



भारतीय विमानपत्तन प्राधिकरण
AIRPORTS AUTHORITY OF INDIA

संदर्भ संख्या: एएआई/एसएनआर/इंजी (ई)/ एसआईटीसी- चिलर/ WO-05/2025-26/59 दिनांक: 19.08.2025
Ref No: AAI/SNR/ENGG(E) /SITC-Chiller/WO-05/2025-26/59 Date: 19.08.2025

प्रति,

मेसर्स ब्लू स्टार लिमिटेड

गाँव सनारकी सरकारी पब्लिक स्कूल सनारकी
के सामने राख राजपुरा परमंडल रोड सनारकी
जम्मू सांबा जम्मू और कश्मीर -181133

To,

M/s Blue Star Ltd.,

Village Sanarki, Opp. Govt. Public
School Sanarki, Rakh Rajpura,
Parmandal Road, Sanarki, Jammu
Samba J&K -181133.

कार्य का नाम: श्रीनगर हवाई अड्डे पर मौजूदा 200 टीआर के 02 चिलरों को प्रतिस्थापित किया जाएगा।

Name of Work: Replacement of existing 02 nos. of 200 TR chillers at Srinagar Airport.

संदर्भ आपकी ई-बोली खोली गई 23.07.2025 (Bid No. 2025_AAI_237636_1)

Ref.: Your e-bid opened on 23.07.2025 (Bid No. 2025_AAI_237636_1)

महोदय,

1. उपरोक्त कार्य हेतु आपका टेंडर अध्यक्ष, भारतीय विमानपत्तन प्राधिकरण की ओर से स्वीकृत किया जाता है, आपके द्वारा बताए आइटम मूल्यों पर आपका टेंडर कुल रु Rs.3,63,87,786/- (तीन करोड़ तिरसठ लाख सत्तासी हजार सात सौ छियासी रुपये) मात्र है जो कि अनुमानित लागत राशि रु 4,59,50,770/- से 20.81% कम है (जी.एस.टी. रहित).

Your tender for the above mentioned work is hereby accepted on behalf of Chairman, Airports Authority of India at the item rates quoted by you, totaling to Rs.3,63,87,786/- (Rupees Three Crore Sixty Three Lakh Eighty Seven Thousand Seven Hundred & Eighty Six Only (Excluding GST) which is 20.81% below of the estimated cost put to the tender of Rs. 4,59,50,770/-

2. उप महा प्रबंधक (अभि.-वि.), भारतीय विमानपत्तन प्राधिकरण, श्रीनगर अंतरराष्ट्रीय हवाई अड्डा, श्रीनगर 190007, इस कार्य के इंजीनियरिंग प्रभारी होंगे। आपसे अनुरोध है कि आप संविदा करार पर हस्ताक्षर करने एवं उसे पूरा करने हेतु 02.09.2025 तक उप महा प्रबंधक (अभि.-वि.), भारतीय विमानपत्तन प्राधिकरण, श्रीनगर अंतरराष्ट्रीय हवाई अड्डा, श्रीनगर 190007, के कार्यालय में उपस्थित हों। संविदा करार रु 100/- (मात्र हजार रुपये) के गैर न्यायिक (नॉन-जुडिशल) स्टॉप पेपर पर बनाया जाएगा तथा स्टॉप पेपर की लागत आपके द्वारा वहन की जाएगी।

Dy.Gen.Manager Engg- (E), AAI, Srinagar Int'l Airport, Srinagar, shall be the Engineer-in-Charge of the work. You are requested to attend the office of the Dy.Gen.Manager Engg- (E), AAI, Srinagar Int'l Airport, Srinagar within 15 days from the issue of this letter i.e. on or before 02.09.2025 to sign and complete the contract 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.

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3. कृपया इस पत्र के जारी होने के 10 दिनों के भीतर सुरक्षा जमा के रूप में 36,38,779/- रुपये (छत्तीस लाख अड़तीस हजार सात सौ उनासी मात्र) जमा करें, अन्यथा यह राशि आपके चालू बिलों से काट ली जाएगी।

Please deposit Rs. 36, 38,779/- (Thirty Six Lakh Thirty Eight Thousand Seven Hundred & Seventy Nine Only) towards security deposit within 10 days from the issue of this letter, failing which the same will be deducted from your running bills.

4. आपसे अनुरोध है कि आप श्रमिक अनुबंध अधिनियम (नियमन एवं उन्मूलन), 1970 तथा श्रमिक अनुबंध केंद्रीय नियम (नियमन एवं उन्मूलन), 1971, बाल श्रम प्रतिबंध एवं विनियमन अधिनियम (, 1986, निर्माण श्रमिक (रोजगार एवं सेवा की शर्तों का नियमन) अधिनियम, 1996 एवं भवन तथा अन्य निर्माण श्रमिक कल्याण उपकर अधिनियम, 1996 के प्रावधानों का अनुपालन सुनिश्चित करें।

You are requested to comply with the provision of Contract Labour (Regulation and Abolition) Act of 1970 and Contract Labour (Regulation and Abolition) Central rules 1971, child labour (Prohibition & Regulation) Act 1986, Construction workers (Regulation of Employment & Condition of Service) Act 1996, Building and other Construction Workers Welfare Cess Act 1996.

5. आपको प्रबंधक (अभि.-वि.) भारतीय विमानपत्तन प्राधिकरण, श्रीनगर अंतरराष्ट्रीय हवाई अड्डा, श्रीनगर से तत्काल संपर्क करने का भी निर्देश दिया जाता है। आपको कार्यस्थल (साइट) सौंपने का कार्य उनके द्वारा ही किया जाएगा।

You are also directed to contact Manager (Engg.-E), Airports Authority of India, Srinagar Int'l Airport, Srinagar immediately who will arrange to hand over the site to you.

6. कृपया ध्यान दें कि कार्य करने के लिए अनुमत समय इस पत्र के जारी होने की तारीख के 10वें दिन से 08 महीने होगा।

Please note that the time allowed for carrying out the work shall be 08 months from the 10th day after the date of issue of this letter.

7. संविदा के सम्बन्ध में भविष्य में किसी भी प्रकार का पत्र व्यवहार इंजीनियर-प्रभारी के नाम से किया जाएगा।

Any further correspondence in connection with the contract should normally be addressed to the Engineer In-Charge.

8. सभी दोषों के विरुद्ध दोष दायित्व अवधि (डीएलपी) कार्य के पूरा होने की वास्तविक तिथि के बाद 02 (दो) वर्ष की अवधि के लिए होगी।

The Defect Liability Period (DLP) against all defects shall be for a period of 02 (Two) Years after actual date of completion of work.

9. भारतीय विमानपत्तन प्राधिकरण, श्रीनगर अंतरराष्ट्रीय हवाई अड्डा, श्रीनगर, जम्मू एवं कश्मीर का GST नंबर 01AAACA6412D1ZM है।

The GST no of Airports Authority of India, Srinagar Int'l Airport, Srinagar, J&K is 01AAACA6412D1ZM.

10. कृपया इस पत्र की प्राप्ति की पुष्टि करे और संलग्न प्रतिलिपि पर हस्ताक्षर करके इसे स्वीकृति के प्रमाण स्वरूप हस्ताक्षरकर्ता को वापस करे।

Please acknowledge the receipt and return the duplicate copy of this letter enclosed herewith after duly signing it to the undersigned as a token of acceptance.

11. यदि कोई विसंगति पाई जाती है तो अंग्रेजी भाषा ही मान्य होगी।

In case of any discrepancy, English version will be taken as correct.

भवदीय/Yours faithfully

11/08/25

(हरपाल सिंह दराल) /(Harpal Singh Daral)

वरिष्ठ प्रबंधक (इलेक्ट्रिकल-इंजीनियरिंग)/Sr. Manager (Engg-E)

अध्यक्ष, एएआई की ओर एवं तरफ से/For and on behalf of Chairman, AAI.

श्रीनगर अंतरराष्ट्रीय हवाई अड्डा /Srinagar Int'l Airport, Srinagar.

संलग्न / Encl:

1. मात्र की अनुसूची/ Schedule of Quantities

Schedule of Quantities

Name of Work : Replacement of existing 02 nos of 200 TR chillers at Srinagar Airport

S. No.	DESCRIPTION	Unit	Qty	Rate (Excl GST)	Amount
1.0	EQUIPMENT				
1	Supply , installation , testing and commissioning of reversible air cooled screw heat pump package of 1160 kW heating/ 328 TR (Subject to 1% +- tolerance) cooling actual capacity with twin-screw type with two rotors/ Mono Screw Rotor compressor & Star-delta starter, comprising of screw compressors with direct drive motor (speed not exceeding 3000 RPM, multi-compressor with Shell & Tube Type Evaporator duly insulated, and full refrigerant charge. Air cooled condenser having copper tube with mechanically bonded aluminum fins, fan motor with housing, inter-connecting copper piping all mounted on MS frame with vibration isolator mounting below compressors. The microprocessor based control pannel completely factory wired comprising of all necessary operative and safety controls and sensors with LCD display panel. TPN weather proof isolator switch for in coming power cable. The motor shall be suitable for 415 ± 10% volts, 3 phase , 50 Hz AC power supply. The package Heat Pump shall be BMS compatible including necessary interface card suitable for transferring data to BMS. Heat Pump shall be provided with mechanical couplings for water connections, and complete as per detailed technical Tender specifications.				
	The reversible air cooled screw heat pumps shall meet the following design parameters:				
	a. Chilled water leaving				
	temperature: 44 F (6.7 C)				
	b. Chilled water entering				
	temperature : 54 F (12.2 C)				
	c. Fouling Factor : 0.0001 sft.hr.F/BTU				
	d. Ambient Temperature : 95 °F (35 °C)				
	<u>Winter</u>				
	e. Hot water leaving				
	temperature : 113 F(45 C)				
	f. Hot water entering				
	temperature : 104 F (40 C)				
	g. Fouling Factor : 0.0001 sft.hr.F/BTU				
	h. Ambient Temperature : 44.6 F (7 C)				

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S. No.	DESCRIPTION	Unit	Qty	Rate (Excl GST)	Amount
	i. Type of Refrigerant : R-134a				
	j Minimum Permissible COP				
	Heating COP <= 3.2				
	Cooling COP <=3.1				
	Reversible air cooled screw heat pumps as described above.				
	Including supply installation , testing and commesioning of following items with each chiller complete in all respect:				
	Clearance of the heat pumps at nearest Port, Insurance Cover, Transportation to site location. Handling of heat pumps, lifting & shifting of heat pumps upto foundation , positioning on foundation.				
a	BUTTERFLY VALVE (MANUAL) with C I body SS Disc, Nitrile Rubbre Seal & O- Ring PN 16 pressure rating for chilled water/hot Water circulation as specified suitable for chillers- 02 sets (inlet-01, outlet-01)				
b	Y - STRAINER of Ductile CI Body flanged ends with stainless steel strainer for chilled / hot water circulation including insulation as specified suitable for chillers- 01 sets (inlet-01)				
c	Supply, erection, testing & commissioning of Alcohol in glass type industrial thermometer complete with thermowell Installed at inlet/outlet pipe of chiller for monitoring temperature as specified suitable for chillers- 02 sets (inlet-01, outlet-01)				
d	Providing and fixing in position the industrial type 4" Dial SS Pressure Gauge complete with syphon and isolation gauge cock.Installed at inlet/outlet pipe of chiller for monitoring pressure complete as specified suitable for chillers- 02 sets (inlet-01, outlet-01)				
e	FLEXIBLE CONNECTIONS : Supplying, fixing, testing and commissioning of Flexible connector for pipe having PN 16 working pressure with anti vacuum rings complete with flanges, tie rod, nuts, bolts, seal etc.to be installed at chillers, suction and discharge as specified suitable for chillers- 02 sets (inlet-01, outlet-01)				
f	NON - RETURN VALVE with duel plate of C I body SS plates vulcanized NBR seal flanged end & PN 16 pressure rating for chilled / hot water circulation including insulation as specified suitable for chillers- 01 sets (outlet-01)				

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S. No.	DESCRIPTION	Unit	Qty	Rate (Excl GST)	Amount
g	BALANCING VALVE WITH BUILT IN MEASURING FACILITY with C I body flanged construction with EPDM coated disc with long pitch with protected out pipe insulation & PN 16 pressure rating for chilled / hot water circulation as specified suitable for chillers- 01 sets (outlet-01)				
h	Ball Valves Supply, installation, testing and commissioning of forged Brass ball valve. Valves shall be insulated as per pipe insulation material .				
i	Water flow switches for chiller, water drain and air purge valves wherever required- 01 lot.				
j	SITC of PVC make water tank of capacity 500 ltr, water pipes of suitable sizes of PVC pipe along with necessary clamps and fittings such as bends, tees etc.including valves, strainers, gauges etc.) , adequately supported on rigid supports duly painted etc.including SITC of makeup pump motor set along with electrical starters , connection , inter connections with chilled water line etc. as required as direction of Engineering-incharge.				
k	Suction line & chiller insulation duly insulated at manufacturer works as required -01 lot				
l	Supplying, laying/ fixing, testing and commissioning of suitable sizes of M.S. 'C' class as per IS : 1239 chilled/hot water piping for chiller including connection with water line from Primary Pump Header and Chilled water line with Terminal Building (with necessary clamps, vibration isolators, mounting accessories, PCC/RCC work and fittings but excluding valves, strainers, gauges etc.) -01 lot.				
m	Pipe insulation on entire chilled/hot water pipe line with 80 kg/cum density resin bonded fiber glass or 144 Kg/ cum density mineral wool (non Combustible) pipe section insulation covered with a layer of 120 gm/sqm polythene sheet (vapour barrier) and finally applying 0.63mm aluminium sheet cladding complete with type3 , grade 1 roofing feltstrip(as per IS:1322 as amended up to date) at pipes, joints, valves etc. as per specifications and as required. a) For pipe upto 150 mm diameter , insulation should be 50 mm thick b) For pipe more than 150 mm diameter , insulation should be 75 mm thick				
n	Initial/first charge of refrigerant gas and compressor oil-01 lot.				
o	Frame work made of M.S. channel with neccessoru re-inforcement for mounting the chiller unit i.e. condenser, chiller compressor and motor with base plate complete with antivibration isolation pads/springs arrangement including construction of PCC/RCC foundation for chilling unit and pipes etc. complete in all respect as per OEM recommendation and as per direction of Engineer- incharge -01 lot.	Job	2	15375500.00	30751000.00

S. No.	DESCRIPTION	Unit	Qty	Rate (Excl GST)	Amount
2	Dismantling of existing 200 TR screw type chiller units, foundation and associated accessories, including shifting the same from the HVAC plant location to dismantle items store located not more than 200 metres away.	Job	2	19000.00	38000.00
3	Dismantling of existing Chiller Panel & Hot Boiler Panel, associated accessories, including shifting the same from the HVAC plant location to dismantle items store located not more than 200 metres away.	Job	1	12512.00	12512.00
4	Supply, installing, testing & commissioning of Centrifugal Horizontal, End-Suction, Top Discharge Chilled Water Pumps with VFD, complete with CI body, bronze / gun metal / CF8 impeller with stainless steel shaft, bronze or gun metal shaft sleeve, mechanical shaft seals and flexible coupled with electric motor for re-circulation of water for the central air conditioning system. The pump shall be flexible coupled protected by OSHA compliant coupling guard. All pumps shall be aligned properly as required. The pump motor shall be TEFC squirrel cage induction motor having efficiency class IE3 (as per IS 12615) with class 'F' insulation, 1500 RPM synchronous speed, operating on 415 V +/- 10%, 3 phase, 50 Hz AC supply. The motor shall be non- overloading type. Pumps shall be with performance characteristics as given below. The pump and motor shall be mounted on a common base plate. The complete pump set alongwith base plate, coupling and coupling guard shall be factory assembled and tested. Pump set shall be complete with thermal insulation same as chilled water pipes, cladding, rubber flexible connections (PN-16) at suction and discharge, necessary anti vibration pads, MS base plate, coupling guard, and all other accessories complete as required.				
	i) - Electrical control panel capable of cyclic operation of pumps - Pump working sequence should change after every operation. Control panel with programmable logic controller (PLC) with inbuilt PID controller, digital display (showing electrical parameters like Voltage, Current and Power consumption (both kW and kW.hr.) as well as % speed indication and /or % frequency indication) with fluorescent screen with two lines of min. 20 character each and equipped with function keys and service keys. 3 phase, 415 ± 10% Volts, AC, Air- cooled IP-55 Variable Speed Drive for each pump of suitable capacity rating having standard function of BI loop, energy saving catching a spinning load with speed search, auto hunting jog preset speeds, controlled stop on loss of supply powerloss side through, DDC injection breaking fast stop.				
	ii) - Microprocessor based control panel shall have suitable hardware & software, compatible with BMS so that it can be integrated directly with standard communication open protocol using backnet / Modbus as well as open IP				

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S. No.	DESCRIPTION	Unit	Qty	Rate (Excl GST)	Amount
	iii) - All pumps shall be provided with individual VFD for each pump. Control panel should also consist of cooling fan.				
	iv) - VFD shall have provision for manual setting of cooling mode.				
	v) - One panel for each set of secondary pumps shall be provided or VFDs for each pump may housed in one panel also.				
	vi) - Differential Pressure Sensors & Transmitters minimum 2 nos.				
	vii) - Suitable flanged suction and delivery connections.				
	viii) - The entire system along with pumps & VFD as described above shall be sourced from single manufacturer only.				
	The system shall be complete in all aspects and suitable for following configuration				
	Capacity of Chilled Water Pumps: Capacity of Primary Chilled Water Pumps: Water Flow Rate - 200 cum/Hrs Head - 40 M of Water Motor kW - 50HP RPM - 1450 Efficiency - 75% or more Pumps: 3 Nos. (02 Working & 01 Standby)				
	Including supply installation , testing and commesioning of following items with each pump moter set complete in all respect:				
a	BUTTERFLY VALVE (MANUAL) with C I body SS Disc, Nitrile Rubber Seal & O- Ring PN 16 pressure rating for chilled water/hot eater circulation as specified suitable for Pumps- 02 sets (inlet-01, outlet-01)				
b	Y - STRAINER of Ductile CI Body flanged ends with stainless steel strainer for chilled / hot water circulation including insulation as specified suitable for Pumps- 01 sets (inlet-01)				
c	Providing and fixing in position the industrial type 4" Dial SS Pressure Gauge complete with syphon and isolation gauge cock.Installed at inlet/outlet pipe of Pumps for monitoring pressure complete as specified suitable for Pumps- 02 sets (inlet-01, outlet-01)				

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S. No.	DESCRIPTION	Unit	Qty	Rate (Excl GST)	Amount
d	FLEXIBLE CONNECTIONS : Supplying, fixing, testing and commissioning of Flexible connector for pipe having PN 16 working pressure with anti vacuum rings complete with flanges, tie rod, nuts, bolts, seal etc.to be installed at Pumps, suction and discharge as specified suitable for Pumps- 02 sets (inlet-01, outlet-01)				
e	NON - RETURN VALVE with dual plate of C I body SS plates vulcanized NBR seal flanged end & PN 16 pressure rating for chilled / hot water circulation including insulation as specified suitable for Pumps- 01 sets (outlet-01)				
f	Providing and fixing concentric and eccentric reducer at inlet /outlet including temprature guages, Water flow switches, water drain arrangement with valves & GI pipes and air purge valves wherever required- 01 lot.				
g	Supplying, laying/ fixing, testing and commissioning of suitable sizes of M.S. 'C' class as per IS : 1239 chilled/Hot water piping for Pumps including providing of incomming and out going header suitable for pumps including connection with chilled/hot water line from Chiller and with connection with Chilled/hot water line of Terminal Building (with necessary clamps, vibration isolators, mounting accessories, PCC/RCC work and fittings but excluding valves, strainers, gauges etc.) -01 lot. (Note: Scope of works covers connection- interconnection of Existing pump moter set (02 nos) which are to be connected in the newly commisioned inlet & outlet header including dismentling of existing pump moter set, foundation, pipes, header and valves etc. as reuired for commisioning of new system complete in all respect as per direction of engineer in charge)				
h	Pipe insulation with 80 kg/cum density resin bonded fiber glass or 144 Kg/ cu m density mineral wool (non Combustible) pipe section insulation covered with a layer of 120 gm/sqm polythene sheet (vapour barrier) and finally applying 0.63mm aluminium sheet cladding complete with type3 , grade 1 roofing feltstrip(as per IS:1322 as amended up to date) at pipes, joints, valves etc. as per specifications and as required. a) For pipe upto 150 mm diameter , insulation should be 50 mm thick b) For pipe more than 150 mm diameter , insulation should be 75 mm thick				

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S. No.	DESCRIPTION	Unit	Qty	Rate (Excl GST)	Amount
i	Frame work made of M.S. channel with neccessoru re-inforcement for mounting the pump moter set with base plate complete with antivibration isolation pads/springs arrangement including PCC/RCC foundation for pump moter set and pipes etc. complete in all respect as per OEM recommendation and as per direction of Engineer- incharge -01 lot.	JOB	3	707700.00	2123100.00
5	Chiller Plant Panel				
	Supply, Installation, Testing and Commissioning of cubicle LT panel as per IEC 61439-1 & 2, IP42, suitable for 415V+/- 10%, 3 Phase, 4 wire 50 Hz AC supply system, tested for 12kV impulse withstand voltage, form 4b construction, fabricated in compartmentalized modular design from CRCA sheet steel of 2 mm thick for frame work and covers, , plates i/c cleaning & finishing complete with 8 tank process for powder coating in approved shade, having TPN Aluminium alloy bus bars for high conductivity, SMC bus bar supports, with short circuit withstand capacity of 50 KA for 1 sec , internal arc type tested as per IEC 61641 50kA for 0.3sec at HBB, VBB & Cable Chamber, bottom base channel of MS section not less than 100mm x 50mm x 3mm thick, fabrication shall be done in transportable sections, entire panel shall have a common earth bar sized for prospective earth fault , solid / flexible connections from main bus bar to switchgears and from switchgear output to cable termination in cable alley with required size of AL conductors / bus bars and control wiring with 2.5 sqmm PVC insulated copper conductor cable (FRLS), cable alleys, cable gland plates , i/c providing following switchgears / accessories as per specifications. Panel shall be completed in all respect and must follow tech specs .				
I	INCOMINGS FROM Main LT cum DG sync Panel :				
	02 Nos.- 1600 Amps. each four pole horizontal drawout type air circuit breaker of fault breaking capacity 50 KA (Ics = Icu up to 433 V) EDO operated, fitted with interlocked door, automatic safety shutters, mechanical ON/OFF and service/test/ isolated position indicators and frame earthing contact, confirming to IS : 13947-2, 1993 as amended up to date complete with following accessories for each ACB.				
	(i) Independent Electrical spring closing mechanism - 1 No.				
	(ii) Microprocessor release (EMI & EMC Certified) for over current, earth fault & short circuit protection - 1 Set.				
	(iii)Intelligent multifunction digital meter to read V, A, KVA, KWH, PF Hz etc. having RS 485 port and compatible to PC with modbus protocol with 3 Nos. resin cast CTs of 1250/5 A class 1.0 accuracy and 15 VA burden. - No.				

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S. No.	DESCRIPTION	Unit	Qty	Rate (Excl GST)	Amount
	(iv) 3 Nos.- Phase indication LED lamps with 2 Amps.back up MCB, breaker ON/OFF indicating light with MCB, test terminal block set, circuits as per standard practice, auxiliary contacts for positive interlocking of the breakers as required.				
	(v) Shunt trip coil 220 V A.C.				
	(vi) 1No. Over Voltage Relay				
	(vii) 1No. Under Voltage Relay				
	(viii) 1No. Rest. Earth fault relay				
II	BUS COUPLER				
	01 No.- 1600 Amps. each four pole horizontal drawout type air circuit breaker of fault breaking capacity 50 KA (Ics = Icu up to 433 V) EDO operated, fitted with interlocked door, automatic safety shutters, mechanical ON/OFF and service/test/ isolated position indicators and frame earthing contact, confirming to IS : 13947-2, 1993 as amended up to date complete with following accessories for each ACB.				
	(i) Independent Electrical spring closing mechanism - 1 No.				
	(ii) Microprocessor release (EMI & EMC Certified) for over current, earth fault & short circuit protection - 1 Set.				
	(iii) Shunt trip coil 220 V A.C.				
	(iv) Breaker 'ON' indicating light with back up MCB, test terminal block, circuits as per standard practice, auxiliary contact contactors for positive electrical intelocking of breakers etc. as required. - 1 Set.				
III	BUS BAR				
	TPN Aluminium bus bars (having 100% nuetral) of minimum of 2000 Amps. capacity, Current density shall be 0.8A/Sqmm with heat shrinkable coloured sleeves and i/c DMC/SMC bus bar supports at required intervals complete for cross section, size supports & their spacing etc. for withstanding fault level of 31 MVA for 1 Sec. - 1 Set.				

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S. No.	DESCRIPTION	Unit	Qty	Rate (Excl GST)	Amount
IV	INTERLOCKING				
	Electrical through advance contacts in ACB's (Incomers & Bus couplers so that only one breakers will operate at a time) and mechanical (Castel key) interlocking should be provided.				
V	OUTGOINGS				
	SECTION - I				
a	02 Nos.- 800 Amps. Three pole horizontal drawout type air circuit breaker of fault breaking capacity 50 KA (Ics = Icu up to 433 V) MDO operated, fitted with interlocked door, automatic safety shutters, mechanical ON/OFF and service/test/ isolated position indicators and frame earthing contact, confirming to IS : 13947-2, 1993 as amended up to date complete with following accessories for each ACB.				
	(i) Independent Manual spring closing mechanism - 1 No.				
	(ii) Microprocessor release (EMI & EMC Certified) for over current & short circuit protection - 1 Set.				
	i) 02 No. - 96 Sq.mm. Flush pattern digital type MFM and three no. Cast Resin CT's of 800/5 A, Class 1.0 accuracy & 15VA burden & On/Off/Trip Indication				
b	03 Nos. - 100 Amps. 50KA, Four Pole, microprosser release , MCCB (Ics = Icu at 415 V) with O/L, S/C & built-in earth fault protection with following accessories for each MCCB's :-				
	i) 02 No. - 96 Sq.mm. Flush pattern digital type MFM and three no. Cast Resin CT's of 160/5 A, Class 1.0 accuracy & 15VA burden & On/Off/Trip Indication				
c	02 set - Fully automatic Star Delta starter for suitable incomer of MCCB along with rotary handle for operating 37 kw motors/ fan capacity, complete with contactors, overload protection relay, current sensing type single phase preventer, ON/ OFF indications, push buttons, auto / manual / off selector switch, suitable Digital Ammeter with cast resin suitable rating CT's and all other accessories with suitable rating PVC insulated FRLS single core copper conductor cable etc. complete as required.				

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S. No.	DESCRIPTION	Unit	Qty	Rate (Excl GST)	Amount
VI	SECTION - II				
a	02 Nos.- 800 Amps. Three pole horizontal drawout type air circuit breaker of fault breaking capacity 50 KA (Ics = Icu up to 433 V) MDO operated, fitted with interlocked door, automatic safety shutters, mechanical ON/OFF and service/test/ isolated position indicators and frame earthing contact, confirming to IS : 13947-2, 1993 as amended up to date complete with following accessories for each ACB.				
	(i) Independent Manual spring closing mechanism - 1 No.				
	(ii) Microprocessor release (EMI & EMC Certified) for over current & short circuit protection - 1 Set.				
	i) 02 No. - 96 Sq.mm. Flush pattern digital type MFM and three no. Cast Resin CT's of 800/5 A, Class 1.0 accuracy & 15VA burden & On/Off/Trip Indication				
b	03 Nos. - 100 Amps. 50KA, Four Pole, microprosser release , MCCB (Ics = Icu at 415 V) with O/L, S/C & built-in earth fault protection with following accessories for each MCCB's :-				
	i) 03 No. - 96 Sq.mm. Flush pattern digital type MFM and three no. Cast Resin CT's of 160/5 A, Class 1.0 accuracy & 15VA burden & On/Off/Trip Indication				
c	02 set - Fully automatic Star Delta starter for suitable incomer of MCCB along with rotary handle for operating 37 kw motors/ fan capacity, complete with contactors, overload protection relay, current sensing type single phase preventer, ON/ OFF indications, push buttons, auto / manual / off selector switch, suitable Digital Ammeter with cast resin suitable rating CT's and all other accessories with suitable rating PVC insulated FRLS single core copper conductor cable etc. complete as required.				
	Chiller Plant Panel as above	No	1	1729000.00	1729000.00

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S. No.	DESCRIPTION	Unit	Qty	Rate (Excl GST)	Amount
6	BOILER PLANT PANEL				
	Supply, Installation, Testing and Commissioning of cubicle LT panel as per IEC 61439-1 & 2, IP42, suitable for 415V+/- 10%, 3 Phase, 4 wire 50 Hz AC supply system, tested for 12kV impulse withstand voltage, form 4b construction, fabricated in compartmentalized modular design from CRCA sheet steel of 2 mm thick for frame work and covers, , plates i/c cleaning & finishing complete with 8 tank process for powder coating in approved shade, having TPN Aluminium alloy bus bars for high conductivity, SMC bus bar supports, with short circuit withstand capacity of 50 KA for 1 sec , internal arc type tested as per IEC 61641 50kA for 0.3sec at HBB,VBB & Cable Chamber, bottom base channel of MS section not less than 100mm x 50mm x 3mm thick, fabrication shall be done in transportable sections, entire panel shall have a common earth bar sized for respective earth fault , solid / flexible connections from main bus bar to switchgears and from switchgear output to cable termination in cable alley with required size of AL conductors / bus bars and control wiring with 2.5 sqmm PVC insulated copper conductor cable (FRLS), cable alleys, cable gland plates , i/c providing following switchgears / accessories as per specifications. Panel shall be completed in all respect and must follow tech specs .				
	INCOMINGS FROM Main LT cum DG sync Panel :				
a	02 Nos. - 630 Amps. 50KA, Four Pole, microprosser release , MCCB (Ics = Icu at 415 V) with O/L, S/C & built-in earth fault protection with following accessories for each MCCB's :-				
	i) 02 No. - 96 Sq.mm. Flush pattern digital type MFM and three no. Cast Resin CT's of 630/5 A, Class 1.0 accuracy & 15VA burden & On/Off/Trip Indication				
	BUS COUPLER				
b	01 Nos. - 630 Amps. 50KA, Four Pole, microprosser release , MCCB (Ics = Icu at 415 V) with O/L, S/C & built-in earth fault protection with following accessories for each MCCB's :-				
	i) 01 No. - 96 Sq.mm. Flush pattern digital type MFM and three no. Cast Resin CT's of 160/5 A, Class 1.0 accuracy & 15VA burden & On/Off/Trip Indication				
c	2 Sections of Electrolytic high conductivity Aluminium extensible three phase and neutral busbars rated at 800 amps , & auxiliary Bus Bars of suitable capacity insulated with heat shrinkable coloured PVC sleeves & suitable to with stand symmetrical fault level of 50 kA at 433 volts, i/c DMC/SMC bus bars supports at required intervals complete for cross section, size supports & their spacing etc.				

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S. No.	DESCRIPTION	Unit	Qty	Rate (Excl GST)	Amount
	Interlocking:				
	Electrical Interlocking through advance contacts / contactors in MCCB's (Incomers & Bus couplers) should be provided to ensure that only one supply is available at a time on each section of bus and to eliminate any possibility of accidentally approaching two supplies at one bus section				
	Outgoings:				
	All MCCB (Ics=Icu) with O/L, S/C,E,F protection & followings shall be applicable to each.				
	All outgoing with motor duty MCCB with O/C, and suitable release for S/C,E/F protection (with ON, off trip indications) of following capacity and rating, 50kA (Ics=Icu =1s upto 433 V) with Set of Digital Multifunction Meter, accuracy class 0.5s, with LED/LCD screen of Max Demand Load, I ;V; Hz; Active, Reactive , Apparent Power & Energy; Power factor; % unbalance of current & voltage; , %THD , individual harmonics up to 15th level (complying with IEC61557-12) with RS 485 / Ethernet port with 3 Nos. cast resin current transformers of dual core CT's of suitable Amp. ratio, 15 VA metering, protection MCBs as required accessories to complete the system.. , Spreader links and phase barrier, solid neutral link complete with wiring , connections etc.				
d	i) 05 Nos. - 250 Amp. TPN MCCB (04 Nos. Boiler, 1 spare)				
e	ii) 05 Nos. -63 Amp. TPN MCCB (4 Nos. Boiler-Pump ,1 spare)				
f	4 set - Fully automatic Star Delta starter for suitable incomer of MCCB along with rotary handle for operating 15 kw motors/ fan capacity, complete with contactors, overload protection relay, current sensing type single phase preventer, ON/ OFF indications, push buttons, auto / manual / off selector switch, suitable Digital Ammeter with cast resin suitable rating CT's and all other accessories with suitable rating PVC insulated FRLS single core copper conductor cable etc. complete as required.				
	Boiler Plant Panel as above	No	1	765000.00	765000.00
7	<u>SAFETY EQUIPMENTS</u>				
7.1	Supplying and fixing of Shock treatment chart both in Regional, Hindi & English.and framed with 5mm thick glass as required.	Each	2	2000.00	4000.00
7.2	Supply of First aid box containing material as prescribed by St. John Ambulance brigade OR Indian Red Cross complete as required.	Each	2	3800.00	7600.00
7.3	Providing Single Line Diagram on 5mm thick Aluminium sheet in A0 Size duly laminated.	Each	1	10700.00	10700.00
7.4	Providing Single Line Diagram on 5mm thick Aluminium sheet in A1 Size duly laminated.	Each	1	5750.00	5750.00

S. No.	DESCRIPTION	Unit	Qty	Rate (Excl GST)	Amount
8	<u>EARTHING (SUB-STATION EQUIPMENTS & DG SET)</u>				
8.1	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 and salt complete as required.	Set	5	10000.00	50000.00
8.2	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 and salt complete as required.	Set	5	9000.00	45000.00
8.3	Providing & fixing of 50mm x 5mm GI strip on surface or recess for earth connection as required.	RM	100	360.00	36000.00
8.4	Providing & fixing of 50mm x 5mm copper strip on surface or recess for earth connection as required.	RM	100	570.00	57000.00
8.5	Supply and Laying of GI Pipe for running GI/Copper strip for earth connection as required and as per specifications.				
	80 mm inner dia	Mtr	100	1146.00	114600.00
9	Supply of following size of 1.1kv grade multicore aluminium conductor XLPE insulated and PVC sheathed armoured cable as per IS: 7098:1988 (Part - I) with upto date amendments.				
9.1	3.5 core, 400 Sq.mm.	Mtr	200	430.00	86000.00
9.2	3.5 core, 240 Sq.mm.	Mtr	100	2150.00	215000.00
9.3	3.5 core, 35 Sq.mm.	Mtr	150	400.00	60000.00
9.4	3.5 core, 25 Sq.mm.	Mtr	150	31.00	4650.00
10	Laying and fixing of one number PVC insulated and PVC sheathed/XLPE Power cable of 1.1kV grade of following sizes on existing cable tray etc. as required.				
10.1	Upto 35 sq. mm	Mtr	50	130.00	6500.00
10.2	Above 185 sq. mm and upto 400 sq. mm	Mtr	50	450.00	22500.00
11	Laying 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.				
11.1	Upto 35 sq. mm	Mtr	50	45.00	2250.00

S. No.	DESCRIPTION	Unit	Qty	Rate (Excl GST)	Amount
11.2	Above 185 sq. mm and upto 400 sq. mm	Mtr	50	60.00	3000.00
12	Laying of one number PVC insulated and PVC sheathed/XLPE power cable of 1.1 kV grade of the following size direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc. as required.				
12.1	Up to 35 sq.mm	Mtr	50	45.00	2250.00
12.2	above 185 sq.mm. and upto 400 sq.mm.	Mtr	50	60.00	3000.00
13	Laying of one number additional PVC insulated and PVC sheathed/ XLPE power cable of 1.1 kV grade of following size direct in ground in the same trench in one tier horizontal formation including excavation, sand cushioning, protective covering and refilling the trench etc as required.				
13.1	Up to 35 sq.mm	Mtr	50	45.00	2250.00
13.2	above 185 sq.mm. and upto 400 sq.mm.	Mtr	50	60.00	3000.00
14	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size in the existing masonry open duct as required.				
14.1	Up to 35 sq.mm	Mtr	100	45.00	4500.00
14.2	above 185 sq.mm. and upto 400 sq.mm.	Mtr	50	60.00	3000.00
15	Laying and fixing of one number PVC insulated and PVC sheathed/XLPE power cable of 1.1 kV grade of following size on wall surface as required.				
15.1	Above 185 sq. mm and upto 400 sq. mm (clamped with 40x3mm MS flat clamp)	Mtr	50	60.00	3000.00
16	Supplying and making end termination with double compression brass gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required.				
16.1	3.5 core, 400 Sq.mm.	Set	16	390.00	6240.00
16.2	3.5 core, 240 Sq.mm.	Set	4	2300.00	9200.00
16.3	3.5 core, 35 Sq.mm.	Set	8	510.00	4080.00
16.4	3.5 core, 25 Sq.mm.	Set	8	38.00	304.00

S. No.	DESCRIPTION	Unit	Qty	Rate (Excl GST)	Amount
	CABLE TRAY				
17	Supply and installing following size of galvanised iron Lader type cable trays with radil bends supports, reducers, tees, cross members and other accessories as required and duly suspended from the ceiling with GI suspenders etc as required.				
17.1	1000 mm width x 60mm depth x 2 mm thickness.	Mtr	50	746.00	37300.00
17.2	600 mm width x 60mm depth x 2 mm thickness.	Mtr	50	1790.00	89500.00
18	Supply and installing following size of galvanised iron perforated type cable trays including with perforation not more than 17.5%, in convenient sections horizontal and vertical bends, reducers, tees, cross members and other accessories as required and duly suspended from the ceiling with GI suspenders etc as required.				
18.1	450 mm width x 60mm depth x 2 mm thickness.	Mtr	50	1420.00	71000.00
	Total Amount				36387786.00

11/08/25
 Sr. Manager (Engg-E)
 Srinagar Int'l Airport