	Cum	1,226.00	4,904.00
14	Demolishing cement concrete manually/ by mechanical means including disposal of material within 50 metres lead as per direction of Engineer-in-charge:Nominal concrete 1:3:6 or richer mix (i/c equivalent design mix)	1	Cum	30,651.00	30,651.00
15	Providing and laying in position cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size).	3	Cum	11,034.00	33,102.00
16	Supply of Earth rod of 22kV of length of 3m length	1	Each	12,720.00	12,720.00
17	Supply of 33 kV grade Hand gloves	1	Each	2,575.00	2,575.00
18	Supplying & fixing of 'Danger board - 22KV ' as per TNEB Standards on the structure and fencing as required.	6	set	1,852.00	11,112.00
19	Installation of Pre-cast Route markers engraved in a position cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) of size 300 mm x 300 mm and 200 mm thickness shall be provided along the runs of cables at locations approved by the Engineer-in-charge, including excavation for fixing of the and generally at intervals not exceeding 50m.	16	Job	735.00	11,760.00
20	Earthing with copper earth plate 600mm x 600mm x 3.0mm thick including accessories and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 meter long etc. with charcoal/coke and salt as required.	2	Set	35,961.00	71,922.00
21	Providing & fixing of 25 mm x 5mm copper strip on surface or recess for connections etc. as required.	10	Metre	1,432.00	14,320.00
22	Supplying and laying 25 mm X 5 mm copper strip at 0.50 metre below ground as strip earth electrode, including connection/ terminating with nut, bolt, spring washer etc. as required. (Jointing shall be done by overlapping and with 2 sets of brass nut bolt & spring washer spaced at 50mm)	10	Meter	1,469.00	14,690.00
23	Supply & fixing of 25 mm x 5mm copper strip in 40mm dia GI pipe from earth electrode including connection with brass nut, bolt, spring washer, excavation and refilling etc. as required	6	Metre	2,008.00	12,048.00
24	Earthing with GI earth plate 600mm x 600mm x 6.0mm thick including accessories and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 meter long etc. with charcoal/coke and salt as required.	2	Set	22,959.00	45,918.00
25	Supplying and laying 25 mm X 5 mm G.I strip at 0.50 metre below ground as strip earth electrode, including connection/ terminating with nut, bolt, spring washer etc. as required. (Jointing shall be done by overlapping and with 2 sets of brass nut bolt & spring washer spaced at 50mm)	20	Meter	460.00	9,200.00

Sl.No.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
26	Providing & fixing of 25 mm x 5 mm GI strip on surface or recess for earth connection as required.	10	Metre	313.00	3,130.00
27	Supply & fixing of 25 mm x 5 mm GI strip in 40 mm dia GI pipe from earth electrode including connection with G.I nut, bolt, spring washer, excavation and refilling etc. as required	6	Metre	1,097.00	6,582.00
28	Providing and fixing G.I. chain link fabric fencing made of G.I. wire of dia 4 mm, mesh size 50x50 mm, all around the yard of 8 mtr x 8 mtr, of height 1.5 mtr above concrete foundation for supports using GI angles of 50 x 50 x 5 mm every 2 mtr, all around brick work and plastering at periphery of height 0.3 mtr above ground level, wire or nuts, bolts and washers, grading of the land, providing and laying a layer of sand, and aggregate of size of atleast 40 mm as required complete as per the direction of Engineer-in-charge	1	Job	3,83,923.00	3,83,923.00
	LT Panel works				
29	Supply, Installation, Testing and Commissioning of indoor type totally enclosed and extensible type MV LT panel, degree of enclosure protection shall be IP 42 as per IS 13947 ([part-I), with front and back openable arrangement completely made up of i/c internal partitions of 14 SWG CRCA sheet steel, i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, dust tight, vermin proof totally enclosed, cubicle type floor mounting, free standing including providing and fixing of extensible type 500 A Aluminium bus bar with all accessories suitable for operation at 415V, 3 phase, 4 wire, 50 Hz, A.C power supply system complete with all accessories, interconnection with solid Aluminium strip neutral links, earthing, painting, grouting, providing cable entry provision, cable chamber control wiring with 1.5 sq.mm PVC insulated FRLS copper conductor single core multistrand cables, cable gland plates, danger notice plates etc. as required and mounted with the following switch gears as per technical specification required and comprising the following : INCOMER 400 A, 36 kA, 4P MCCB with Microprocessor based releases as incomer with R,Y,B,ON,OFF, Trip indication lamps, resin cast CT's with 3 phase multifunction meter with RS 485 (for V, A, kWh, kW, PF, Hz, kVA & THD - L&T WL 5010 or equivalent)- 2 sets as incomer suitable for terminating incomers of 3.5 core 300 sq.mm with suitable spreader links. BUS-COUPLER 400 A, 36 kA, 4P MCCB bus coupler microprocessor based releases with castell key interlocking arrangement with R,Y,B,ON,OFF indication lamps- 1 set as bus coupler. OUTGOINGS a) 250 A, 36KA, 4P MCCB with microprocessor based releases with resin cast CTs, digital Ammeter, ON, OFF, Trip indication lamps as outgoing - 3 set as outgoing. b) 160A, 36KA, 4P MCCB with microprocessor based releases with resin cast CTs, digital Ammeter, ON, OFF, Trip indication lamps as outgoing - 3 sets as outgoing. c) SPARE compartments suitable from MCCB rating of maximum 250 Amps - 2 nos.	1	Job	7,95,706.00	7,95,706.00

Sl.No.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
30	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	3.5C x 185 sqmm	4	set	1,713.00	6,852.00
b	3.5 C x 150 sqmm	4	set	1,338.00	5,352.00
31	Supplying of following sizes of 1.1 KV grade, XLPE insulated, Aluminium conductor armoured Power Cable conforming to IS 7098 Part-I 1985 with upto date amendments complete as required as per specifications				
a	3.5C x 150 sqmm	60	Mtr	866.00	51,960.00
32	Laying and fixing of one number XLPE insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size on surface as required. Above 95 sq. mm and upto 185 sq. mm	60	Mtr	110.00	6,600.00
Total					92,46,293.00
Grand Total					92,46,293.00
(Rupees Ninety Two Lakh Forty Six Thousand Two hundred and Ninety Three only excluding GST)  Asst. General Manager (Engg-Elect) AAI, Tuticorin Airport					