



भारतीय विमानपत्तन प्राधिकरण AIRPORTS AUTHORITY OF INDIA

Ref No: - AAI/RHQ/NR/Engg.(E)/Gorakhpur(Sub-Station)/2021-22/574

Date: 23.03.2022

By Speed post/ E-mail
(Email: shiv.electric@yahoo.in)

सेवा में,

मैसर्स शिव इलेक्ट्रिक
110, डॉ. मुखर्जी नगर (वेस्ट), दिल्ली- 110009
संपर्क स.- 9811198977, 9810210032, 9899742743
जीएसटी स.- 07AACFS2722H1ZF
पैन स.- AACFS2722H

To,

M/s Shiv Electric,
110, Dr. Mukherjee Nagar (west), Delhi - 110009
CONT NO.: 9811198977, 9810210032, 9899742743
GST No:- 07AACFS2722H1ZF
PAN No:- AACFS2722H

विषय :- एक्सपेंशन ऑफ पैसेंजर टर्मिनल बिल्डिंग एट गोरखपुर सिविल एन्क्लेव, गोरखपुर।
उप शीर्ष: एसआईटीसी ऑफ सब-स्टेशन इकुईप्मेंट, डीजी सेट्स एंड संबंधित विद्युत कार्य।

Name of work: - Expansion of Passenger Terminal Building at Gorakhpur Civil Enclave, Gorakhpur. SH: SITC of Sub-station equipments, DG sets and allied electrical works.

संदर्भ:- आपकी निविदा (Tender ID: 2022_AAI_103987_1) वित्तीय बिड दिनांक 11.03.2022 को खोली गयी।

Ref:- Your e-Bid Tender ID: 2022_AAI_103987_1 Financial Bid opened on dated. 11.03.2022.

- ऊपर उल्लेखित कार्य हेतु आपकी ई-निविदा, अध्यक्ष भारतीय विमानपत्तन प्राधिकरण की ओर से स्वीकार की जाती है। आपके द्वारा बताए गए मद मूल्यों पर आपकी राशि कुल रुपये 1,19,48,020.00 (रुपये एक करोड़ उन्नीस लाख अड़तालीस हजार और बीस मात्र) (जीएसटी के बिना) जोकि न्यायोचित राशि रुपये 1,37,53,579/- से 13.13 % 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 quoted by you totaling to **Rs. 1,19,48,020.00 (Rs. One Crore Nineteen lakhs Forty Eight Thousand and Twenty Only)** (Excluding GST), which is 13.13% below the justified cost of **Rs. 1,37,53,579/-**.

- संयुक्त महाप्रबंधक/सहायक महाप्रबंधक (विद्युत-अभि), भारतीय विमानपत्तन प्राधिकरण, गोरखपुर विमानपत्तन इस कार्य के प्रभारी अभियंता होंगे। आप से निवेदन है आपकी ओर से एक विश्वसनीय प्रतिनिधि प्रतिनियुक्त करें जो करारनामे पर हस्ताक्षर करने के लिए अधिकृत हो तथा वह दिनांक 12.04.2022 तक संयुक्त महाप्रबंधक (आभि.-वि.) क्षेत्रीय मुख्यालय (उ. क्षेत्र), प्रचालन कार्यालय, गुडगांव रोड, नई दिल्ली-110037 के कार्यालय में उपस्थित हो तथा करार नामे को पूरा करें। ठेके का करारनामा रु 100/- (रु एक सौ मात्र) के नोनजुडिशियल स्टैम्प पेपर पर निष्पादित किया जाएगा तथा पेपर का खर्च आपके द्वारा वहन किया जाएगा।

Jt. Gen. Manager/Asst. General Manager (Engg.-E), Airports Authority of India, Gorakhpur Airport, will be Engineer-in-Charge of the work. You are requested to depute your accredited representative, empowered to sign the contract agreement on your behalf and attend the office of the Jt. Gen. Manager (Engg.-E), AAI, RHQ (NR), New Delhi - 110037 by Dated 12.04.2022 to sign and complete the agreement. The contract agreement shall be executed on a non-judicial stamp paper of value Rs. 100/- and the cost of stamp paper shall be borne by you.

क्षेत्रीय मुख्यालय, उत्तरी क्षेत्र, प्रचालन कार्यालय, गुडगांव रोड, नई दिल्ली-110037 दूरभाष : 25652447 फैक्स : 25656451
Regional Headquarters, Northern Region, Operational Offices, Gurgaon Road, New Delhi-110037 Tele.: 25652447 Fax : 25656451

“हिन्दी पत्रों का स्वागत है।”

3. अग्रिम राशि रूपये 2,79,870/- (रु. दो लाख उन्नासी हजार आठ सौ सत्तर मात्र) जोकि टेंडर के साथ प्राप्त हुई है तथा पृष्ठ जीसीसी - 16 पर संविदा शर्त 1 ए के अनुसार जमानत राशि में बदल दी जायगी। अतः कृपया इस पत्र के जारी होने की तिथि से 07 दिनों के अंदर जमानत राशि रु. 9,14,932/- (रु. नौ लाख चौदह हजार नौ सौ बत्तीस मात्र) जमा कर दे, अन्यथा ठेके के दस्तावेज़ के अनुसार उपरोक्त राशि आपके रनिंग बिल से काट ली जायेगी। सुरक्षा राशि का भुगतान त्रुटि दायित्व अवधि, जोकि कार्य समाप्ति की तिथि से गिना जाएगा, के पूरे होने पर कर दिया जाएगा।

The earnest money amount of Rs. 2,79,870/- (Rupees Two Lacs Seventy Nine Thousand Eight Hundred Seventy 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 GCC - 16 of contract document. Therefore, please deposit an amount of Rs. 9,14,932/- (Rupees Nine Lacs Fourteen Thousand Nine Hundred and Thirty Two Only) towards security deposit within 07 days of issue of this letter, failing which, the same will be deducted from your running bill as per condition of the contract document. The Security deposit amount will be released after defect liability period which shall be reckoned from the date of completion of work.

4. आपसे निवेदन है कि आप केन्द्रीय और राज्य सरकारों के 1970 के अनुबंध श्रम (विनियमन और उन्मूलन) अधिनियम के प्रावधान और अनुबंध श्रम (विनियमन और उन्मूलन) के केन्द्रीय नियम 1971, बालश्रम (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 आदि जैसा कि निविदा दस्तावेज़ और केन्द्रीय एवं राज्य सरकार के नियमों में निर्दिष्ट प्रावधानों का अनुपालन करें।

You are requested to comply with the Provisions of Contract Labour (Regulation and Abolition) Act of 1970 and Contract Labour (Regulation & Abolition) Central Rules 1971, Child Labour (Prohibition & Regulation) Act 1986, Contruction Workers (Regulation of Employment & Condition of Service) Act 1996, Building and other contruction Workers Welfare Cess Act 1996 as specified in the tender document and rules of Central and State Government.

5. आपको निर्देशित किया जाता है कि तुरंत सहायक महाप्रबंधक/प्रबन्धक (अभि.-विद्युत), गोरखपुर विमानपत्तन, से मिले वह आप को कार्य स्थल सौंपने की व्यवस्था करेंगे। कृपया नोट कर ले कि काम करने का निर्धारित समय 04 महीने है जोकि दिनांक 04.04.2022 से गिना जाएगा।

You are directed to contact Asst. General Mgr./Manager (Engg-E), AAI, Gorakhpur Airport, immediately who will arrange to hand over the site to you. Please note that the time allowed for carrying out the work is **04 (Four) Months** which shall be reckoned w.e.f. 04.04.2022.

6. ई-निविदा में उठाए गए सभी प्रश्न, सपष्टीकरण इत्यादि तथा उनका भा.वि.प्रा. द्वारा दिया गया ऊतर भी अनुबंध का भाग होगा।

All queries, clarifications etc. raised during e-tendering process and replies thereof shall also form part of the agreement.

7. इस ठेके के संबंध में आगे का कोई भी पत्राचार संयुक्त महाप्रबंधक/ सहायक महाप्रबंधक (अभि.-विद्युत), भारतीय विमानपत्तन प्राधिकरण, गोरखपुर विमानपत्तन, के पते पर किया जाये।

Any further correspondence in connection with this contract should normally be addressed to Jt. Gen. Manager/ Asst. General Manager (Engg.-E), AAI, Gorakhpur Airport,.

8. उपरोक्त कार्य हेतु त्रुटि दायित्व अवधि (01) साल है जो की इस कार्य की पूर्ण होने की तिथि से गिना जाएगा।

The defect liability period is **One (01) year**, which shall be reckoned from the actual date of completion date.

9. कृपया पावती भेजें।

Please acknowledge the receipt,

नोट : हिंदी अथवा अंग्रेजी संस्करण में अंतर पाये जाने पर अंग्रेजी संस्करण मान्य होगा।

NOTE: If there any discrepancy is observed in Hindi and English version, the English version will be considered.

धन्यवाद/ Thanking you

संलग्न:- मात्रा की अनुसूची (Pg. 1 to 8)

Enclosed:- Schedule of Quantities (Pg. 1 to 8)


23/03/2022

संयुक्त महाप्रबंधक (अभि.- विद्युत) / Jt.GM (Engg. - E)
भारतीय विमानपत्तन प्राधिकरण / Airports Authority of India
क्षे. मु.- उ. क्षे. / RHQ-NR, प्रचालन कार्यालय / Operational Office
गुडगाँव रोड / Gurgaon Road, रंगपुरी, नई दिल्ली / Rangpuri, New Delhi
कृते तथा की ओर से अध्यक्ष / For and on behalf of the Chairman

SCHEDULE OF WORK

Name of Work:- : Expansion of Passenger Terminal Building at Gorakhpur Civil Enclave, Gorakhpur.
SH:- SITC of Sub-station equipments, DG sets and allied electrical works

Sr. No.	Description of items	Unit	Qty	Rate	Amount
SH-I	11KV/0.433KV, 630 KVA DRY TYPE TRANSFORMER COMPACT SUB-STATION (OUTDOOR TYPE)				
1	Supply, Intallation, Testing and Commissioning of distribution network, 11KV, 630 KVA Dry Type Outdoor Compact Sub Station totally factory assembled (non walk in Type) consisting of 3 way RMU Type, 11KV/0.433KV, 630KVA Dry Type transformer - 01 No.; HT & LT PANELS - 01 each, 200 KVA APFC PANEL - 01 No. each as under including civil work for suitable Foundation for Compact Sub tation as per recommendation of OEM/OEA . Approved Makes of CSS-Siemens/Schneider/ABB/C&S/ L&T	Set	1	3,200,000.00	3,200,000.00
a)	MV COMPARTMENT- 11 KV, 630A, 21 KA for 3 Second, Non-extensible,SF6 gas insulated Ring Main unit with sealed pressure system criterion in accordance with the IEC62271-200; 102,103,100.IAC of 21 kA for 1 sec for tank and cable box category IAC-AFL . The Switchgear includes the following MV cubicles- The indoor non -extensible SF6 insulated RMU manually operated consist of 1 No. Vacuum Circuit Breaker, 2 Nos. LBS with Numerical relay (3 OC +1 EF) for protection of treansformer with MFM for metering. Rated for Voltage 12kV, 630A, 21 KA for 3 sec. a.Rated voltage should be - 12 kV b.Rated power frequency voltage be - 28 kV (RMS) c.Rated lightening withstand voltage -75 KV d.Rated current for Ring main feeder -630 amps e.Rated current for VCB feeder -630amps f.Vacuum Circuit Breaker of RMU should clear minimum 40 Nos. of dead short circuit operations g.Rated short time cuirrent -21 KA for 3sec h.Rated short time making current -50 KA in Ambient temp (0 deg C to 42 deg C) j.Rated internal arc rating - 21 KA for 1 sec for tank and cable box category IAC-AFL k.The circuit breaker feeder shall be self powered & powered by external source type and shall be provided with 3 OC + 1 EF protection for transformer and shall have serial port for communication on modbus protocol. l.RMU should be certified from NABL accredited testing lab.				
b)	Transformer (Dry Type) Three phase a.Standard: IS : 11171 b.Vector group : Dyn 11 c.Rating : 630 KVA d.Cooling System : AN e.Winding : Copper , Class of Insulation: F f.% impedance: 6.25% (IS Tol) g.High voltage :11KV - 50 Hz h.System highest voltage : 12kV at the HV side i.H.V. Impulse withstand voltage (KV peak) : 75 kVp j. Off load Tapping: +5% to -5% in steps of 2.5% in HV Side k.winding temperature rise as per IS 1180 Part 1 Makes of Transformer shall be as per AAI approved make list.				

SOW 1

Sr. No.	Description of items	Unit	Qty	Rate	Amount
c)	LV COMPARTMENT The LV compartment with Degree of protection -IP54 designed shall be for a 50 degree C ambient temperature. The panel is modular, dead front, freestanding, floor mounted and comprises the following equipment a. 433V air insulated TPN Aluminium busbar having capacity 1250A, 50Hz, 50KA withstand fault level capacity. b. Incomer - ACB, 1250 A, 4 Pole, 50KA EDO, Fixed Manual Microprocessor based, fixed type ACB with S/C, O/C & earth fault release. The fault system of 50KA, Ics=Icu=Icw for 1 sec. c. Outgoings - 630 Amp, 36 KA, FP MCCB - 05 Nos.; 01 no. of outgoing for APFC panel as given below. Make-As per AAI approved make list				
d)	200 KVAR APFC panel (To be mounted inside the CSS) directly connected to the 1250 Amp main Bus bar. Incomer: a. 400 Amp, 35 KA, 3P MCCB with microprocessor base release; b. 14 Steps single phase APFC relay - 01 No.; c. CTs for APFC relay of suitable rating, CI 1- 01 No.; d. Control MCB 6 A SP- As required; e. Metering and indication lamps; f. 630 Amp TPN aluminium busbar. Outgoing: a. Heavy duty contactor of suitable rating for 25 KVAR Capacitor - 06 Nos.; b. Heavy duty contactor of suitable rating for 10 KVAR Capacitor - 04 Nos.; c. Heavy duty contactor of suitable rating for 05 KVAR Capacitor - 02 Nos.; d. 25 KVAR / 440 V, MPP, normal duty capacitor - 06 Nos.; e. 10 KVAR / 440 V, MPP, normal duty capacitor - 04 Nos.; f. 05 KVAR / 440 V, MPP, normal duty capacitor - 02 Nos.; g. 125 A TP MCCB, 25 KA with thermal magnetic release - 6 Nos.; h. 63 A TP MCCB, 25 KA with thermal magnetic release - 6 Nos.				
e)	Outdoor Enclosure:- The Enclosure shall be made of 2.0 mm thickness Galvanized Sheet Steel tropicalised to meet Indian weather conditions including all the partition sheets & doors. The base of the enclosure shall be made of 4.0 mm thickness Hot Dip Galvanized Sheet Steel to ensure rigidity for easy transport and installation. The entire package Substation shall be factory assembled & Factory fitted. The enclosure shall have IP54 degree of protection for HT< switchgear compartment & IP34 degree of protection for transformer compartment. The enclosure to be tested for Internal Arc Fault Test to the tune of atleast 21KA for 1 second adhering to as per latest IEC 62271-202. The temperature rise test on enclosure for K10 class. The enclosure exterior shall be powder coated and each compartment shall be provided with the door & locking arrangement. The compartment illumination lamp with door operated switch shall be provided for MV & LV compartment. RMU, Transformer and LT Panel of the same make preferred.				
SH-II	SITC OF DG SET (320 kVA)				
2	Providing, Installing, Testing and Commissioning of Silent Type Diesel Generating set alongwith having prime power rating of 320 kVA, at 1500 RPM, 0.8 lagging power factor, 415 V suitable for 50 Hz., 3-Phase system and for 0.8 Load factor and consisting of the followings: The DG set should have Accoustic and weather proof enclosure with arrangement for fresh air intake for cooling of the engine and alternator, extraction, discharging hot air into the atmosphere as per specifications. & CPCB norms	Set	2.00	2000000.00	4000000.00
a)	Diesel Engine : Diesel Engine 4 Stroke water cooled, electric start, of suitable BHP at 1500 RPM suitable for above output of alternator at 40 degree C, 50% RH & at 100 meter AMSL and conforming to BS 5514, BS 649, IS 10000, capable of taking 10% over loading for one hour after 12 hours of continuous operation. The engine should be fitted day service fuel tank as per OEM standardised & shall be complete with all the required accessories.				
b)	Engine mounted Instrument Panel fitted with and having digital display for following :				

SOW 2

Sr. No.	Description of items	Unit	Qty	Rate	Amount
	(i) Start-Stop switch with key (ii) Water temperature indication (iii) Lubrication oil pressure indication (iv) Lubrication oil temperature indication (v) Battery charging indication (vi) RPM indication (vii) Over speed indication (viii) Low Lubrication oil trip indication (ix) Engine Hourse indication.				
c)	Alternator : Synchronous alternator having rated output 320 kVA, at 415 Volts, 1800 RPM, 3-Phase 50 Hz., AC Supply with 0.8 lagging power factor at 40 Degree C, 50% RH & at 100 Meter AMSL. The alternator shall be having SPDP enclosure, brushless, continuous duty, self excited and self-regulated through AVR conforming to IS: 4772/BS 2613 suitable for tropical conditions and with class-F/H insulation.				
d)	Base Frame & Foundation : Both the engine and alternator shall be mounted on suitable base frame made of MS channel with necessary reinforcement which shall be installed with vibration isolation arrangement on suitable available cement concrete foundation as per recommendations of manufacturer.				
e)	Exhaust System : Dry exhaust manifold with residential exhaust silencer and catalytic convertor with structure for MS support for exhaust piping including rope wrapping insulation and aluminium clading as required.				
f)	Starting System : 12V/24V DC starting system comprising of starter motors: Voltage regulator and arrangement for initial excitation complete with suitable nos. of batteries (25 plates, 180 amp. Hour capacity lead acid type or as per the OEM standard) as required as per specifications.				
3	S.I.T.C. of calibrated HSD buffer/service tank , rectangular / square MS (IS:226) construction with 990 ltrs. capacity complete with flanged inlet & outlet, overflow, drain, vent, mechanical level indicator, 450mm dia access hole on top with cover, flame arrestor. Tank will be made out of 3mm MS sheet & will be provided with structural support to keep tank base at (1500mm) above FFL, painting etc. complete as required.	Each	2	50,000.00	100000.00
4	Providing & Fixing of 25 mm dia. "C" Class M.S.pipe conforming to IS: 1239 Part-I (2004) with up to date ammendments along with accessories in surface/recess including painting in case of surface pipe, or cutting the wall and making good the same in case of recessed pipe for making connection between HSD buffer tank & DG Set complete as required.	Mtr.	25	500.00	12500.00
5	Supply, installation, testing and commissioning of 150 mm dia MS exhaust piping , heavy duty class-C (as per IS 3589) complete with all accessories such as bends flanges, flexible connections at a suitable distance etc. and insulated with 75 mm thick layer of LRB rock wool having 144 kg/m3 density, cladding with 0.63 mm aluminium sheet all-round the exhaust pipe complete as required at site, as per CPCB norm, including fixing of residential grade silencers, flexible bellows complete as per instruction of EIC . complete run of Exhaust pipe & silencer etc shall be supported with a lattice structure framed from MS angle of size at least 50 mm x 50mm x 5 mm with required civil work for foundation arrangements, etc. The exhaust system including the silencer must be sized to ensure that back pressure on system does not exceed the back pressure recommended by engine manufacturer. Design calculation in support shall be submitted before execution of work & got approved from the engineer in charge. Silencers and Horizontal pipe runs shall also be supported with angle frame (size: 50x50x5 mm) & fixed at foundation on ground. complete as required.	Mtr	30.00	15,000.00	450000.00
6	Making PCC foundation complete with 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) for the above DG Set canopy of suitable size as per recommendation of OEM/OEA complete as required.	Cum.	25.00	6,500.00	162500.00

50W 3

Sr. No.	Description of items	Unit	Qty	Rate	Amount
SH-III	AMF CUM MAIN LT PANEL (TTA)				
7	Supply, Installation, Testing and Commissioning of AMF CUM Main LT panel cubicle type, made out of 14 swg CRCA sheet steel, totally enclosed, dust and vermin proof; IP 42 protection, free floor standing, indoor, compartmentalised, powder coated painting suitable for operation on 3 Phase and neutral, 415v, 50 Hz AC supply, 50KA, system with busbars extensible on both sides, providing required inter connection by armoured copper control cables from DG sets to AMF, interconnections within the panel by providing 2.5 sqmm size of FRLS copper wire, control circuit with necessary ACB, MCCB breakers (Icu = Isc), breaker control switch & auto/ manual AMF logic, selector switch, spring charging indication, electrical & mechanical interlocking between incomer breakers, Bus couplers, LED light for illumination and Heating system, etc. complete as per SLD drawing and technical specifications etc as required.	Job	1	1450000.00	1450000.00
a)	INCOMER 630A FP EDO ACB 50kA INCOMER from CSS i) 630 Amps, 4 pole, ACB, 50kA, microprocessor based O/C, S/C & E/F Protection, Safety shutter, 3NO+3NC Aux. Contact & Trip Contacts, Shunt Release, Under Voltage Release. release, Motor wound spring charged, closing mechanism, - 02 Nos. ii) Breaker Control Switch TNC 16A -2 Nos. iii) Phase Indicating Lamp LED (Red) 230 V ac -2 Nos. iv) Phase Indicating Lamp LED (Yellow) 230 V ac -2 Nos. v) Phase Indicating Lamp LED (Blue) 230 V ac -2 Nos. vi) Digital Ammeter with built in selector switch for above rating CL-1.0, 96 x 96 sqmm - 2 Nos. vii) Digital Voltmeter with built in selector switch for above rating CL-1.0, 96 x 96 sqmm -2 Nos. viii) Metering CTs 800/5A, CL-1, 15 VA, Epoxy Cast Resin. - 6 Nos. ix) 2A, SP MCB 6 KA for Control Ckt. -6Nos. x) 6A Neutral Link Dropout Type.-2Nos.				
b)	INCOMER 630A FP EDO ACB 50kA INCOMER from DG sets i) 630 Amps, 4 pole, ACB, 50KA, microprocessor based release, O/C, S/C & E/F Protection, Safety shutter, 3NO+3NC Aux. Contact & Trip Contacts, Shunt Release, Under Voltage Release. release, Motor wound spring charged, closing mechanism, - 02 Nos. ii) Breaker Control Switch TNC 16A -2 Nos. iii) Phase Indicating Lamp LED (Red) 230 V ac -2 Nos. iv) Phase Indicating Lamp LED (Yellow) 230 V ac -2 Nos. v) Phase Indicating Lamp LED (Blue) 230 V ac -2 Nos. vi) Digital Ammeter with built in selector switch for above rating CL-1.0, 96 x 96 sqmm - 2 Nos. vii) Digital Voltmeter with built in selector switch for above rating CL-1.0, 96 x 96 sqmm -2 Nos. viii) Metering CTs 800/5A, CL-1, 15 VA, Epoxy Cast Resin. - 6 Nos. ix) 2A, SP MCB 10 KA for Cont. Ckt. -6Nos. x) 6A Neutral Link Dropout Type. -2 Nos.				

BF

Sr. No.	Description of items	Unit	Qty	Rate	Amount
c)	AMF CONTROL LOGIC FOR 2 DG SETS 1) AMF Control Logic Relay - 2 Nos. 2) Engine Start Relay 24V DC with 3.attempt for Starting - 2 Nos. 3) Engine Stop Relay 24V DC with 3.attempt for Stopping - 2 Nos. 4) Mains Supply Voltage Sensing Relay - 2 Nos. 5) Gen. Voltage & Frequency Sensing Relay - 2 Nos. 6) 24Vdc Hooter / Buzzer - 2 Nos. 7) Emergency Push Button with Mushroom Head Type - 2 Nos. 8) Auto/Manual Selector Switch, 2Pole 2way with Off - 2 Nos. 9) Engine Start Push Button Green with 1NO Contacts - 2 Nos. 10) Engine Stop Push Button Red with 1NC Contacts - 2 Nos. 11) Engine 'ON' Status Indicating Lamp LED Type - 2 Nos. 12) Control Supply 'ON' Status Indicating Lamp LED Type - 2 Nos. 13) 6-Window Annunciator - 2 Nos. 14) Ann. Test / Accept / Reset Push Button-6 Nos. 15) Aux. 8-Pin Control Relay with Base Coil-12 Nos. 16) Aux. Contactors with 2NO+2NC Contacts, Aux, Supply - 230Vac,-4 Nos. 17) 240V AC Input, Output: 24V DC/12A Battery Charger - 2 Nos. 18) Ammeter DC 0-25A 96 sqmm Digital type - 2 Nos. 19) Voltmeter DC 0-50V 96 sqmm Digital type - 2 Nos. 20) 6A DP 10KA MCB for Control-4 Nos. 21) 6A SP 6KA MCB for Control-4 Nos. 22) 6A Neutral Link Dropout Type,-2 Nos.				
d)	BUS COUPLER i) ACB, 630Amps, 4 pole, EDO type, 50KA, microprocessor based release, O/C, S/C & E/F Protection Rel., Safety shutter, 4NO+4NC Aux. Contact, Charging Motor-230Vac, Shunt Release.-01 Sets ii) Breaker Control Switch TNC 16A- 1 Nos. iii) Breaker 'ON' Status Indicating Lamp LED (Red) 24 V dc.-1 Nos. iv) Breaker 'OFF' Status Indicating Lamp LED(Green) 24 V dc.-1 Nos. v) Breaker 'TRIP' Status Indicating Lamp LED(Amber) 24 V dc.-1 Nos. vi) Aux. Contactors with 2NO+2NC Contacts, MX0 ,Aux, Supply-230Vac.-3 Nos. vii) Auto/Manual Selector Switch, 1 Pole 2 Way with Off.-1 Nos. viii) 2A, SP MCB 6KA for Cont. Ckt.-1 Nos. ix) 6A Neutral Link Dropout Type.-1 Nos.				
e)	1000A TPN ALUMINIUM BUSBAR				
f)	OUT GOINGS i) MCCB, 400 Amps, 4 pole, 36KA, Thermalmagnetic based release, red LED ON indication with 2A MCB, extended terminal and rotary handle - 04 Nos. ii) MCCB, 4 Pole, 200 Amp, with Thermalmagnetic based release, 36KA, red LED ON indication with 2A MCB, extended terminal and rotary handle - 02 Nos. iii) MCCB, 4 Pole, 125 Amp, with Thermalmagnetic based release, 36KA, red LED ON indication with 2A MCB, extended terminal and rotary handle - 02 Nos. iv) MCCB, 4 Pole, 63 Amp, with Thermalmagnetic based release, 36KA, red LED ON indication with 2 A MCB, extended terminal and rotary handle - 04 Nos. Suitable Battery bank of 24V i/c battery charger for control supply to ACB's and other relays- 01 set.				

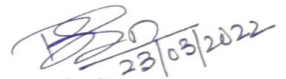
Sr. No.	Description of items	Unit	Qty	Rate	Amount
SH-IV	HYDRO PNEUMATIC SYSTEM				
8	Supply, Installation, Testing and Commissioning of Hydro Pneumatic Pump System (01 Working + 01 Standby) vertical in-line multi stage booster centrifugal SS-316 pump motor sets of size 1.5 HP (1.1KW) with Flow 9000 LPH at Head 25 Mtrs (Each Pump) suitable for Operation on 415 V, 50 Hz, 3 Phase AC Supply with 100 Ltr. Pneumatic balancing tank, mounting skid, foot valve, GI Suction & discharge pipes, fittings, cast brass/virgin brass valves, CI Strainers suction head, etc. each pump shall have TEPC 2900 RPM 3 Phase electric motor includes pressure switches, VFD based control panel with starters, protection relays, cable, interlocking with level and pressure switches, suction, delivery piping all connections etc. complete as required. make: Wilo/Grundfos/Kirloskar	Set	1	150,000.00	150000.00
SH-V	ELECTRICAL EARTHING				
9	Earthing with copper earth plate 600 mm x 600 mm x 3 mm thick i/c all accessories, providing masonry enclosure on topcover plate having locking arrangement and watering pipe of 2.7 mtrs. long etc. with charcoal/coke and salt complete as reqd.	Set	6	14000.00	84000.00
10	Providing and fixing 25x5 mm copper strip in 40 mm dia GI pipe (B-class) from earth electrode including connections with brass nut,bolts,spring ,washer excavation and refilling etc. as reqd.	Mtr	40	1800.00	64000.00
11	Providing and fixing 25x5 mm thick copper strip on surface or in recess for connection etc. as reqd.	Mtr	30	1200.00	36000.00
12	Earthing with G.I. earth plate 600 x 600 x 6 mm thick i/c all accessories providing masonry enclosure on top, cover plate having locking arrangement watering pipe of 2.7 mtrs.long with charcoal/coke and etc. complete as reqd.	Set	6	8000.00	48000.00
13	Earthing with G.I. earth pipe 4.5 metre long, 40 mm dia including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. with charcoal/ coke and salt as required.	Set	4	6000.00	24000.00
14	Providing and fixing 25x5 mm GI strip in 40 mm dia GI pipe(B-class) from earth electrode including connections with GI nut,bolts,spring ,washer excavation and refilling etc. as reqd.	Mtr	40	509.00	20360.00
15	Providing and fixing 25x5 mm thick GI strip on surface or in recess for connection etc. as reqd.	Mtr	50	180.00	9000.00
SH-VI	CABLING WORK				
16	Supply of 3.5C x 300 sqmm XLPE insulated & PVC sheathed, armoured aluminium conductor cable of 1.1kV grade as per IS 7098 (part 1) 1988 with up to date amendments etc. complete as required.	Mtr.	900	1604.00	1443600.00
17	Supply of 3C x 120 sqmm XLPE insulated & PVC sheathed, armoured aluminium conductor cable of 11kV earthed grade as per IS 7098 (part 2) 2011 with up to date amendments etc. complete as required.	Mtr.	80	1072.00	85760.00
18	Supply of 12C x 4 sqmm PVC insulated and FR PVC sheathed, Copper conductor, industrial cable, 1100 V grade, conforming to IS 694 with up to date amendments etc. complete as required.	Mtr.	140	700.00	98000.00
19	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 kV grade of following size direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc. as required.				
a)	Above 185 sq. mm and upto 400 sq. mm	Mtr.	100	300.00	30000.00
20	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 kV grade of following size in existing masonry duct complete as required.				
a)	Above 185 sq. mm and upto 400 sq. mm	Mtr.	1000	100.00	100000.00
21	Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 kV grade of following size in the existing RCC/ HUME/ METAL pipe as required.				
a)	Above 185 sq. mm and upto 400 sq. mm	Mtr.	100	100.00	10000.00

Sr. No.	Description of items	Unit	Qty	Rate	Amount
22	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 11 kV grade of following size direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc. as required. a) Upto 120 sq. mm	Mtr.	60	300.00	18000.00
23	Laying of one number PVC insulated and PVC sheathed / XLPE Power cable of 11 KV grade of following size in the existing masonry open duct as required . a) upto 120 Sq.mm.	Mtr.	20	100.00	2000.00
24	Supply 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 300sqmm (70mm)	each	24	1200.00	28800.00
25	supplying and making indoor cable end termination with heat shrinkable jointing kit complete with all accessories including lugs suitable for 3 core, 120sqmm, XLPE aluminium conductor cable of 11 KV grade as required :	each	2	5000.00	10000.00
26	Providing, laying and fixing 100mm dia G.I. pipe (medium class) in ground complete with G.I. fittings including trenching (75 cm deep)and re-filling etc as required	Mtr.	100	1600.00	160000.00
SH-VII SAFETY EQUIPMENTS					
27	Providing and fixing Carbon-di-oxide fire extinguishers consisting of welded M.S cylindrical body,squeeze lever discharge valve fitted with internal dischargetube, 30cms long high pressure discharge hose, discharge nozzle, suspension bracket, finished externally with red enamel paint and fixed to wall with brackets with rawl plug/dash fasteners complete with initial charging . Capacity 4.5kg. I.S.I. Marked. (IS : 2878)	Each	6	5000.00	30000.00
28	Providing and fixing ABC type (stored pressure) extinguisher of having 6 Kg Capacity as per IS : 13849 - 1993 consisting of welded MS cylindrical body ,with discharge hose, discharge valve, suspension bracket, initial filling etc complete as required.	Each	3	1000.00	3000.00
29	Supplying of Rubber hand gloves suitable for 11kV grade .	Pair	2	1000.00	2000.00
30	Supplying and fixing of Shock treatment chart both in Hindi & English and framed with 5mm thick glass as required.(Frame A2 Size).	Each	2	1000.00	2000.00
31	Supplying and fixing single line diagram, schematic diagrams etc. of A1 size on suitable Aluminium sheet including lamination etc. ss required complete on wall.	Each	1	1000.00	1000.00
32	Supplying and fixing of flame retardant electrical insulation mat having no adverse effect of mineral oil, high insulation resistance and water proof of nominal size: 2.5mm +/- 10% thick and 1000mm +/-20mm wide Antistatic Electric Insulated Synthetic Mat conforming to IS: 15652: 2006 with upto date amendments suitable for 11 KV installation alongwith adhesive/resin, sealing material and similar type of taping on sealing at all joints and corners as per recommendations etc as required. The Mat shall be ISI marked. Its leakage current at 11 KV shall not be more then 10 mA.The mat shall be welded by hot gas lending with filler martial method by making V grove cut at joints with suitable welding cord of insulation material of matching colour to provide a seamless jointed surface as per IS:8002	Sq.Mtr	10	1200.00	12000.00
33	Supplying and fixing of nominal 2.0 mm thick Electric Insulated Synthetic Mat of conforming to IS:15652:2006 and meeting the requirements of IS 5216, IS 8437, IEC-479 Pub-1, alongwith suitable adhesive /chemibound, pu-resin, water proofing compound and sealing material as per in service recommendations of Annexure-'A' 'Clause C' of IS:15652 and Suitable for Class - A upto 3.3 KV AC & 240 V DC without HT Trolley movement.	Sq.Mtr	40	1000.00	40000.00
34	Providing and fixing M.V. danger notice plate of 200 mm X 150 mm, made of mild steel, at least 2 mm thick, and vitreous enameled white on both sides, and with inscription in single red colour on front side as required.	Each	4	500.00	2000.00
35	Providing and fixing H.T. danger notice plate of 250 mm X 200 mm, made of mild steel, at least 2 mm thick, and vitreous enameled white on both sides, and with inscription in single red colour on front side as required.	Each	4	500.00	2000.00

SOW 7

Sr. No.	Description of items	Unit	Qty	Rate	Amount
36	Supply of First Aid Box with medicines, accessories as approved by St.John Ambulance Brigade/Indian Red Cross conforming to IS:2217-1963.	Set	2	500.00	1000.00
37	Providing of set of 04 Nos. 9.5 Ltr. Capacity GI Bucket painted in post office red colour with prior coat of Red Oxide paint and written with white paint "FIRE" and mounted on MS Angle iron frame with bracket of appropriate size and capacity including fillings sand etc. complete as required.	Set	2	3000.00	6000.00
38	Supplying and fixing of Wall mounted wooden Key Board of suitable size with 40 key pins etc complete as required.	Each	1	500.00	500.00
SH-VII	Dismantling work				
39	Dismantling of 2 nos. of transformer, HT panel, HT cable b/w HT panel and tranformer and shifting the dismantled equipments to AAI store or as per site requirement.	Job	1	50000.00	50000.00
Total(Rs.)					11948020.00
Say (Rs.)					11948020.00

(Rupees One Crore Nineteen lakhs Fourty Eight Thousand and Twenty Only) (Excluding GST)


 संयुक्त महाप्रबंधक (अभि.- विद्युत) / Jt.GM (Engg. - E)
 भारतीय विमानपत्तन प्राधिकरण / Airports Authority of India
 क्षेत्र. मु.- उ. क्षेत्र. / RHQ-NR, प्रचालन कार्यालय / Operational Office
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