

HSCC (India) Limited
as Executing Agency on behalf of
MINISTRY OF HEALTH & FAMILY WELFARE,
NEW DELHI

TENDER

FOR

External Electrical Works for
All India Institute of Medical Sciences
(AIIMS) at Nagpur (Maharashtra)

Under

Pradhan Mantri Swasthya Suraksha Yojana
(PMSSY)

VOLUME – V
Bill of Quantities

December' 2018

Executing Agency



HSCC (INDIA) LTD.

E-6(A), Sector-1, NOIDA(U.P) 201301 (India)

Phone : 0120-2542436-40

Fax : 0120-2542447

Tender No. HSCC/PMSSY/AIIMS/Nagpur/Ext-Elect/2018

AIIMS - NAGPUR			
Name of Work : EXTERNAL ELECTRICAL WORK			
Sl. No.	SUB HEADS	DSR 18 Amount (Rs)	Market Amount(Rs)
1	SUBSTATION (HT PANELS, TRANSFORMERS)	-	7,54,14,591.00
2	DG SETS	-	6,91,84,706.00
3	HT CABLING & SUBSTATION AUXILLARIES	2,80,250.00	98,51,241.00
4	LT & MV PANELS	-	6,65,64,695.00
5	BUSDUCTING & RISING MAIN	-	5,43,52,800.00
6	MV CABLING & CABLE TERMIANTIONS	52,97,604.00	30,57,600.00
7	CABLE TRAYS & RACEWAYS	-	3,26,100.00
8	EXTERNAL LIGHTING & FEEDER PILLARS	-	2,46,38,768.00
9.0	EXTERNAL PA	-	13,02,474.00
10.0	EPABX SYSTEM	-	2,51,78,933.00
11.0	BMS SYSTEM	47,69,660.00	3,76,05,305.00
12.0	IP CCTV SURVEILLANCE & ACCESS CONTROL SYSTEMS	-	1,50,58,275.00
13.0	UPS & INVERTERS	-	3,35,91,531.00
14.0	EARTHING	1,66,500.00	17,49,020.00
15.0	BOOM BARRIER SYSTEM	-	28,06,660.00
16.0	MISC. WORKS	84,09,660.00	54,62,590.00
17.0	SAFETY EQUIPMENTS	10,032.00	10,77,815.00
18.0	SPECIALIZED SERVICES OF AUDITORIUM	-	88,06,928.00
19.0	SOLAR PHOTVOLTAIC POWER GENERATION	-	83,58,658.00
	TOTAL	1,89,33,706.00	44,43,88,690.00
	GRAND TOTAL (RS)	46,33,22,396.00	

Name of Work : EXTERNAL ELECTRICAL WORK FOR AIIMS-NAGPUR								
Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
1.0		SUBSTATION (HT PANELS, TRANSFORMERS)						
1.1		HT PANEL BOARDS						
1.1.1	NSR	33KV HT PANEL complete with following	Set	1		4717323	-	47,17,323
		Supplying, installation, testing & commissioning of Indoor type floor mounted metal clad, 33KV VCB panel with 5 Nos.VCBs (2 No -Incomer, 1 No buscoupler & 2 No Outgoings) totally enclosed & fully interlocked, horizontal draw out, horizontal isolation type breaker as per IS 13118, as amended up to date and additional specifications, having capacities as mentioned below, single break, trip free mechanism, manually charged and manually closing breaker suitable for use on 33 KV, 3 phase, 50Hz AC supply with short circuit fault level of 1000 MVA, complete with self contained, fully interlocked, rack in and rack out mechanism, air insulated but encapsulated copper bus bars, breaker featured with mechanical ON / OFF indicator with hand trip device, spring release coil, shunt trip coil and auxiliary switch of 8 NO + 8 NC and equipped with following switch gears and Accessories i/c connections with suitable for 2# 3C 300 sq.mm XLPE 33 KV cable for Incomer & 2# 3C 300 sq.mm XLPE 33 KV cable for outgoings (cable entry from bottom), with cable end termination with heat shrinkable jointing material. All control wiring for the above including interconnections with minimum 1.5 sqmm copper FRLS wires, complete as per specifications		-			-	-
		A) Incoming 1 & 2- 1250 Amps TP VCB- 2 Nos. with the Following		-			-	-
		a) 33 KV/ 110 Volts PT class 0.5 accuracy and not less than 100 VA Burden with 1 no Voltmeter 33 KV Digital type with Selector switch for voltmeter and protection fuses for metering upto 33 KV on Incomer- 1No.		-			-	-
		b) 0-1000 Amps digital type Ammeter with Selector switch -1 No.		-			-	-
		c) Microprocessor based numerical relay with O/L,E/F, S/C, Overvoltage & Undervoltage Protection- 1 No.		-			-	-
		d) 3 CTS 1000/5 A of 15 VA burden and accuracy class-0.5 for metering and class 5P 20 for protection -1 Set each.		-			-	-
		e) Master trip relay and trip circuit healthy supervision relay - 1 Set		-			-	-
		f) Phase Indicating lamps with HRC fuses-1 Set each		-			-	-
		g) Indicating lamps to indicate OPEN, CLOSE, TRIP, SPRING CHARGED, TRIP CIRCUIT HEALTHY- 1 Set		-			-	-
		h) Annunciator - 1 No.		-			-	-
		i) Push buttons for close and trip- 1 Set		-			-	-
		j) Space Heater- 1 Set each		-			-	-
		k) Electrical & Mechanical Interlock between incomers & buscoupler complete with all wiring, sensing elements & accessories		-			-	-
		l) Three pin socket with switch		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
				-			-	-
				-			-	-
		B) Bus Coupler - 1250 Amps VCB- 1 Nos. with the Following		-			-	-
		a) Phase Indicating lamps with HRC fuses-1 Sets.		-			-	-
		b) Indicating lamps to indicate OPEN, CLOSE, TRIP, SPRING CHARGED, TRIP CIRCUIT HEALTHY- 1 Set.		-			-	-
		c) Push buttons for close and trip- 1 Set		-			-	-
		d) Space Heater- 1 Set		-			-	-
				-			-	-
		D) Outgoing - 1250 Amps VCB- 2 Nos. with the Following		-			-	-
		a) 0-1000 Amps digital type Ammeter with Selector switch -1 No.		-			-	-
		b) Microprocessor based numerical relay with O/L,E/F, S/C Protection- 1No.		-			-	-
		c) 3 CTS 1000/5 A of 15 VA burden and accuracy class-0.5 for metering and class 5P 20 for protection -1 Set each.		-			-	-
		d) Master trip relay and trip circuit healthy supervision relay - 1 Set		-			-	-
		e) Differential Protective Relay(87) - 1 Set		-			-	-
		f) Phase Indicating lamps with HRC fuses-1 Sets.		-			-	-
		g) Indicating lamps to indicate OPEN, CLOSE, TRIP, SPRING CHARGED, TRIP CIRCUIT HEALTHY- 1 Set.		-			-	-
		h) Annunciator - 1 No.		-			-	-
		i) Push buttons for close and trip- 1 Set		-			-	-
		j) Space Heater- 1 Set		-			-	-
		Differential protection Relay-1set		-			-	-
1.1.1.1	NSR	Supply, Installation, Testing & commissioning of Constant Voltage Constant Current Battery Charger with float & boost charging, 200AH, 24V DC output, with potential free contact with maintainance free batteries (30 min backup in fully chatger condition) complete with all Accessories like insulators, clamps, bimetal connectors, M.S.support rack etc as per specifactions & data sheets	Set	1		87607	-	87,607
				-			-	-
1.1.2	NSR	11KV VCB ISOLATOR complete with following	Set	2		760371	-	15,20,742
				-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		Supplying, installation, testing & commissioning of Indoor type floor mounted metal clad, 11KV VCB Isolator totally enclosed, horizontal draw out, horizontal isolation type breaker as per IS 13118, as amended up to date and additional specifications, having capacities as mentioned below, single break, trip free mechanism, manually charged and manually closing breaker suitable for use on 11 KV, 3 phase, 50Hz AC supply with short circuit fault level of 500 MVA, complete with self contained, fully interlocked, rack in and rack out mechanism, air insulated but encapsulated copper bus bars, breaker featured with mechanical ON / OFF indicator with hand trip device, spring release coil, shunt trip coil and auxiliary switch of 8 NO + 8 NC and equipped with following switch gears and Accessories i/c connections with suitable 1# 3C 300 sq.mm XLPE 11 KV cable (cable entry from bottom), with cable end termination with heat shrinkable jointing material. All control wiring for the above including interconnections with minimum 1.5 sqmm copper FRLS wires, complete as per specifications		-			-	-
		A) 1250 Amps TP VCB- 1Nos. with the Following		-			-	-
		a) 11 KV/ 24 Volts PT class 0.5 accuracy and not less than 100 VA Burden with 1 no Voltmeter 12 KV Digital type with Selector switch for voltmeter and protection fuses for metering upto 12 KV on Incomer- 1No.		-			-	-
		b) 0-500 Amps digital type Ammeter with Selector switch -1 No.		-			-	-
		c) Microprocessor based numerical relay with O/L,E/F, S/C, Overvoltage & Undervoltage Protection- 1 No.		-			-	-
		d) 3 CTS 500/5 A of 15 VA burden and accuracy class-0.5 for metering and class 5P 20 for protection -1 Set each.		-			-	-
		e) Master trip relay and trip circuit healthy supervision relay - 1 Set		-			-	-
		f) Phase Indicating lamps with HRC fuses-1 Set each		-			-	-
		g) Indicating lamps to indicate OPEN, CLOSE, TRIP, SPRING CHARGED, TRIP CIRCUIT HEALTHY- 1 Set		-			-	-
		h) Annunciator - 1 No.		-			-	-
		i) Push buttons for close and trip- 1 Set		-			-	-
		j) Space Heater- 1 Set each		-			-	-
		k) Electrical & Mechanical Interlock between incomers & buscoupler complete with all wiring, sensing elements & accessories		-			-	-
		l) Three pin socket with switch		-			-	-
1.1.3	NSR	IPD 11KV HT PANEL, UTILITY 11KV HT PANEL complete with following	Set	2		2897784	-	57,95,568
				-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		Supplying, installation, testing & commissioning of Indoor type floor mounted metal clad, 11KV VCB panel with 7 Nos.VCBs (2 No -Incomer, 1 No buscoupler & 4 No Outgoings) totally enclosed & fully interlocked, horizontal draw out, horizontal isolation type breaker as per IS 13118, as amended up to date and additional specifications, having capacities as mentioned below, single break, trip free mechanism, manually charged and manually closing breaker suitable for use on 11 KV, 3 phase, 50Hz AC supply with short circuit fault level of 500 MVA, complete with self contained, fully interlocked, rack in and rack out mechanism, air insulated but encapsulated copper bus bars, breaker featured with mechanical ON / OFF indicator with hand trip device, spring release coil, shunt trip coil and auxiliary switch of 8 NO + 8 NC and equipped with following switch gears and Accessories i/c connections with suitable for 1# 3C 400 sq.mm XLPE 11 KV cable for Incomer & 1# 3C 300 sq.mm XLPE 11 KV cable for outgoings (cable entry from bottom), with cable end termination with heat shrinkable jointing material. All control wiring for the above including interconnections with minimum 1.5 sqmm copper FRLS wires, complete as per specifications and Data Sheets		-			-	-
		A) Incoming 1 & 2- 630 Amps TP VCB- 2 Nos. with the Following		-			-	-
		a) 11 KV/ 110 Volts PT class 0.5 accuracy and not less than 100 VA Burden with 1 no Voltmeter 12 KV Digital type with Selector switch for voltmeter and protection fuses for metering upto 12 KV on Incomer- 1No.		-			-	-
		b) 0-500 Amps digital type Ammeter with Selector switch -1 No.		-			-	-
		c) Microprocessor based numerical relay with O/L,E/F, S/C, Overvoltage & Undervoltage Protection- 1 No.		-			-	-
		d) 3 CTS 500/5 A of 15 VA burden and accuracy class-0.5 for metering and class 5P 20 for protection -1 Set each.		-			-	-
		e) Master trip relay and trip circuit healthy supervision relay - 1 Set		-			-	-
		f) Phase Indicating lamps with HRC fuses-1 Set each		-			-	-
		g) Indicating lamps to indicate OPEN, CLOSE, TRIP, SPRING CHARGED, TRIP CIRCUIT HEALTHY- 1 Set		-			-	-
		h) Annunciator - 1 No.		-			-	-
		i) Push buttons for close and trip- 1 Set		-			-	-
		j) Space Heater- 1 Set each		-			-	-
		k) Electrical & Mechanical Interlock between incomers & buscoupler complete with all wiring, sensing elements & accessories		-			-	-
		l) Three pin socket with switch		-			-	-
				-			-	-
		B) Bus Coupler - 630 Amps VCB- 1 Nos. with the Following		-			-	-
		a) Phase Indicating lamps with HRC fuses-1 Sets.		-			-	-
		b) Indicating lamps to indicate OPEN, CLOSE, TRIP, SPRING CHARGED, TRIP CIRCUIT HEALTHY- 1 Set.		-			-	-
		c) Push buttons for close and trip- 1 Set		-			-	-
		d) Space Heater- 1 Set		-			-	-
				-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		C) Outgoing - 630 Amps VCB- 4 Nos. with the Following		-			-	-
		a) 0-100 Amps digital type Ammeter with Selector switch -1 No.		-			-	-
		b) Microprocessor based numerical relay with O/L,E/F, S/C Protection- 1No.		-			-	-
		c) 3 CTS 150/5 A of 15 VA burden and accuracy class-0.5 for metering and class 5P 20 for protection -1 Set each.		-			-	-
		d) Master trip relay and trip circuit healthy supervision relay - 1 Set		-			-	-
		e) Phase Indicating lamps with HRC fuses-1 Sets.		-			-	-
		f) Indicating lamps to indicate OPEN, CLOSE, TRIP, SPRING CHARGED, TRIP CIRCUIT HEALTHY- 1 Set.		-			-	-
		g) Annunciator - 1 No.		-			-	-
		h) Push buttons for close and trip- 1 Set		-			-	-
		i) Space Heater- 1 Set		-			-	-
				-			-	-
1.1.3.1	NSR	Supply, Installation, Testing & commissioning of Constant Voltage Constant Current Battery Charger with float & boost charging, 200AH, 110V DC output, with potential free contact with maintainance free batteries (30 min backup in fully chatger condition) complete with all Accessories like insulators, clamps, bimetal connectors, M.S.support rack etc as per specifactions & data sheets	Set	1		101085	-	1,01,085
1.1.4	NSR	ACAD 11KV HT PANEL complete with following	Set	1		2021710	-	20,21,710
				-			-	-
		Supplying, installation, testing & commissioning of Indoor type floor mounted metal clad, 11KV VCB panel with 5 Nos.VCBs (2 No -Incomer, 1 No buscoupler & 2 No Outgoings) totally enclosed & fully interlocked, horizontal draw out, horizontal isolation type breaker as per IS 13118, as amended up to date and additional specifications, having capacities as mentioned below, single break, trip free mechanism, manually charged and manually closing breaker suitable for use on 11 KV, 3 phase, 50Hz AC supply with short circuit fault level of 500 MVA, complete with self contained, fully interlocked, rack in and rack out mechanism, air insulated but encapsulated copper bus bars, breaker featured with mechanical ON / OFF indicator with hand trip device, spring release coil, shunt trip coil and auxiliary switch of 8 NO + 8 NC and equipped with following switch gears and Accessories i/c connections with suitable for 1# 3C 400 sq.mm XLPE 11 KV cable for Incomer & 1# 3C 300 sq.mm XLPE 11 KV cable for outgoings (cable entry from bottom), with cable end termination with heat shrinkable jointing material. All control wiring for the above including interconnections with minimum 1.5 sqmm copper FRLS wires, complete as per specifications.		-			-	-
		A) Incoming 1 & 2- 630 Amps TP VCB- 2 Nos. with the Following		-			-	-
		a) 11 KV/ 110 Volts PT class 0.5 accuracy and not less than 100 VA Burden with 1 no Voltmeter 12 KV Digital type with Selector switch for voltmeter and protection fuses for metering upto 12 KV on Incomer- 1No.		-			-	-
		b) 0-500 Amps digital type Ammeter with Selector switch -1 No.		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		c) Microprocessor based numerical relay with O/L,E/F, S/C, Overvoltage & Undervoltage Protection- 1 No.		-			-	-
		d) 3 CTS 300/5 A of 15 VA burden and accuracy class-0.5 for metering and class 5P 20 for protection -1 Set each.		-			-	-
		e) Master trip relay and trip circuit healthy supervision relay - 1 Set		-			-	-
		f) Phase Indicating lamps with HRC fuses-1 Set each		-			-	-
		g) Indicating lamps to indicate OPEN, CLOSE, TRIP, SPRING CHARGED, TRIP CIRCUIT HEALTHY- 1 Set		-			-	-
		h) Annunciator - 1 No.		-			-	-
		i) Push buttons for close and trip- 1 Set		-			-	-
		j) Space Heater- 1 Set each		-			-	-
		k) Electrical & Mechanical Interlock between incomers & buscoupler complete with all wiring, sensing elements & accessories		-			-	-
		l) Three pin socket with switch		-			-	-
				-			-	-
				-			-	-
		B) Bus Coupler - 630 Amps VCB- 1 Nos. with the Following		-			-	-
		a) Phase Indicating lamps with HRC fuses-1 Sets.		-			-	-
		b) Indicating lamps to indicate OPEN, CLOSE, TRIP, SPRING CHARGED, TRIP CIRCUIT HEALTHY- 1 Set.		-			-	-
		c) Push buttons for close and trip- 1 Set		-			-	-
		d) Space Heater- 1 Set		-			-	-
				-			-	-
		D) Outgoing - 400 Amps VCB- 2 Nos. with the Following		-			-	-
		a) 0-100 Amps digital type Ammeter with Selector switch -1 No.		-			-	-
		b) Microprocessor based numerical relay with O/L,E/F, S/C Protection- 1No.		-			-	-
		c) 3 CTS 60/5 A of 15 VA burden and accuracy class-0.5 for metering and class 5P 20 for protection -1 Set each.		-			-	-
		d) Master trip relay and trip circuit healthy supervision relay - 1 Set		-			-	-
		e) Phase Indicating lamps with HRC fuses-1 Sets.		-			-	-
		f) Indicating lamps to indicate OPEN, CLOSE, TRIP, SPRING CHARGED, TRIP CIRCUIT HEALTHY- 1 Set.		-			-	-
		g) Annunciator - 1 No.		-			-	-
		h) Push buttons for close and trip- 1 Set		-			-	-
		i) Space Heater- 1 Set		-			-	-
				-			-	-
1.1.4.1	NSR	Supply, Installation, Testing & commissioning of Constant Voltage Constant Current Battery Charger with float & boost charging, 100AH, 24V DC output, with potential free contact with maintainance free batteries (30 min backup in fully chatger condition) complete with all Accessories like insulators, clamps, bimetal connectors, M.S.support rack etc as per specifactions &	Set	1		87607	-	87,607
				-			-	-
1.1.5		HT AFPC PANEL: Automatic Power Factor Controller Panel with Capacitor panel [Indoor Type]	Set	1		5361575	-	53,61,575

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		Supply, Erection, Testing and Commissioning of 11 kV 2000 kVAR, 0.2% reactor, with 15% Over voltage 5 Steps APFC Panel with communication provision for Electrical parameters KWH, KVAH, PF, HZ and ON, OFF, TRIP, FAULT, Suitable Ventilation and Temperature Indications and Capacitor Bank: 2652 kVAR, 12.65kV, 3 phase capacitor Panel in star configuration along with cast resin/ resin impregnated air cooled series reactors, cast resin neutral CT in a closed container detailed as per technical specification.		-			-	-
1.1.6	NSR	11KV DG HT & SYNCH PANEL (EXTENSION OF EXISTING SYNC PANEL) complete with following	Set	1		2830394	-	28,30,394
				-			-	-
		Supplying, installation, testing & commissioning of Indoor type floor mounted metal clad, 11KV VCB panel (extendable) with 6 Nos.VCBs (4 No - Incomer + 2 No -Outgoing) (To be connected to existing DG HT Panel as shown in SLD) totally enclosed & fully interlocked, horizontal draw out, horizontal isolation type breaker as per IS 13118, as amended up to date and additional specifications, having capacities as mentioned below, single break, trip free mechanism, manually charged and manually closing breaker suitable for use on 11 KV, 3 phase, 50Hz AC supply with short circuit fault level of 500 MVA, complete with self contained, fully interlocked, rack in and rack out mechanism, air insulated but encapsulated copper bus bars, breaker featured with mechanical ON / OFF indicator with hand trip device, spring release coil, shunt trip coil and auxiliary switch of 8 NO + 8 NC and equipped with following switch gears and Accessories i/c connections with suitable for 1# 3C 300 sq.mm XLPE 11 KV cable for Incomer and 1# 3C 300 sq.mm XLPE 11 KV cable for Incomer (cable entry from bottom), with cable end termination with heat shrinkable jointing material. All wiring for the above including interconnections with minimum 1.5 sqmm copper FRLS wires,Battery charger (with trickle and boost charging). complete as per specifications and Data Sheets		-			-	-
		A) Incoming- 630 Amps TP VCB- 4 Nos. 4 Nos. each breaker complete with the Following.		-			-	-
		a) 11 KV/ 110 Volts PT class 0.5 accuracy and not less than 100 VA Burden with 1 no Voltmeter 12 KV Digital type with Selector switch for voltmeter and protection fuses for metering upto 12 KV on Incomer- 1No.		-			-	-
		b) 0-200 Amps digital type Ammeter with Selector switch -1 No		-			-	-
		c) Microprocessor based numerical relay with O/L,E/F, S/C, Overvoltage & Undervoltage Protection- 1 No.		-			-	-
		d) 3 CTS 150/5 A of 15 VA burden and accuracy class-0.5 for metering and class 5P 20 for protection -1 Set each.		-			-	-
		e) Master trip relay and trip circuit healthy supervision relay - 1 Set		-			-	-
		f) Phase Indicating lamps with HRC fuses-1 Set		-			-	-
		g) Indicating lamps to indicate OPEN, CLOSE, TRIP, SPRING CHARGED, TRIP CIRCUIT HEALTHY- 1 Set		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		h) Annunciator - 1 No.		-			-	-
		i) Push buttons for close and trip- 1 Set		-			-	-
		j) Space Heater- 1 Set		-			-	-
		k) Electrical & Mechanical Interlock between incomers & buscoupler complete with all wiring, sensing elements & accessories		-			-	-
		l) Three pin socket with switch		-			-	-
				-			-	-
		B) Outgoing - 1250 Amps VCB- 2 Nos. with the Following		-			-	-
		a) 0-100 Amps digital type Ammeter with Selector switch -1 No.		-			-	-
		b) Microprocessor based numerical relay with O/L,E/F, S/C Protection- 1No.		-			-	-
		c) 3 CTS 300/5 A of 15 VA burden and accuracy class-0.5 for metering and class 5P 20 for protection -1 Set each.		-			-	-
		d) Master trip relay and trip circuit healthy supervision relay - 1 Set		-			-	-
		e) Phase Indicating lamps with HRC fuses-1 Sets.		-			-	-
		f) Indicating lamps to indicate OPEN, CLOSE, TRIP, SPRING CHARGED, TRIP CIRCUIT HEALTHY- 1 Set.		-			-	-
		g) Annunciator - 1 No.		-			-	-
		h) Push buttons for close and trip- 1 Set		-			-	-
		i) Space Heater- 1 Set		-			-	-
				-			-	-
		C) Micro PLC for load on & DG status with Ethernet Output- 1set		-			-	-
		a) 1 Ethernet to 4 OFC Converter - 1 Set		-			-	-
		b) Power Supply for Micro PLC - 1 No		-			-	-
				-			-	-
				-			-	-
1.1.6.1	NSR	Supply, Installation, Testing & commissioning of Constant Voltage Constant Current Battery Charger with float & boost charging, 100AH, 24V DC output, with potential free contact with maintainance free batteries (30 min backup in fully chatger condition) complete with all Accessories like insulators, clamps, bimetal connectors, M.S.support rack etc as per specifactions & data sheets		1		87607	-	87,607
				-			-	-
1.1.7	NSR	NIC & NGR Panel complete with following	Set	3		336952	-	10,10,856
		Supply, installation, Testing & Commissioning of NIC & NGR panel with following and including connectivity between DG set & NGR as well as between NGR and ground complete as required as per following:		-			-	-
		Neutral Isolating Switch for 1 No. DG sets:		-			-	-
		Each comprising of following :		-			-	-
		1 No. 200 amps single Pole 11 KV vacuum contactor for neutral isolation		-			-	-
		One set of Alluminium bus bars		-			-	-
		On/Off indicating lamps including all accessories		-			-	-
		Auto / Manual Selector Switch		-			-	-
		EARTH FAULT RELAY (51N)		-			-	-
		Cast Resin CT with double wound, 150/5 with protection core.		-			-	-
		7.5VA burden for protection (Class 5P-20) - 1 set		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
				-			-	-
		NGR PANEL :		-			-	-
		Each comprising of the following :		-			-	-
		The register element shall be made of un breakable corrosion proof. Punched stainless steel grid of Ferro chrome aluminum alloy. The resistor shall be suitable for the full load current on 10 sec. with temperature rise not carrying exceeding 375 deg C over ambient temperature. The resistance element shall be supported on suitable insulating base housed in 2 mm thick sheet steel self supporting, free standing cubical with louvers on sides. The unit shall be complete with connection, terminals glands plates etc.		-			-	-
				-			-	-
1.1.8	NSR	Supply, installation, Testing & commissioning of Control and Relay panel (indoor type) complete with following.	Set	1		876074	-	8,76,074
		1 No. 2250 KVA 11 KV DG sets incoming each comprises the following :		-			-	-
		PLC/Microprocessor based synchronizing relay with all components & accessories required for three 2250 KVA DG Sets synchronization.		-			-	-
		Breaker Control Switch		-			-	-
		Excitation Ammeter		-			-	-
		Excitation voltmeter		-			-	-
		Temperature scanner		-			-	-
		Multifunction meter with RS-485 ports.		-			-	-
		Multi function numeric relay with Mod bus RS-485 ports for the following:		-			-	-
		a) Voltage restrained over current protection (50/50N/51 /51N).		-			-	-
		b) Machine Thermal Relay (49)		-			-	-
		c) Current unbalance (46)		-			-	-
		d) Loss of excitation (40)		-			-	-
		e) Reverse Power (32)		-			-	-
		f) Under Power (37)		-			-	-
		g) Under / Over frequency (81)		-			-	-
		h) Breaker failure protection (52BF)		-			-	-
		i) Volts/Hz (24)		-			-	-
		j) Under / Over voltage (27 / 59)		-			-	-
		Master trip relay (86)		-			-	-
		Trip circuit supervision relay (95)		-			-	-
		Engine cranking relay		-			-	-
		Emergency Push Button.		-			-	-
		Numerical relay for generator protection with dual adjustable slop (87G)		-			-	-
		Numeric restricted earth fault (64 R)		-			-	-
		Audio visual annunciation windows with accept, reset & test, push buttons.		-			-	-
		a) High water temperature		-			-	-
		b) Low lube pressure		-			-	-
		c) Engine over speed		-			-	-
		d) Over/under voltage		-			-	-
		e) Over load / Earth fault		-			-	-
		f) Differential		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		g) Reverse power		-			-	-
		h) Under/over frequency		-			-	-
		i) Winding temperature high		-			-	-
		j) Bearing temperature high		-			-	-
		k) Over Current		-			-	-
		l) Earth Fault		-			-	-
		m) 4 no. spares		-			-	-
				-			-	-
		Microprocessor based DG controller and HMI (Human Machine Interference) shall also be part of relay panel.		-			-	-
				-			-	-
		PLC panels		-			-	-
		Components for PLC Panels comprises following		-			-	-
				-			-	-
		a) Main Processor 1 No.		-			-	-
		b) 32 Channel digital I/P Module 10 No.		-			-	-
		c) 32 Channel digital O/P Module 10 No.		-			-	-
		d) 16 Slot I/o Rack 2 No.		-			-	-
		e) Rack Power Supply 2 No.		-			-	-
		f) 4 Channel Analog I/P Module 1 No.		-			-	-
		g) EEPROM 1 No.		-			-	-
		h) Power Monitor 12 No.		-			-	-
		i) Advance Interface Convertor 1 No.		-			-	-
		j) Communication Cable 1 No.		-			-	-
		k) Communication Card 1 No.		-			-	-
		l) Window base graphics software 1 No.		-			-	-
		m) 1 Set mimic		-			-	-
		n) 1 set Aux. Relays		-			-	-
		o) 1 Set indicating lights / PB		-			-	-
		p) 1 set control MCB's		-			-	-
		q) 1 No. Auto/Manual/Test Switch		-			-	-
		r) 1No. status indicator		-			-	-
				-			-	-
1.1.9		DC DISTRIBUTION BOARD		-			-	-
	Set	Supply, Installation, Testing & Commissioning of DC Distribution Board comprising 1 no. 40A DP MCB as incomer & 4 Nos. 10A / 16A DP MCB's as outgoing feeders for DC supply for operating indication lamps, shunt trip coil & relays of LT Panel.		4		24261	-	97,044
				-			-	-
1.1.10		AC DISTRIBUTION BOARD		-			-	-
	Set	Supply, Installation, Testing & Commissioning of AC Distribution Board comprising 1 no. 40A DP MCB as incomer & 6 Nos. 6A / 10A /16A DP MCB's as outgoing feeders for AC supply to HT Panels & Battery charger unit.		4		26956	-	1,07,824
				-			-	-
				-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
1.2		TRANSFORMERS		-			-	-
				-			-	-
1.2.1	NSR	Design, Manufacturing, supply, installation, testing and commissioning of Outdoor, ONAN/ONAF type,12/16 MVA 33KV/11KV, 3 Phase, 50 Hz, copper Double wound transformer with winding temperature indicator/ controller actuated by means of resistance temperature detector embeded in LV windings, On load tap changer with indoor type RTCC panel, with approximately 10% impedence, tappings for on laod operation on HV side in steps of + 5% / - 15% in steps of 1.25 %. on suitable plinth.Having cable end boxes on Primary HV side suitable for 1 run 3C 300 sq.mm XLPE cable of 33KV grade and on Secndry HV side suitable for 3 run 3C 300 sq.mm XLPE cable of 11KV, including supplying and laying of copper conductor multicore control cables from transformer to HT breaker for safety tripping and standard fittings & Accessories like oil level indicator, Dehydrating silicagel breather, Air release device, Drain & Filter valve with blanking plate and seperate neutral bushing etc, complete as required and confirming to IS-2026- as amended up to date and additional specifications complete in all respects as required at site.	Set	2		14300937	-	2,86,01,874
		Civil foundation as per the manufacturer recomendation is also in the scope. Price of civil work included in the items.		-			-	-
		IPD and UTILITY Transformer:		-			-	-
1.2.3	NSR	Design, Manufacturing, supply, installation, testing and commissioning of Outdoor, ONAN type,2500 KVA 11KV/433V, 3 Phase, 50 Hz, copper Double wound transformer with winding temperature indicator/ controller actuated by means of resistance temperature detector embeded in LV windings, On load tap changer with indoor type RTCC panel, with approximately 5% impedence, tappings for on laod operation on HV side in steps of + 5% / - 15% in steps of 1.25 %. on suitable plinth.Having cable end boxes on HV side suitable for 1 run 3C 300 sq.mm XLPE cable of 11KV grade and on LV side suitable for 4000A 3Ph Busduct (IP65), including supplying and laying of copper conductor multicore control cables from transformer to HT breaker for safety tripping and standard fittings & Accessories like oil level indicator, Dehydrating silicagel breather, Air release device, Drain & Filter valve with blanking plate and seperate neutral bushing etc, complete as required and confirming to IS-1180 amended upto date losses as per specification & data sheets attached complete in all respects as required at site.	Set	6		2943042	-	1,76,58,252
		Civil foundation as per the manufacturer recomendation is also in the scope. Price of civil work included in the items.		-			-	-
		ACAD Transformer:		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
1.2.4	NSR	Design, Manufacturing, supply, installation, testing and commissioning of Outdoor, ONAN type, 1000 KVA 11KV/433V, 3 Phase, 50 Hz, copper Double wound transformer with winding temperature indicator/ controller actuated by means of resistance temperature detector embeded in LV windings, On load tap changer with indoor type RTCC panel, with approximately 5% impedance, tappings for on laod operation on HV side in steps of + 5% / - 15% in steps of 1.25 %. on suitable plinth.Having cable end boxes on HV side suitable for 3 x 300 sq.mm XLPE cable of 11KV grade and on LV side suitable for 2000A 3Ph Busduct (IP65) with neutral brought out separately, including supplying and laying of copper conductor multicore control cables from transformer to HT breaker for safety tripping and standard fittings & Accessories like oil level indicator, Dehydrating silicagel breather, Air release device, Drain & Filter valve with blanking plate and seperate neutral bushing etc., complete as required and confirming to IS-1180 amended upto date losses as per specification & data sheets attached complete in all respects as required at site.	Set	2		1743352	-	34,86,704
		All Foundations Shall be in Civil Venders scope. (Transformer vender shall provide necessary foundation drawings)		-			-	-
				-			-	-
1.3		METERING KIOSK		-			-	-
				-			-	-
1.3.1		METERING KIOSK (33KV)		-			-	-
1.3.1.1	NSR	Supply, installations & Testing of 33KV, indoor metering kiosk module with CT's & PT's to suit the load requirments (12 MVA) as per supply company specifications & requirements, including transportation and all necessary accessories required to complete the job.	Set	2		192949		3,85,898
				-			-	-
1.3.2		METERING KIOSK (Residential / Hostel)		-			-	-
1.3.2.1	NSR	Supply, installations & Testing of 11KV, indoor metering kiosk module with 2 Set of CT & PT to be located at the existing residential/hostel HT panel, to suit the load requirments (Approx 1000 KVA) as per supply company specifications & requirements, including transportation and all necessary accessories required to complete the job.	Set	3		192949	-	5,78,847
				-			-	-
		Total Carried to Summary		-			-	7,54,14,591
				-			-	-
2.0		D.G. SETS		-			-	-
				-			-	-
2.1	NSR	DG SET IN ACCOUSTIC ENCLOSURE WITH REMOTE RADIATOR COMPLETE WITH FOLLOWING	Set	3		22279264		6,68,37,792

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		Design, Manufacture, Supply, Unloading & shifting, Installation, testing, commissioning and alignment at site of Prime Duty continuous rated 4 stroke, 2250 kVA DG Set with an alternator of 2500 KVA comprising of Engine of 1500 rpm, remote Radiator Cooled (to be mounted on top of DG set), 11 KV 50 Hz- 3 phase prime (actual) rating diesel generating set (11000 Volts Alternator with PCCM or equivalent), With electronic AVR mounted on a common base frame. Alternator shall be complete with suitable terminal box with Aluminium link work to accomodate the Aluminium Armoured cables as may be required. Along with its Exhaust pipe & its insulation with all supporting structure & as per CPCB norms complete as required. Engine shall not be derated upto 50 deg.C ambient and suitable for bearing the starting current after changeover. Note- DG set shall be auto start within 3 seconds.		-			-	-
		DG Set shall be complete with following accessories:		-			-	-
		a) 3mm thick MS painted 990 litres Day Oil Tank with float & board level indicator Integral fuel tank to be supplied with content level indicator, fuel fill cap, fuel feed and return lines to engine and drain plug. Hi/Lo level control with necessary support frame gauge glass. supply shut off valve, vent.		-			-	-
		b) Fully charged Lead Acid batteries with painted angle iron stand		-			-	-
		c) Battery leads		-			-	-
		d) Residential Silencer & Flexible coupling / Bellows		-			-	-
		e) Base frame with Anti vibration mountings as required.		-			-	-
		f) Self supporting Exhaust chimney with all necessary structural steel, supports, accessories, lightning down conductor complete as per latest CPCB norms (All Civil foundations shall be in Civil venders scope, DG vender shall provide necessary foundation drawings of Chimney)		-			-	-
		O/M Manuals, Test Certificates & Warranty certificates :		-			-	-
		DG Set shall have 1 set (Original) + 3 sets photocopies of engine & alternator O/M manuals, Test certificates of Engine & alternator, warranty certificates of engine, Alternator & Batteries etc.		-			-	-
				-			-	-
		Fuel Pump & Governor :		-			-	-
		Engine fuel pump shall be with electrically operated actuator & electronic / digital governor suitable for synchronization.		-			-	-
				-			-	-
		Alternator AVR:		-			-	-
		Alternators shall be suitable for synchronization i.e. AVR with droop facility.		-			-	-
				-			-	-
		DG Set Controller:		-			-	-
		The DG Set shall be complete with DG Controller. The controller shall be able to perform the following functions & monitor various parameters::		-			-	-
		a) Perform following functions:		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		i) Manual Start / Stop facility through key / Push button & with remote input acceptance for remote start and with cranking relay. It should be able to perform AMF, Auto synchronizaton and Auto load sharing of DG Sets.		-			-	-
		b) Engine monitoring & protection:		-			-	-
		Lub oil pressure		-			-	-
		Coolant temperature		-			-	-
		Engine Speed		-			-	-
		Run Hour		-			-	-
		Battery Voltage		-			-	-
		Low Lub oil pressure & warning		-			-	-
		High coolant temp. warning & shut down		-			-	-
		Low coolant level shut down		-			-	-
		Over speed shut down		-			-	-
		Charging failure indication		-			-	-
		Low / high battery voltage warning		-			-	-
		Fail to Crank / Fail to start / Shut down		-			-	-
				-			-	-
		Notes:		-			-	-
		1) Accoustic enclosure to maintain 75dB at 1 mtr distance @ 75% load, from enclosure in all the direction.		-			-	-
		2) Installation complete with AVM mounting, leveling and commissioning of D.G. Set and co-ordination with other agencies etc. complete with attached and allied accessories like silencer, fuel tank and batteries etc.		-			-	-
		3) All DG Sets in the out door installation irrespective of capacity has to be with acoustic hoods.		-			-	-
		4) Vendor / supplier to check, verify and confirm to Owner / PMC the size of the exhaust pipe for the DG sets as per site requirement based on back-pressure calculations before quoting and supply, irrespective of what is mentioned in this BOQ / Specifications.		-			-	-
		5) Vendor / supplier to check, verify and confirm to Owner / PMC the ventilation requirement being provided for the DG Set area.		-			-	-
		Civil foundation as per the manufacturer recomendation is also in the scope. Price of civil work included in the items.		-			-	-
				-			-	-
2.2		HSD TANK		-			-	-
2.2.1	NSR	Design, supply, installation, testing & commisioning of 30 KL underground MS diesel tank including all realted civil works foundation, fencing, platform, for unloading of diesel. Flame proof push buttons, pumps (one working & one standby) for supplying of diesel from this UG tank to day tanks of all the DG sets complete with cabling, earthing, piping, float switches etc. Extinguishers shall be as per fire norms. including all necessary approvals from chief controller of explosives. (Common header for this HSD tank and existing HSD tank to be considered to fill all DG sets).	Set	1		2346914	-	23,46,914
				-			-	-
		Total Carried to Summary		-			-	6,91,84,706
				-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
				-			-	-
3.0		HT CABLING & SUBSTATION AUXILLARIES		-			-	-
				-			-	-
3.1		Supply & Testing of 33KV 3C XLPE earthed / unearthed cables including all accessories, supports etc. as specified and shown on drawings complete, confirming to IS : 7098 AND IS : 1255 as amended up to date and additional specifications complete in all respects as required at site..		-			-	-
3.1.1	NSR	3 C 300 sqmm XLPE AL	meter	400		1677	-	6,70,800
3.2		HT Cable Terminations		-			-	-
3.2.1		Supply, Installation & testing of Indoor Type Heat shrinkable cable end terminations with glands, lugs, compound etc. as specified for the above XLPE cables.		-			-	-
3.2.1.2	NSR	33KV, 3 C 300 sqmm XLPE AL	Each	6		18239	-	1,09,434
3.2.2		Supply, Installation & testing of Outdoor Type Heat shrinkable cable end terminations with glands, lugs, compound etc. as specified for the above XLPE cables.		-			-	-
3.2.2.1	NSR	33KV, 3 C 300 sqmm XLPE AL	Each	10		29582	-	2,95,820
3.3		Supply & Testing of 11KV 3C XLPE earthed / unearthed cables, confirming to IS : 7098 AND IS : 1255 including all accessories, supports etc. as specified and shown on drawings complete.		-			-	-
3.3.1	NSR	3 C 400 sqmm XLPE AL	meter	2,100		1737	-	36,47,700
3.3.2	NSR	3 C 300 sqmm XLPE AL	meter	650		1419	-	9,22,350
3.3.3	NSR	3 C 185sqmm XLPE AL	meter	600		1046	-	6,27,600
3.3.4	NSR	1 C 185sqmm XLPE AL	meter	600		1720	-	10,32,000
3.3.5	NSR	3 C 150sqmm XLPE AL	meter	1,200		809	-	9,70,800
3.4		HT Cable Terminations		-			-	-
3.4.1		Supply, Installation & testing of Indoor Type Heat shrinkable cable end terminations with glands, lugs, compound etc. as specified for the above XLPE cables.		-			-	-
3.4.1.1	NSR	11KV, 3 C 400 sqmm XLPE AL	Each	16		6195	-	99,120
3.4.1.2	NSR	11KV, 3 C 300 sqmm XLPE AL	Each	22		5865	-	1,29,030
3.4.1.3	NSR	11KV, 3 C 185 sqmm XLPE AL	Each	6		5498	-	32,988
3.4.1.4	NSR	11KV, 1 C 185 sqmm XLPE AL	Each	24		5498	-	1,31,952
3.4.1.5	NSR	11KV, 3 C 150 sqmm XLPE AL	Each	18		2007	-	36,126
3.4.2		Supply, Installation & testing of Outdoor Type Heat shrinkable cable end terminations with glands, lugs, compound etc. as specified for the above XLPE cables.		-			-	-
3.4.2.1	NSR	11KV, 3 C 300 sqmm XLPE AL	Each	8		8806	-	70,448
3.4.2.2	NSR	11KV, 3 C 185 sqmm XLPE AL	Each	6		7830	-	46,980
3.4.2.3	NSR	11KV, 1 C 185 sqmm XLPE AL	Each	2		2915	-	5,830
				-			-	-
3.5		Cable laying underground		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
3.5.1	NSR	Laying cables directly in ground as specified complete with: i) excavation in all soils upto 1.5m ii) sand filling below & above the pipe upto 300mm iii) laying of 450mm / 600mm dia hume pipe for cable pulling iv) back filling v) cable markers (@ 50m CC)	CUM	1,875		464	-	8,70,000
3.6	NSR	Supply, Installation & Testing of Soak Pits for transformers complete with necessary materials (pipe, civil work, pebbels etc.) as per IS 10028 Part II	Each	3		8621	-	25,863
3.7	8.1	Laying of one number PVC insulated and PVC sheathed/XLPE power cable of 11KV grade of following size direct in ground including excavation, sand cushioning, protective covering & refilling the trench etc as required.		-			-	-
3.7.1	8.1.2	Above 120 sqmm and upto 400sqmm	meter	100	482		48,200	-
				-			-	-
3.8	8.2	Laying of one number additional PVC insulated and PVC sheathed/XLPE power cable of 11KV grade of following size direct in ground in the same trench in one tier horizontal formation including excavation, sand cushioning, protective covering & refilling the trench etc as required.		-			-	-
3.8.1	8.2.2	Above 120 sqmm and upto 400sqmm	meter	350	343		1,20,050	-
				-			-	-
3.9	8.3	Laying of one number PVC insulated and PVC sheathed/XLPE power cable of 11KV grade of following size in existing RCC/HUME/METAL pipe as required		-			-	-
3.9.1	8.3.2	Above 120 sqmm and upto 400sqmm	meter	1,000	112		1,12,000	-
				-			-	-
3.10		Laying of one number PVC insulated and PVC sheathed/XLPE power cable of 11KV grade of following size in existing Cable Trench as required		-			-	-
3.10.1	NSR	Above 120 sqmm and upto 400sqmm	meter	1,600		79	-	1,26,400
				-			-	-
				-			-	-
		Total Carried to Summary		-			2,80,250	98,51,241
				-			-	-
4.0		LT PANELS and MV PANELS		-			-	-
		LT Panels		-			-	-
4.1	NSR	IPD - MAIN LT PANEL	JOB	1		21026700	-	2,10,26,700
				-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		Supplying, Installation, testing, commissioning of Compartmentalized cubical panel board fabricated with CRCA sheet steel of 2mm thick for frame work and covers, 3mm thick for gland plates i/c cleaning & finishing complete with 7 tank process, powder coating in approved shade along with bottom base MS channel of section not less than 100mm x 50mm x5mm thick, fabrication shall be done in transportable sections, free standing type totally enclosed dust and vermin proof having independent compartments with door having locking and sealing arrangement having suitable space for mounting of Equipment as per SLD, provision for Top/bottom cable entry as per site and including the lugs, panel wiring between busbars and meter, making solid connections between main busbar & all switchgear with required size of Aluminum busbar & control wiring with not less than 2.5Sqmm cu FRLS PVC wires, loop earthing, powder coating with approved shade, providing ventilation arrangement, gaskets, easily openable knobs, lettering etc,complete as required with following switchgear: (This Shall be TTA Panel- IEC 61439)		-			-	-
		Supplying, Installation, testing, commissioning of gas based fire suppression system in all compartment of LT panels complete with : i) Heat sensing cable with sensors mounted in an encapsulation at regular intervals, pinpoint sensor location via individual address, constant sensor monitoring via control unit & including necessary connection box, fixing accessories etc. Cable shall detect fixed as well as rate of rise of temperature. ii) Cable connection box & controller (Controller shall have provision to give signal to fire alarm panel) iii) Fire suppression gas cylinders to extinguish fire with necessary control panel to receive command from fire panel for Gas release, necessary piping & nozzels in LT panel compartments with all fixing accessories. iv) all necessary power & control cabling. v) Upto 200A Thermal magnetic MCCB with O/L and S/C protection with variable current above 200A microprocessor based MCCB with O/L, S/c with inbuilt EFR		-			-	-
				-			-	-
		INCOMERS:		-			-	-
		3 Nos 4000A,4P EDO ACB of short circuit capacity of 65 KA ,Electrically operated fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories for ACB.		-			-	-
		ACB should have I _{cw} =I _{cs} =I _{cu} for 1 sec.		-			-	-
		lockable trip push button		-			-	-
		Microprocessor release for overcurrent & short circuit protection, Earth Fault protection		-			-	-
		Independent manual spring closing mechanism		-			-	-
		Phase barrier		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		Aux contact block		-			-	-
		Micro PLC for braher control with Ethernet Output 1 set, 01 OFC to 1 Ethernet Converter-1 Set, Power Supply for Micro PLC - 1 No, necessary cabling, accessories, terminations, communication cabling etc.		-			-	-
		LED Type Indicating lamps R,Y,B with 2A back up MCB		-			-	-
		LED Type Indicating lamps On,Off,Trip -with 2A back up MCB, TPN MCB 6 Amps		-			-	-
		Transient voltage surge suppressor (TVSS) - 1 No.		-			-	-
		Shunt trip coil		-			-	-
		Digital type Load Manager with RS 485 port 96sqmm With Built-in Selector Switch CTs		-			-	-
		One set of dual core ratio CT of 4000/2000/5/5A for Capacitor Panel.		-			-	-
		One set of CT suitable for AHF-class of accuracy should be 0.5, burden 15VA, secondary ratio 4000/1 Amp (for Active Hermonic filter).		-			-	-
		BUS COUPLER		-			-	-
		2 Nos 4000A, 4P EDO ACB of short circuit capacity of 65KA , Electrically operated fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories for ACB.		-			-	-
		Independent manual spring closing mechanism - 2 No		-			-	-
		LED Type Indicating lamps On,Off,Trip - with 2A back up MCB for test terminal block,fuses circuit contactor for positive electrical of breaker etc as required- 2 set		-			-	-
				-			-	-
		With Electrical interlock through advance contacts in ACB incomers and Mechanical (castel key) should be provided to insure that only one supply is available at a time on each section of bus and to eliminate any possibility of accidently approaching two supplies at one bus section		-			-	-
		Digital Ammeter with CT		-			-	-
		BUSBARS:-		-			-	-
		4000 Amp capacity extensible 4P Aluminium Alloy Busbars of high conductivity, with short circuit withstand capacity of 65KA for 1 second, entire panel shall have common earth busbar with 2 nos. earth stud with heat shrinkable colourd sleeves. DMC/SMC busbar supports and Temperature rise of 45 deg C above ambient Temperature.		-			-	-
				-			-	-
		OUTGOING with 2 nos Potential free contacts for ON/OFF command:		-			-	-
		7 Nos of 1600A 4P EDO ACB of short circuit capacity of 65KA, fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories		-			-	-
		ACB should have Icw=Ics=Icu for 1 sec.		-			-	-
		lockable trip push button		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		Microprocessor release for overcurrent & short circuit protection, Earth Fault protection		-			-	-
		Independent manual spring closing mechanism		-			-	-
		Phase barrier		-			-	-
		Aux contact block		-			-	-
		LED Type Indicating lamps R,Y,B with 2A back up MCB		-			-	-
		LED Type Indicating lamps On,Off,Trip -with 2A back up MCB, TPN MCB 6 Amps		-			-	-
		Shunt trip coil		-			-	-
		Digital type Load Manager with RS 485 & RS232 port 96sqmm With Builtin Selector Switch CTs		-			-	-
		12 No of 1000A 4P EDO ACB of short circuit capacity of 65KA, fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories		-			-	-
		ACB should have l _{cw} =l _{cs} =l _{cu} for 1 sec.		-			-	-
		lockable trip push button		-			-	-
		Microprocessor release for overcurrent & short circuit protection, Earth Fault protection		-			-	-
		Independent manual spring closing mechanism		-			-	-
		Phase barrier		-			-	-
		Aux contact block		-			-	-
		LED Type Indicating lamps R,Y,B with 2A back up MCB		-			-	-
		LED Type Indicating lamps On,Off,Trip -with 2A back up MCB, TPN MCB 6 Amps		-			-	-
		Shunt trip coil		-			-	-
		Digital type Load Manager with RS 485 & RS232 port 96sqmm With Builtin Selector Switch CTs		-			-	-
				-			-	-
		4 No of 800A 4P EDO ACB of short circuit capacity of 65KA, fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories		-			-	-
		ACB should have l _{cw} =l _{cs} =l _{cu} for 1 sec.		-			-	-
		lockable trip push button		-			-	-
		Microprocessor release for overcurrent & short circuit protection, Earth Fault protection		-			-	-
		Independent manual spring closing mechanism		-			-	-
		Phase barrier		-			-	-
		Aux contact block		-			-	-
		LED Type Indicating lamps R,Y,B with 2A back up MCB		-			-	-
		LED Type Indicating lamps On,Off,Trip -with 2A back up MCB, TPN MCB 6 Amps		-			-	-
		Shunt trip coil		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		Digital type Load Manager with RS 485 & RS232 port 96sqmm With Builtin Selector Switch CTs		-			-	-
				-			-	-
		7 No of 1250A 4P EDO ACB of short circuit capacity of 65KA, fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories		-			-	-
		ACB should have Icw=Ics=Icu for 1 sec.		-			-	-
		lockable trip push button		-			-	-
		Microprocessor release for overcurrent & short circuit protection, Earth Fault protection		-			-	-
		Independent manual spring closing mechanism		-			-	-
		Phase barrier		-			-	-
		Aux contact block		-			-	-
		LED Type Indicating lamps R,Y,B with 2A back up MCB		-			-	-
		LED Type Indicating lamps On,Off,Trip -with 2A back up MCB, TPN MCB 6 Amps		-			-	-
		Shunt trip coil		-			-	-
		Digital type Load Manager with RS 485 & RS232 port 96sqmm With Builtin Selector Switch CTs		-			-	-
		17 Nos 630A 4P MOTORISED MCCB of short circuit capacity of 65KA, fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories		-			-	-
		All MCCBs shall have Ics=Icu=100%		-			-	-
		Independent manual spring closing mechanism with padlock facility.		-			-	-
		Extended rotary operating mechanism		-			-	-
		Spreader Links		-			-	-
		Phase Barrier		-			-	-
		Aux Contact Block		-			-	-
		Digital Type Load Manager Meter+RS 485 PORT 96sqmm With Builtin Selector Switch CTS		-			-	-
		LED Type Indicating lamps On with 2A back up MCB		-			-	-
		TPN MCB 6 Amps		-			-	-
		Shunt trip coil-220V AC		-			-	-
				-			-	-
		5 Nos 200A 4P MOTORISED MCCB of short circuit capacity of 65KA, fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories		-			-	-
		All MCCBs shall have Ics=Icu=100%		-			-	-
		Independent manual spring closing mechanism with padlock facility.		-			-	-
		Extended rotary operating mechanism		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		Spreader Links		-			-	-
		Phase Barrier		-			-	-
		Aux Contact Block		-			-	-
		Digital Type Load Manager Meter+RS 485 PORT 96sqmm With Builtin Selector Switch CTS		-			-	-
		LED Type Indicating lamps On,Off,Trip -with 2A back up MCB		-			-	-
		TPN MCB 6 Amps		-			-	-
		Shunt trip coil-220V AC		-			-	-
				-			-	-
		2 Nos 160A 4P MOTORISED MCCB of short circuit capacity of 65KA, fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories		-			-	-
		All MCCBs shall have Ics=Icu=100%		-			-	-
		Independent manual spring closing mechanism with padlock facility.		-			-	-
		Extended rotary operating mechanism		-			-	-
		Spreader Links		-			-	-
		Phase Barrier		-			-	-
		Aux Contact Block		-			-	-
		Digital Type Load Manager Meter+RS 485 PORT 96sqmm With Builtin Selector Switch CTS		-			-	-
		LED Type Indicating lamps On with 2A back up MCB		-			-	-
		TPN MCB 6 Amps		-			-	-
		Shunt trip coil-220V AC		-			-	-
				-			-	-
				-			-	-
4.1.1	NSR	Utility - MAIN LT PANEL	JOB	1		11667512	-	1,16,67,512
				-			-	-
		Supplying, Installation, testing, commissioning of Compartmentalized cubical panel board fabricated with CRCA sheet steel of 2mm thick for frame work and covers, 3mm thick for gland plates i/c cleaning & finishing complete with 7 tank process, powder coating in approved shade along with bottom base MS channel of section not less than 100mm x 50mm x5mm thick, fabrication shall be done in transportable sections, free standing type totally enclosed dust and vermin proof having independent compartments with door having locking and sealing arrangement having suitable space for mounting of Equipment as per SLD, provision for Top/bottom cable entry as per site and including the lugs, panel wiring between busbars and meter, making solid conections between main busbar & all switchgear with required size of Aluminum busbar & control wiring with not less than 2.5Sqmm cu FRLS PVC wires, loop earthing, powder coating with approved shade, providing ventilation arrangement, gaskets, easily openable knobs, lettering etc,complete as required with following switchgar: (This Shall be TTA Panel- IEC 61439)		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		Supplying, Installation, testing, commissioning of gas based fire suppression system in all compartment of LT panels complete with : i) Heat sensing cable with sensors mounted in an encapsulation at regular intervals, pinpoint sensor location via individual address, constant sensor monitoring via control unit & including necessary connection box, fixing accessories etc. Cable shall detect fixed as well as rate of rise of temperature. ii) Cable connection box & controller (Controller shall have provision to give signal to fire alarm panel) iii) Fire suppression gas cylinders to extinguish fire with necessary control panel to receive command from fire panel for Gas release, necessary piping & nozzels in LT panel compartments with all fixing accessories. iv) all necessary power & control cabling. v) Upto 200A Thermal magnetic MCCB with O/L and S/C protection with variable current above 200A microprocessor based MCCB with O/L, S/c with inbuilt EFR		-			-	-
				-			-	-
		INCOMERS:-		-			-	-
		3 Nos 4000A,4P EDO ACB of short circuit capacity of 65KA ,Electrically operated fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories for ACB.		-			-	-
		ACB should have Icw=Ics=Icu for 1 sec.		-			-	-
		lockable trip push button		-			-	-
		Microprocessor release for overcurrent & short circuit protection, Earth Fault protection		-			-	-
		Independent manual spring closing mechanism		-			-	-
		Phase barrier		-			-	-
		Aux contact block		-			-	-
		Micro PLC for braher control with Ethernet Output 1 set, 01 OFC to 1 Ethernet Converter-1 Set, Power Supply for Micro PLC - 1 No, necessary cabling, accessories, terminations, communication cabling etc.		-			-	-
		LED Type Indicating lamps R,Y,B with 2A back up MCB		-			-	-
		LED Type Indicating lamps On,Off,Trip -with 2A back up MCB, TPN MCB 6 Amps		-			-	-
		Transient voltage surge suppressor (TVSS) - 1 No.		-			-	-
		Shunt trip coil		-			-	-
		Digital type Load Manager with RS 485 & RS232 port 96sqmm With Built in Selector Switch CTs		-			-	-
		One set of dual core ratio CT of 4000/2000/5/5A for Capacitor Panel.		-			-	-
		One set of CT suitable for AHF-class of accuracy should be 0.5, burden 15VA, secondary ratio 4000/1 Amp (for Active Hermonic filter).		-			-	-
		BUS COUPLER :-		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		2 Nos 4000A, 4P EDO ACB of short circuit capacity of 65KA ,Electrically operated fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories for ACB.		-			-	-
		Independent manual spring closing mechanism- 2 No		-			-	-
		LED Type Indicating lamps ON with 2A back up MCB for test terminal block,fuses circuit contactor for positive electrical of breaker etc as required- 2 set		-			-	-
				-			-	-
		With Electrical interlock through advance contacts in ACB incomers and Mechanical (castel key) should be provided to insure that only one supply is available at a time on each section of bus and to eliminate any possibility of accidently approaching two supplies at one bus section		-			-	-
				-			-	-
		BUSBARS:-		-			-	-
		4000 Amp capacity extensible 4P Aluminium Alloy Busbars of high conductivity, with short circuit withstand capacity of 65KA for 1 second, entire panel shall have common earth busbar with 2 nos. earth stud with heat shrinkable colourd sleeves. DMC/SMC busbar supports, Temperature rise of 45 deg C above ambient Temperature.		-			-	-
				-			-	-
		OUTGOING with 2 nos Potential free contacts for ON/OFF command:		-			-	-
		5 Nos of 2000A EDO 4P ACB of short circuit capacity of 65KA, fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories		-			-	-
		ACB should have Icw=Ics=Icu for 1 sec.		-			-	-
		lockable trip push button		-			-	-
		Microprocessor release for overcurrent & short circuit protection, Earth Fault protection		-			-	-
		Independent manual spring closing mechanism		-			-	-
		Phase barrier		-			-	-
		Aux contact block		-			-	-
		LED Type Indicating lamps R,Y,B with 2A back up MCB		-			-	-
		LED Type Indicating lamps On,Off,Trip -with 2A back up MCB, TPN MCB 6 Amps		-			-	-
		Shunt trip coil		-			-	-
		Digital type Load Manager with RS 485 & RS232 port 96sqmm With Built in Selector Switch CTs		-			-	-
				-			-	-
				-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		12 Nos of 1600A EDO 4P ACB of short circuit capacity of 65KA, fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories		-			-	-
		ACB should have l _{cw} =l _{cs} =l _{cu} for 1 sec.		-			-	-
		lockable trip push button		-			-	-
		Microprocessor release for overcurrent & short circuit protection, Earth Fault protection		-			-	-
		Independent manual spring closing mechanism		-			-	-
		Phase barrier		-			-	-
		Aux contact block		-			-	-
		LED Type Indicating lamps R,Y,B with 2A back up MCB		-			-	-
		LED Type Indicating lamps On,Off,Trip -with 2A back up MCB, TPN MCB 6 Amps		-			-	-
		Shunt trip coil		-			-	-
		Digital type Load Manager with RS 485 & RS232 port 96sqmm With Builtin Selector Switch CTs		-			-	-
				-			-	-
				-			-	-
		2 Nos of 1250A EDO 4P ACB of short circuit capacity of 65KA, fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories		-			-	-
		ACB should have l _{cw} =l _{cs} =l _{cu} for 1 sec.		-			-	-
		lockable trip push button		-			-	-
		Microprocessor release for overcurrent & short circuit protection, Earth Fault protection		-			-	-
		Independent manual spring closing mechanism		-			-	-
		Phase barrier		-			-	-
		Aux contact block		-			-	-
		LED Type Indicating lamps R,Y,B with 2A back up MCB		-			-	-
		LED Type Indicating lamps On,Off,Trip -with 2A back up MCB, TPN MCB 6 Amps		-			-	-
		Shunt trip coil		-			-	-
		Digital type Load Manager with RS 485 & RS232 port 96sqmm With Builtin Selector Switch CTs		-			-	-
				-			-	-
		2 No of 800A EDO 4P ACB of short circuit capacity of 65KA, fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories		-			-	-
		ACB should have l _{cw} =l _{cs} =l _{cu} for 1 sec.		-			-	-
		lockable trip push button		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		Microprocessor release for overcurrent & short circuit protection, Earth Fault protection		-			-	-
		Independent manual spring closing mechanism		-			-	-
		Phase barrier		-			-	-
		Aux contact block		-			-	-
		LED Type Indicating lamps R,Y,B with 2A back up MCB		-			-	-
		LED Type Indicating lamps On,Off,Trip -with 2A back up MCB, TPN MCB 6 Amps		-			-	-
		Shunt trip coil		-			-	-
		Digital type Load Manager with RS 485 & RS232 port 96sqmm With Builtin Selector Switch CTs		-			-	-
				-			-	-
				-			-	-
		9 Nos 630A 4P MOTORISED MCCB of short circuit capacity of 65KA, fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories		-			-	-
		All MCCBs shall have Ics=Icu=100%		-			-	-
		Independent manual spring closing mechanism with padlock facility.		-			-	-
		Extended rotary operating mechanism		-			-	-
		Spreader Links		-			-	-
		Phase Barrier		-			-	-
		Aux Contact Block		-			-	-
		Digital Type Load Manager Meter+RS 485 PORT 96sqmm With Builtin Selector Switch CTS		-			-	-
		LED Type Indicating lamps On with 2A back up MCB		-			-	-
		TPN MCB 6 Amps		-			-	-
		Shunt trip coil-220V AC		-			-	-
				-			-	-
		2 Nos 250A 4P MOTORISED MCCB of short circuit capacity of 65KA, fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories		-			-	-
		All MCCBs shall have Ics=Icu=100%		-			-	-
		Independent manual spring closing mechanism with padlock facility.		-			-	-
		Extended rotary operating mechanism		-			-	-
		Spreader Links		-			-	-
		Phase Barrier		-			-	-
		Aux Contact Block		-			-	-
		Digital Type Load Manager Meter+RS 485 PORT 96sqmm With Builtin Selector Switch CTS		-			-	-
		LED Type Indicating lamps On,Off,Trip -with 2A back up MCB		-			-	-
		TPN MCB 6 Amps		-			-	-
		Shunt trip coil-220V AC		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
				-			-	-
				-			-	-
4.1.2	NSR	IPD - ACB Isolator Panel	JOB	3		546978	-	16,40,934
				-			-	-
		Supplying, Installation, testing, commissioning of Compartmentalized cubical panel board fabricated with CRCA sheet steel of 2mm thick for frame work and covers, 3mm thick for gland plates i/c cleaning & finishing complete with 7 tank process, powder coating in approved shade along with bottom base MS channel of section not less than 100mm x 50mm x5mm thick, fabrication shall be done in transportable sections, free standing type totally enclosed dust and vermin proof having independent compartments with door having locking and sealing arrangement having suitable space for mounting of Equipment as per SLD, provision for Top/bottom cable entry as per site and including the lugs, panel wiring between busbars and meter, making solid connections between main busbar & all switchgear with required size of Aluminum busbar & control wiring with not less than 2.5Sqmm cu FRLS PVC wires, loop earthing, powder coating with approved shade, providing ventilation arrangement, gaskets, easily openable knobs, lettering etc,complete as required with following switchgear: (This Shall be TTA Panel- IEC 61439)		-			-	-
				-			-	-
		INCOMERS:-		-			-	-
		1 Nos 4000A,4P ACB Isolator of short circuit capacity of 65KA ,with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories for ACB.		-			-	-
		ACB should have Icw=Ics=Icu for 1 sec.		-			-	-
		lockable trip push button		-			-	-
		Independent manual spring closing mechanism		-			-	-
		Phase barrier		-			-	-
		Aux contact block		-			-	-
		LED Type Indicating lamps R,Y,B with 2A back up MCB		-			-	-
		LED Type Indicating lamps On,Off,Trip -with 2A back up MCB, TPN MCB 6 Amps		-			-	-
		Shunt trip coil		-			-	-
				-			-	-
4.1.3	NSR	MAIN LT PANEL-ACAD	JOB	1		4204386	-	42,04,386
				-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		Supplying, Installation, testing, commissioning of Compartmentalized cubical panel board fabricated with CRCA sheet steel of 2mm thick for frame work and covers, 3mm thick for gland plates i/c cleaning & finishing complete with 7 tank process, powder coating in approved shade along with bottom base MS channel of section not less than 100mm x 50mm x5mm thick, fabrication shall be done in transportable sections, free standing type totally enclosed dust and vermin proof having independent compartments with door having locking and sealing arrangement having suitable space for mounting of Equipment as per SLD, provision for Top/bottom cable entry as per site and including the lugs, panel wiring between busbars and meter, making solid connections between main busbar & all switchgear with required size of Aluminum busbar & control wiring with not less than 2.5Sqmm cu FRLS PVC wires, loop earthing, powder coating with approved shade, providing ventilation arrangement, gaskets, easily openable knobs, lettering etc,complete as required with following switchgear: (This Shall be TTA Panel)		-			-	-
		Supplying, Installation, testing, commissioning of gas based fire suppression system in all compartment of LT panels complete with : i) Heat sensing cable with sensors mounted in an encapsulation at regular intervals, pinpoint sensor location via individual address, constant sensor monitoring via control unit & including necessary connection box, fixing accessories etc. Cable shall detect fixed as well as rate of rise of temperature. ii) Cable connection box & controller (Controller shall have provision to give signal to fire alarm panel) iii) Fire suppression gas cylinders to extinguish fire with necessary control panel to receive command from fire panel for Gas release, necessary piping & nozzels in LT panel compartments with all fixing accessories. iv) all necessary power & control cabling.		-			-	-
		INCOMERS:		-			-	-
		2 Nos 1600A 4P EDO ACB of short circuit capacity of 36KA (ICS=ICU up to 415V),Electrically operated fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories for ACB.		-			-	-
		Microprocessor release for overcurrent & short circuit protection, Restricted earth fault relay with 4 Nos. PS class cast resin CT's of suitable burden & ratio (1 No. at transformer & 3 Nos. at incomer) -2sets		-			-	-
		Independent manual spring closing mechanism-2sets		-			-	-
		LED Type Indicating lamps R,Y,B -6Nos with 2A back up MCB		-			-	-
		LED Type Indicating lamps On,Off,Trip -6Nos with 2A back up MCB, TPN MCB 6 Amps-2Nos		-			-	-
		Micro PLC for braher control with Ethernet Output 1 set, 01 OFC to 1 Ethernet Converter-1 Set, Power Supply for Micro PLC - 1 No, necessary cabling, accessories, terminations, communication cabling etc.		-			-	-
		Shunt trip coil-220V AC-2Nos		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		Transient voltage surge suppressor (TVSS)		-			-	-
		Digital Load manager with RS 485 & RS232 port-2 96sqmm With Built-in Selector Switch CTs , CL-2Nos		-			-	-
		Lockable trip push button		-			-	-
		Dual Ratio CT 1600A/800A/5A/5A for APFC current sensing with Selector switch		-			-	-
		BUS COUPLER		-			-	-
		1 Nos 1600A 4P EDO ACB of short circuit capacity of 36KA (ICS=ICU up to 415V),Electrically operated fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories for ACB.		-			-	-
		Independent manual spring closing mechanism-1No		-			-	-
		LED Type Indicating lamps On,Off,Trip -with 2A back up MCB for test terminal block,fuses circuit contactor for positive electrical interlocking of breaker etc as required-1set		-			-	-
				-			-	-
		INTERLOCKING AND AUTO CHANGE OVER		-			-	-
		Electrical through advance contacts in ACB incomers and Mechanical (castel key) interlocking should be provided to insure that only one supply is available at a time on each section of bus and to eliminate any possibility of accidently approaching two supplies at one bus section		-			-	-
				-			-	-
		BUSBARS:		-			-	-
		1600 Amp capacity extensible 4P Aluminium Alloy Busbars of high conductivity, with short circuit withstand capacity of 36KA for 1 second, entire panel shall have common earth busbar with 2 nos. earth stud with heat shrinkable colour sleeves. DMC/SMC busbar supports, Temperature rise of 45 deg C above ambient Temperature.		-			-	-
				-			-	-
		OUTGOING with 2nos Potential free contacts for ON/OFF command:		-			-	-
		6Nos of 630A 4P motorised MCCB of short circuit capacity of 36KA, fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories		-			-	-
		All MCCBs shall have Ics=Icu=100%		-			-	-
		Independent manual spring closing mechanism with padlock facility.		-			-	-
		Extended rotary operating mechanism		-			-	-
		Spreader Links		-			-	-
		Phase Barrier		-			-	-
		Aux Contact Block		-			-	-
		Digital Type Load Manager Meter+RS 485 PORT 96sqmm With Built-in Selector Switch CTS		-			-	-
		LED Type Indicating lamps On,Off,Trip -with with 2A back up MCB		-			-	-
		TPN MCB 6 Amps		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		Shunt trip coil-220V AC		-			-	-
		8Nos 200A 4P MCCB of short circuit capacity of 36KA, motorised safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories		-			-	-
		Thermal magnetic release for overcurrent & short circuit protection & external ELR-8set		-			-	-
		Independent manual spring closing mechanism-8set		-			-	-
		Extended Rotary Handle Mechanism -8Nos		-			-	-
		Spreader Links For TPN MCCB 200A -16sets		-			-	-
		Phase Barrier For MCCB 200A-8No		-			-	-
		Aux Contact Block For MCCB 200A-8set		-			-	-
		LED Type Indicating lamps On,Off,Trip -with 2A back up MCB-8Nos		-			-	-
		TPN MCB 6 Amps-8Nos		-			-	-
		Shunt trip coil-220V AC-8Nos		-			-	-
				-			-	-
		6Nos 250A 4P MCCB of short circuit capacity of 36KA, fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories		-			-	-
		All MCCBs shall have Ics=Icu=100%		-			-	-
		Independent manual spring closing mechanism with padlock facility.		-			-	-
		Extended rotary operating mechanism		-			-	-
		Spreader Links		-			-	-
		Phase Barrier		-			-	-
		Aux Contact Block		-			-	-
		Digital Type Load Manager Meter+RS 485 PORT 96sqmm With Built in Selector Switch CTS		-			-	-
		LED Type Indicating lamps On,Off,Trip -with with 2A back up MCB		-			-	-
		TPN MCB 6 Amps		-			-	-
		Shunt trip coil-220V AC		-			-	-
		10Nos 400A 4P MCCB of short circuit capacity of 36KA, fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories		-			-	-
		All MCCBs shall have Ics=Icu=100%		-			-	-
		Independent manual spring closing mechanism with padlock facility.		-			-	-
		Extended rotary operating mechanism		-			-	-
		Spreader Links		-			-	-
		Phase Barrier		-			-	-
		Aux Contact Block		-			-	-
		Digital Type Load Manager Meter+RS 485 PORT 96sqmm With Built in Selector Switch CTS		-			-	-
		LED Type Indicating lamps On,Off,Trip -with with 2A back up MCB		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		TPN MCB 6 Amps		-			-	-
		Shunt trip coil-220V AC		-			-	-
		2Nos 100A 4P MCCB of short circuit capacity of 36KA, fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories		-			-	-
		All MCCBs shall have Ics=Icu=100%		-			-	-
		Independent manual spring closing mechanism with padlock facility.		-			-	-
		Extended rotary operating mechanism		-			-	-
		Spreader Links		-			-	-
		Phase Barrier		-			-	-
		Aux Contact Block		-			-	-
		Digital Type Load Manager Meter+RS 485 PORT 96sqmm With Builtin Selector Switch CTS		-			-	-
		LED Type Indicating lamps On,Off,Trip -with 2A back up MCB		-			-	-
		TPN MCB 6 Amps		-			-	-
		Shunt trip coil-220V AC		-			-	-
				-			-	-
4.1.4	NSR	IPD & UTILITY BLOCK- 875KVAR CAPACITOR PANEL	JOB	6		2721286	-	1,63,27,716
				-			-	-
		Supplying, Installation, testing, commissioning of Compartmentalized cubical panel board fabricated with CRCA sheet steel of 2mm thick for frame work and covers, 3mm thick for gland plates i/c cleaning & finishing complete with 7 tank process, powder coating in approved shade along with bottom base MS channel of section not less than 100mm x 50mm x5mm thick, fabrication shall be done in transportable sections, free standing type totally enclosed dust and vermin proof having independent compartments with door having locking and sealing arrangement having suitable space for mounting of Equipment as per SLD, provision for Top/bottom cable entry as per site and including the lugs, panel wiring between busbars and meter, making solid conections between main busbar & all switchgear with required size of Aluminum busbar & control wiring with not less than 2.5Sqmm cu FRLS PVC wires, loop earthing, powder coating with approved shade, providing ventilation arrangement, gaskets, easily openable knobs, lettering etc,complete as required with following switchgar: (TTA Panel as per IEC- 61439)		-			-	-
				-			-	-
		INCOMERS:		-			-	-
		1 Nos of 1600A 4P ACB of short circuit capacity of 50KA, fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories		-			-	-
		ACB should have Icw=Ics=Icu for 1 sec.		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		lockable trip push button		-			-	-
		Microprocessor release for overcurrent & short circuit protection, Earth Fault protection		-			-	-
		Independent manual spring closing mechanism		-			-	-
		Phase barrier		-			-	-
		Aux contact block		-			-	-
		LED Type Indicating lamps R,Y,B with 2A back up MCB		-			-	-
		LED Type Indicating lamps On,Off,Trip -with 2A back up MCB, TPN MCB 6 Amps		-			-	-
		Shunt trip coil		-			-	-
		Digital Ammeter 96 sqmm With Built in Selector Switch for current rating selection , CTs CL-1-1Nos		-			-	-
		Digital Voltmeter 96 sqmm With Built in Selector Switch for current rating selection , CTs CL-1-1Nos		-			-	-
		Intelligent microprocessor based APFC realy with current sensing of less than 1% & CT of double ration with selector switch 14 steps		-			-	-
		Day/Night selector switch		-			-	-
		BUSBARS:		-			-	-
		1600 Amp capacity extensible TPN Aluminium Alloy Busbars of high conductivity, with short circuit withstand capacity of 50KA for 1 second, entire panel shall have common earth busbar with 2 nos. earth stud with heat shrinkable colourd sleeves. DMC/SMC busbar supports, Temperature rise of 45 deg C above ambient Temperature.		-			-	-
				-			-	-
		OUTGOING:		-			-	-
		5 Nos 100KVAR capacitor Bank , 525V, MPP type with 14% Detuned reactor, heavy duty, Thyristorised switching module with suitable fuse Backup.		-			-	-
		LED Type Indicating lamps On,Off,Trip -with 2A back up MCB-2Nos		-			-	-
		TPN MCB 6 Amps- 2 Nos		-			-	-
		6 Nos. 50 KVAR capacitor Bank ,525V, MPP type with 14% Detuned reactor, heavy duty, Thyristorised switching module with suitable fuse Backup.		-			-	-
		LED Type Indicating lamps On with-with 2A back up MCB- 6 Nos		-			-	-
		TPN MCB 6 Amps-1Nos		-			-	-
				-			-	-
		3 Nos. 25 KVAR capacitor Bank ,525V, MPP type with 14% Detuned reactor, heavy duty, Thyristorised switching module with suitable fuse Backup.		-			-	-
		LED Type Indicating lamps On with -with 2A back up MCB- 4 Nos		-			-	-
		TPN MCB 6 Amps-2Nos		-			-	-
		1Nos Thyristorised switching module with suitable fuse Backup for 100KVAR as a spare feeder.		-			-	-
		LED Type Indicating lamps On with -with 2A back up MCB- 4 Nos		-			-	-
		TPN MCB 6 Amps-1 Nos		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		1 No Thyristorised switching module with suitable fuse Backup for 50 KVAR as a spare feeder.		-			-	-
		LED Type Indicating lamps On with 2A back up MCB- 2 No		-			-	-
		TPN MCB 6 Amps-1 No		-			-	-
				-			-	-
4.1.5	NSR	350KVAR CAPACITOR PANEL-Academic Block	JOB	2		884418	-	17,68,836
				-			-	-
		Supplying, Installation, testing, commissioning of Compartmentalized cubical panel board fabricated with CRCA sheet steel of 2mm thick for frame work and covers, 3mm thick for gland plates i/c cleaning & finishing complete with 7 tank process, powder coating in approved shade along with bottom base MS channel of section not less than 100mm x 50mm x5mm thick, fabrication shall be done in transportable sections, free standing type totally enclosed dust and vermin proof having independent compartments with door having locking and sealing arrangement having suitable space for mounting of Equipment as per SLD, provision for Top/bottom cable entry as per site and including the lugs, panel wiring between busbars and meter, making solid connections between main busbar & all switchgear with required size of Aluminum busbar & control wiring with not less than 2.5sqmm cu FRLS PVC wires, loop earthing, powder coating with approved shade, providing ventilation arrangement, gaskets, easily openable knobs, lettering etc,complete as required with following switchgear: (TTA panel as per IEC- 61439)		-			-	-
				-			-	-
		INCOMERS:		-			-	-
		1 Nos of 630A 4P MCCB of short circuit capacity of 36KA, fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories		-			-	-
		Microprocessor release for overcurrent, Earth fault & short circuit protection-1set		-			-	-
		Independent manual spring closing mechanism-1set		-			-	-
		Extended Rotary Handle Mechanism -1Nos		-			-	-
		Spreader Links For 3P MCCB 630A -2 sets		-			-	-
		Phase Barrier For MCCB 630A-1Nos		-			-	-
		Aux Contact Block For MCCB 630A-1set		-			-	-
		LED Type Indicating lamps R,Y,B -3Nos with 2A back up MCB		-			-	-
		LED Type Indicating lamps On,Off,Trip -3Nos with 2A back up MCB		-			-	-
		TPN MCB 6 Amps-1Nos		-			-	-
		Shunt trip coil-220V AC-1Nos		-			-	-
		Digital Ammeter 96sqmm With Builtin Selector Switch for current rating selection , CTs CL-1-1Nos		-			-	-
		Digital Voltmeter 96sqmm With Builtin Selector Switch for current rating selection , CTs CL-1-1Nos		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		Intelligent microprocessor based APFC realy with current sensing of less than 1% with selector switch 14 steps		-			-	-
		Day/Night selector switch		-			-	-
		BUSBARS:		-			-	-
		630 Amp capacity extensible TPN Aluminium Alloy Busbars of high conductivity, with short circuit withstand capacity of 36KA for 1 second, entire panel shall have common earth busbar with 2 nos. earth stud with heat shrinkable colourd sleeves. DMC/SMC busbar supports, Temperature rise of 45 deg C above ambient Temperature.		-			-	-
				-			-	-
		OUTGOING:		-			-	-
		2 Nos 100KVAR capacitor Bank , 525V, MPP type with 14% Detuned reactor, heavy duty, Thyristorised switching module with suitable fuse Backup.		-			-	-
		LED Type Indicating lamps On with 2A back up MCB-2Nos		-			-	-
		TPN MCB 6 Amps-2Nos		-			-	-
		2 No. 50KVAR capacitor Bank ,525V, MPP type with 14% Detuned reactor, heavy duty, Thyristorised switching module with suitable fuse Backup.		-			-	-
		LED Type Indicating lamps On with 2A back up MCB-1Nos		-			-	-
		TPN MCB 6 Amps-1Nos		-			-	-
		2 Nos.25KVAR capacitor Bank ,525V, MPP type with 14% Detuned reactor, heavy duty, Thyristorised switching module with suitable fuse Backup.		-			-	-
		LED Type Indicating lamps On with 2A back up MCB-2Nos		-			-	-
		TPN MCB 6 Amps-2Nos		-			-	-
		1Nos Thyristorised switching module with suitable fuse Backup for 100KVAR as a spare feeder.		-			-	-
		LED Type Indicating lamps On with 2A back up MCB-1Nos		-			-	-
		TPN MCB 6 Amps-1Nos		-			-	-
		1Nos Thyristorised switching module with suitable fuse Backup for 50KVAR as a spare feeder.		-			-	-
		LED Type Indicating lamps On with 2A back up MCB-1Nos		-			-	-
		TPN MCB 6 Amps-1Nos		-			-	-
				-			-	-
4.1.6		ACTIVE HARMONIC FILTER (AHF) 300Amps at 440V (IPD and Utility)	Set	6		884418	-	53,06,508
		Supply, installation, testing, supply and commissioning of LV cubicle type totally enclosed free standing type, powder coated, dust, damp and vermin proof Active harmonic filter of 3-phase/ 3-wire, 440V, 300A IGBT based AHF with 300 Amp module. It should eliminate the harmonic up to the 51th order and should have 3 level topology with IP 20 encloser. AHF shall have low losses (less then or equal 21W/ Amp) and As per technical Specifications required.		-			-	-
		INCOMER:		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		630A, 415 Volts, MCCB, 50 KA, Four Pole, with microprocessor based overload, Ics = 100% Icu as per IEC 60947-2, short circuit & Instantaneous Earth fault trip, Embedded Energy metering and communication capable, Power Quality Indicator (Total Harmonic Distortion for Current and Voltage)		-			-	-
		Indicating lamps with 6A protection MCBs to indicate OPEN, CLOSE, TRIP.		-			-	-
		R, Y & B Phase indicating lamps (LED type) with 6A control SP MCBs.		-			-	-
		Extension of incoming busbars for connection of multicore armoured aluminium cables.		-			-	-
		CT Position Closed Loop Control: Source sense (at mains) CT or Load sense CT, Automatic C.T.detection & calibration from AHF		-			-	-
		METERING:		-			-	-
		1 set of Multifunction meter display Current, Power factor and Voltage with RS 485 Port.		-			-	-
				-			-	-
		BUSBARS:		-			-	-
		630 Amps TPN busbars of aluminum with temperature rise of 40 degree celsius over and above Ambient temperature of 45 degree celsius.		-			-	-
				-			-	-
		OUTGOINGS:		-			-	-
		4Nos.60 Amp at 440V IGBT based Module step as per following details/ specification:		-			-	-
		60 Amp module with 12 IGBTs, 3 level topology .		-			-	-
		Internal fuse suitable for 60Amp module.		-			-	-
		"ON" and "OFF" LED indicating lamp ON Modules		-			-	-
		1Nos.60 Amp at 440V IGBT based Module step as per following details/ specification:		-			-	-
		60 Amp module with 12 IGBTs, 3 level topology in future.		-			-	-
		AHF PANEL as mentioned above		-			-	-
				-			-	-
		Note:-		-			-	-
		The AHF should be with compatible with Grid Power OR D.G. Power Supply.		-			-	-
				-			-	-
				-			-	-
4.2		MV Panel		-			-	-
4.2.1	NSR	UPS O/P Panel-1 (Centralized- IPD)	JOB	1		979663	-	9,79,663
				-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		Supplying, Installation, testing, commissioning of Compartmentalized cubical type panel board fabricated with CRCA sheet steel of 2mm thick for frame work and covers, 3mm thick for gland plates i/c cleaning & finishing complete with 7 tank process, powder coating in approved shade along with bottom base MS channel of section not less than 100mm x 50mm x5mm thick, fabrication shall be done in transportable sections, free standing type totally enclosed dust and vermin proof having independent compartments with door having locking and sealing arrangement having suitable space for mounting of Equipment as per SLD, provision for Top/bottom cable entry as per site and including the lugs, panel wiring between busbars and meter, making solid connections between main busbar & all switchgear with required size of Aluminum busbar & control wiring with not less than 2.5Sqmm cu FRLS PVC wires, loop earthing, powder coating with approved shade, providing ventilation arrangement, gaskets, easily openable knobs, lettering etc,complete as required with following switchgar:		-			-	-
		4 nos 400A 4P MCCB of short circuit capacity of 25KA, fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories		-			-	-
		All MCCBs shall have Ics=Icu=100%		-			-	-
		Thermal magnetic release for overcurrent & short circuit protection with ELR		-			-	-
		Independent manual spring closing mechanism with padlock facility.		-			-	-
		Extended rotary operating mechanism		-			-	-
		Spreader Links		-			-	-
		Phase Barrier		-			-	-
		Aux Contact Block		-			-	-
		Digital Type Load Manager Meter+RS 485 PORT 96sqmm With Builtin Selector Switch CTS		-			-	-
		LED Type Indicating lamps On,Off,Trip with 2A back up MCB		-			-	-
		TPN MCB 6 Amps		-			-	-
		Shunt trip coil-220V AC		-			-	-
				-			-	-
		1 nos 630A 4P MCCB of short circuit capacity of 25KA, fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories		-			-	-
		All MCCBs shall have Ics=Icu=100%		-			-	-
		Thermal magnetic release for overcurrent & short circuit protection with ELR		-			-	-
		Independent manual spring closing mechanism with padlock facility.		-			-	-
		Extended rotary operating mechanism		-			-	-
		Spreader Links		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		Phase Barrier		-			-	-
		Aux Contact Block		-			-	-
		Digital Type Load Manager Meter+RS 485 PORT 96sqmm With Built in Selector Switch CTS		-			-	-
		ON-OFF-TRIP LED Type Indicating lamps with 2A back up MCB		-			-	-
		TPN MCB 6 Amps		-			-	-
		Shunt trip coil-220V AC		-			-	-
				-			-	-
		BUS COUPLER		-			-	-
		1 nos 630A 4P MCCB of short circuit capacity of 25KA, fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories		-			-	-
		Independent manual spring closing mechanism- 1 No		-			-	-
		ON-OFF-TRIP LED Type Indicating lamps with 2A back up MCB for test terminal block,fuses circuit contactor for positive electrical interlocking of breaker etc as required- 1 set		-			-	-
				-			-	-
		INTERLOCKING AND AUTO CHANGE OVER		-			-	-
		Electrical through advance contacts in MCCB incomers and Mechanical (castel key) interlocking should be provided to insure that only one supply is available at a time.		-			-	-
				-			-	-
		BUSBARS:		-			-	-
		630 Amp capacity extensible TPN Aluminium Alloy Busbars of high conductivity, with short circuit withstand capacity of 25 KA for 1 second,entire panel shall have common earth busbar with 2 nos. earth stud with heat shrinkable colourd sleeves. DMC/SMC busbar supports		-			-	-
				-			-	-
		OUTGOING:		-			-	-
		8 Nos 400A TPN MCCB of short circuit capacity of 25KA, fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories		-			-	-
		All MCCBs shall have Ics=Icu=100%		-			-	-
		Thermal magnetic release for overcurrent & short circuit protection with ELR		-			-	-
		Independent manual spring closing mechanism with padlock facility.		-			-	-
		Extended rotary operating mechanism		-			-	-
		Spreader Links		-			-	-
		Phase Barrier		-			-	-
		Aux Contact Block		-			-	-
		Digital Type Load Manager Meter+RS 485 PORT 96sqmm With Built in Selector Switch CTS		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		ON-OFF-TRIP LED Type Indicating lamps with 2A back up MCB		-			-	-
		TPN MCB 6 Amps		-			-	-
		Shunt trip coil-220V AC		-			-	-
				-			-	-
4.2.2	NSR	UPS Input Panel-1 (Centralized- IPD)	JOB	1		408193	-	4,08,193
				-			-	-
		Supplying, Installation, testing, commissioning of Compartmentalized cubical type panel board fabricated with CRCA sheet steel of 2mm thick for frame work and covers, 3mm thick for gland plates i/c cleaning & finishing complete with 7 tank process, powder coating in approved shade along with bottom base MS channel of section not less than 100mm x 50mm x5mm thick, fabrication shall be done in transportable sections, free standing type totally enclosed dust and vermin proof having independent compartments with door having locking and sealing arrangement having suitable space for mounting of Equipment as per SLD, provision for Top/bottom cable entry as per site and including the lugs, panel wiring between busbars and meter, making solid connections between main busbar & all switchgear with required size of Aluminum busbar & control wiring with not less than 2.5sqmm cu FRLS PVC wires, loop earthing, powder coating with approved shade, providing ventilation arrangement, gaskets, easily openable knobs, lettering etc,complete as required with following switchgar:		-			-	-
		1 nos 630A 4P MCCB of short circuit capacity of 25KA, fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories		-			-	-
		All MCCBs shall have Ics=Icu=100%		-			-	-
		Thermal magnetic release for overcurrent & short circuit protection with ELR		-			-	-
		Independent manual spring closing mechanism with padlock facility.		-			-	-
		Extended rotary operating mechanism		-			-	-
		Spreader Links		-			-	-
		Phase Barrier		-			-	-
		Aux Contact Block		-			-	-
		Digital Type Load Manager Meter+RS 485 PORT 96sqmm With Builtin Selector Switch CTS		-			-	-
		ON-OFF-TRIP LED Type Indicating lamps with 2A back up MCB		-			-	-
		TPN MCB 6 Amps		-			-	-
		Shunt trip coil-220V AC		-			-	-
				-			-	-
		BUSBARS:		-			-	-
		630Amp capacity extensible TPN Aluminium Alloy Busbars of high conductivity, with short circuit withstand capacity of 25KA for 1 second, entire panel shall have common earth busbar with 2 nos. earth stud with heat shrinkable colour sleeves. DMC/SMC busbar supports		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
				-			-	-
		OUTGOING:		-			-	-
		5 Nos 400A TPN MCCB of short circuit capacity of 25KA, fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories		-			-	-
		All MCCBs shall have Ics=Icu=100%		-			-	-
		Thermal magnetic release for overcurrent & short circuit protection with ELR		-			-	-
		Independent manual spring closing mechanism with padlock facility.		-			-	-
		Extended rotary operating mechanism		-			-	-
		Spreader Links		-			-	-
		Phase Barrier		-			-	-
		Aux Contact Block		-			-	-
		Digital Type Load Manager Meter+RS 485 PORT 96sqmm With Built in Selector Switch CTS		-			-	-
		ON-OFF-TRIP LED Type Indicating lamps with 2A back up MCB		-			-	-
		TPN MCB 6 Amps		-			-	-
		Shunt trip coil-220V AC		-			-	-
				-			-	-
				-			-	-
4.2.3	NSR	UPS O/P Panel-2 (OT and ICU- IPD)	JOB	1		1638214	-	16,38,214
				-			-	-
		Supplying, Installation, testing, commissioning of Compartmentalized cubical type panel board fabricated with CRCA sheet steel of 2mm thick for frame work and covers, 3mm thick for gland plates i/c cleaning & finishing complete with 7 tank process, powder coating in approved shade along with bottom base MS channel of section not less than 100mm x 50mm x5mm thick, fabrication shall be done in transportable sections, free standing type totally enclosed dust and vermin proof having independent compartments with door having locking and sealing arrangement having suitable space for mounting of Equipment as per SLD, provision for Top/bottom cable entry as per site and including the lugs, panel wiring between busbars and meter, making solid conections between main busbar & all switchgear with required size of Aluminum busbar & control wiring with not less than 2.5Sqmm cu FRLS PVC wires, loop earthing, powder coating with approved shade, providing ventilation arrangement, gaskets, easily openable knobs, lettering etc,complete as required with following switchgar:		-			-	-
		3 nos 400A 4P MCCB of short circuit capacity of 25KA, fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories		-			-	-
		All MCCBs shall have Ics=Icu=100%		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		Thermal magnetic release for overcurrent & short circuit protection with ELR		-			-	-
		Independent manual spring closing mechanism with padlock facility.		-			-	-
		Extended rotary operating mechanism		-			-	-
		Spreader Links		-			-	-
		Phase Barrier		-			-	-
		Aux Contact Block		-			-	-
		Digital Type Load Manager Meter+RS 485 PORT 96sqmm With Builtin Selector Switch CTS		-			-	-
		LED Type Indicating lamps On with 2A back up MCB		-			-	-
		TPN MCB 6 Amps		-			-	-
		Shunt trip coil-220V AC		-			-	-
				-			-	-
		1 No of 1000A TPN ACB of short circuit capacity of 50KA, fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories		-			-	-
		ACB should have Icw=Ics=Icu for 1 sec.		-			-	-
		lockable trip push button		-			-	-
		Microprocessor release for overcurrent & short circuit protection, Earth Fault protection		-			-	-
		Independent manual spring closing mechanism		-			-	-
		Phase barrier		-			-	-
		Aux contact block		-			-	-
		LED Type Indicating lamps R,Y,B with 2A back up MCB		-			-	-
		LED Type Indicating lamps On,Off,Trip -with 2A back up MCB, TPN MCB 6 Amps		-			-	-
		Shunt trip coil		-			-	-
		Digital type Load Manager with RS 485 & RS232 port 96sqmm With Builtin Selector Switch CTs		-			-	-
				-			-	-
		INTERLOCKING AND AUTO CHANGE OVER		-			-	-
		Electrical through advance contacts in MCCB incomers and Mechanical (castel key) interlocking should be provided to insure that only one supply is available at a time.		-			-	-
				-			-	-
		BUS COUPLER		-			-	-
		1 nos 1000A 4P ACB of short circuit capacity of 25KA, fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories		-			-	-
		Independent manual spring closing mechanism- 1 No		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		LED Type Indicating lamps ON with 2A back up MCB for test terminal block,fuses circuit contactor for positive electrical interlocking of breaker etc as required- 1 set		-			-	-
				-			-	-
		BUSBARS:		-			-	-
		1000 Amp capacity extensible TPN Aluminium Alloy Busbars of high conductivity, with short circuit withstand capacity of 25 KA for 1 second,entire panel shall have common earth busbar with 2 nos. earth stud with heat shrinkable colourd sleeves. DMC/SMC busbar supports		-			-	-
				-			-	-
		OUTGOING:		-			-	-
		6 Nos 400A TPN MCCB of short circuit capacity of 25KA, fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories		-			-	-
		All MCCBs shall have Ics=Icu=100%		-			-	-
		Thermal magnetic release for overcurrent & short circuit protection with ELR		-			-	-
		Independent manual spring closing mechanism with padlock facility.		-			-	-
		Extended rotary operating mechanism		-			-	-
		Spreader Links		-			-	-
		Phase Barrier		-			-	-
		Aux Contact Block		-			-	-
		Digital Type Load Manager Meter+RS 485 PORT 96sqmm With Built in Selector Switch CTS		-			-	-
		ON-OFF-TRIP LED Type Indicating lamps with 2A back up MCB		-			-	-
		TPN MCB 6 Amps		-			-	-
		Shunt trip coil-220V AC		-			-	-
				-			-	-
		6 Nos 200A TPN MCCB of short circuit capacity of 25KA, fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories		-			-	-
		All MCCBs shall have Ics=Icu=100%		-			-	-
		Thermal magnetic release for overcurrent & short circuit protection with ELR		-			-	-
		Independent manual spring closing mechanism with padlock facility.		-			-	-
		Extended rotary operating mechanism		-			-	-
		Spreader Links		-			-	-
		Phase Barrier		-			-	-
		Aux Contact Block		-			-	-
		Digital Type Load Manager Meter+RS 485 PORT 96sqmm With Built in Selector Switch CTS		-			-	-
		ON-OFF-TRIP LED Type Indicating lamps with 2A back up MCB		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		TPN MCB 6 Amps		-			-	-
		Shunt trip coil-220V AC		-			-	-
				-			-	-
4.2.4	NSR	UPS Input Panel-2 (OT and ICU- IPD)	JOB	1		517044	-	5,17,044
				-			-	-
		Supplying, Installation, testing, commissioning of Compartmentalized cubical type panel board fabricated with CRCA sheet steel of 2mm thick for frame work and covers, 3mm thick for gland plates i/c cleaning & finishing complete with 7 tank process, powder coating in approved shade along with bottom base MS channel of section not less than 100mm x 50mm x5mm thick, fabrication shall be done in transportable sections, free standing type totally enclosed dust and vermin proof having independent compartments with door having locking and sealing arrangement having suitable space for mounting of Equipment as per SLD, provision for Top/bottom cable entry as per site and including the lugs, panel wiring between busbars and meter, making solid connections between main busbar & all switchgear with required size of Aluminum busbar & control wiring with not less than 2.5Sqmm cu FRLS PVC wires, loop earthing, powder coating with approved shade, providing ventilation arrangement, gaskets, easily openable knobs, lettering etc,complete as required with following switchgar:		-			-	-
		1 No of 1000A TPN ACB of short circuit capacity of 50KA, fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories		-			-	-
		ACB should have Icw=Ics=Icu for 1 sec.		-			-	-
		lockable trip push button		-			-	-
		Microprocessor release for overcurrent & short circuit protection, Earth Fault protection		-			-	-
		Independent manual spring closing mechanism		-			-	-
		Phase barrier		-			-	-
		Aux contact block		-			-	-
		LED Type Indicating lamps R,Y,B with 2A back up MCB		-			-	-
		LED Type Indicating lamps On,Off,Trip -with 2A back up MCB, TPN MCB 6 Amps		-			-	-
		Shunt trip coil		-			-	-
		Digital type Load Manager with RS 485 & RS232 port 96sqmm With Builtin Selector Switch CTs		-			-	-
				-			-	-
		BUSBARS:		-			-	-
		1000Amp capacity extensible TPN Aluminium Alloy Busbars of high conductivity, with short circuit withstand capacity of 25KA for 1 second, entire panel shall have common earth busbar with 2 nos. earth stud with heat shrinkable colourd sleeves. DMC/SMC busbar supports		-			-	-
				-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		OUTGOING:		-			-	-
		4 Nos 400A TPN MCCB of short circuit capacity of 25KA, fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories		-			-	-
		All MCCBs shall have Ics=Icu=100%		-			-	-
		Thermal magnetic release for overcurrent & short circuit protection with ELR		-			-	-
		Independent manual spring closing mechanism with padlock facility.		-			-	-
		Extended rotary operating mechanism		-			-	-
		Spreader Links		-			-	-
		Phase Barrier		-			-	-
		Aux Contact Block		-			-	-
		Digital Type Load Manager Meter+RS 485 PORT 96sqmm With Builtin Selector Switch CTS		-			-	-
		ON-OFF-TRIP LED Type Indicating lamps with 2A back up MCB		-			-	-
		TPN MCB 6 Amps		-			-	-
		Shunt trip coil-220V AC		-			-	-
4.2.5	NSR	UPSP-LIB, USPP- Nursing College, USPP- Medical College		-			-	-
		Supplying, Installation, testing, commissioning of Compartmentalized cubical panel board fabricated with CRCA sheet steel of 2mm thick for frame work and covers, 3mm thick for gland plates i/c cleaning & finishing complete with 7 tank process, powder coating in approved shade along with bottom base MS channel of section not less than 100mm x 50mm x5mm thick, fabrication shall be done in transportable sections, free standing type totally enclosed dust and vermin proof having independent compartments with door having locking and sealing arrangement having suitable space for mounting of Equipment as per SLD, provision for Top/bottom cable entry as per site and including the lugs, panel wiring between busbars and meter, making solid conections between main busbar & all switchgear with required size of Aluminum busbar & control wiring with not less than 2.5Sqmm cu FRLS PVC wires, loop earthing, powder coating with approved shade, providing ventilation arrangement, gaskets, easily openable knobs, lettering etc,complete as required with following switchgar:	JOB	3		258522	-	7,75,566
				-			-	-
		INCOMERS:		-			-	-
		2Nos 63A TPN Motorised MCCB of short circuit capacity of 25KA, fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories		-			-	-
		All MCCBs shall have Ics=Icu=100%		-			-	-
		Thermal magnetic release for overcurrent & short circuit protection with ELR		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		Independent manual spring closing mechanism with padlock facility.		-			-	-
		Extended rotary operating mechanism		-			-	-
		Spreader Links		-			-	-
		Phase Barrier		-			-	-
		Aux Contact Block		-			-	-
		Digital Type Load Manager Meter+RS 485 PORT 96sqmm With Built in Selector Switch CTS		-			-	-
		ON-OFF-TRIP LED Type Indicating lamps with 2A back up MCB		-			-	-
		TPN MCB 6 Amps		-			-	-
		Shunt trip coil-220V AC		-			-	-
		BUSBAR COUPLER		-			-	-
		1 Nos 125A TPN MCCB of short circuit capacity of 25KA ,Electrically operated fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories for MCCB.		-			-	-
		Independent manual spring closing mechanism-1No		-			-	-
		LED Type Indicating lamps ON with 2A back up MCB for test terminal block,fuses circuit contactor for positive electrical interlocking of breaker etc as required-1set		-			-	-
		INTERLOCKING AND AUTO CHANGE OVER		-			-	-
		Electrical through advance contacts in MCCB incomers and Mechanical (castel key) interlocking should be provided to insure that only one supply is available at a time .		-			-	-
		BUSBARS:		-			-	-
		300Amp capacity extensible TPN Aluminium Alloy Busbars of high conductivity, with short circuit withstand capacity of 11KA for 1 second, entire panel shall have common earth busbar with 2 nos. earth stud with heat shrinkable colourd sleeves. DMC/SMC busbar supports		-			-	-
				-			-	-
		OUTGOING:		-			-	-
		16Nos. 32A DP MCB		-			-	-
4.2.6	NSR	UPSPP-MESDICAL LAB	JOB	1		303423	-	3,03,423
				-			-	-
		UPSPP-MESDICAL LAB		-			-	-
				-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		Supplying, Installation, testing, commissioning of Compartmentalized cubical panel board fabricated with CRCA sheet steel of 2mm thick for frame work and covers, 3mm thick for gland plates i/c cleaning & finishing complete with 7 tank process, powder coating in approved shade along with bottom base MS channel of section not less than 100mm x 50mm x5mm thick, fabrication shall be done in transportable sections, free standing type totally enclosed dust and vermin proof having independent compartments with door having locking and sealing arrangement having suitable space for mounting of Equipment as per SLD, provision for Top/bottom cable entry as per site and including the lugs, panel wiring between busbars and meter, making solid connections between main busbar & all switchgear with required size of Aluminum busbar & control wiring with not less than 2.5Sqmm cu FRLS PVC wires, loop earthing, powder coating with approved shade, providing ventilation arrangement, gaskets, easily openable knobs, lettering etc,complete as required with following switchgear:		-			-	-
				-			-	-
		INCOMERS:		-			-	-
		2Nos 125A TPN Motorised MCCB of short circuit capacity of 25KA, fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories		-			-	-
		Thermal magnetic release for overcurrent & short circuit protection with EF module-1sets		-			-	-
		Independent manual spring closing mechanism-1sets, Knob -2Nos		-			-	-
		Knob-2no		-			-	-
		Spreader Links For TPN MCCB 125A -4 sets		-			-	-
		Phase Barrier For MCCB 125A-2Nos		-			-	-
		Aux Contact Block For MCCB 125A-1set		-			-	-
		Digital load manager+RS 485 PORT 96sqmm With Built-in Selector Switch CL-1-1Nos		-			-	-
		LED Type Indicating lamps R,Y,B -3Nos with 2A back up MCB		-			-	-
		LED Type Indicating lamps On,Off,Trip -3Nos with 2A back up MCB		-			-	-
		TPN MCB 6 Amps-1Nos		-			-	-
		Shunt trip coil-220V AC-1Nos		-			-	-
		Transient voltage surge suppressor (TVSS)		-			-	-
		BUSBAR COUPLER		-			-	-
		1 Nos 125A TPN MCCB of short circuit capacity of 25KA ,Electrically operated fitted with interlocked doors, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 1397-2:1983 as ammended upto the date complete with following accessories for MCCB.		-			-	-
		Independent manual spring closing mechanism-1No		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		ON-OFF-TRIP LED Type Indicating lamps with 2A back up MCB for test terminal block,fuses circuit contactor for positive electrical interlocking of breaker etc as required-1set		-			-	-
		INTERLOCKING AND AUTO CHANGE OVER		-			-	-
		Electrical through advance contacts in MCCB incomers and Mechanical (castel key) interlocking should be provided to insure that only one supply is available at a time .		-			-	-
		BUSBARS:		-			-	-
		300Amp capacity extensible TPN Aluminium Alloy Busbars of high conductivity, with short circuit withstand capacity of 11KA for 1 second, entire panel shall have common earth busbar with 2 nos. earth stud with heat shrinkable colourd sleeves. DMC/SMC busbar supports		-			-	-
				-			-	-
		OUTGOING:		-			-	-
		71Nos. 40A DP MCB		-			-	-
		4 Nos. 40A TPN MCB		-			-	-
				-			-	-
		Total Carried to Summary		-			-	6,65,64,695
				-			-	-
5.0		BUS DUCTING		-			-	-
				-			-	-
5.1		Manufacture, Supply, Installation, Testing and Commissioning of Sandwich Busway IP-65 , 1000 volts system Busduct 3 Phase, 4 Wire, sandwich construction Aluminium Bus Duct having 65kA short ckt for one Second with temperature rise of 55Deg. above ambient of 40deg. In extruded aluminium suitable for operation on 50Hz AC supply with 100% neutral complete with all accessories bends, flange ends. The Busway shall have a system of single bolt double head section jointing system. The bus duct suspension system shall be complete with steel rods, GI angle supports and dash fasteners etc. at required intervals for safe installation of bus ducts. Supporting system shall be fail proof even in earth quake situations, as per Sismic requirement at site.		-			-	-
		Necessary flexible joints to be provided for building expansion joints and for thermal expansion as may be required.		-			-	-
		100% sized Neutral as of phase current.		-			-	-
5.1.1		4000Amp, 65KA, 4P, IP 65, Aluminum Conductor including all the accesories/horizontal & vertical bends.	meter	750		51030	-	3,82,72,500
5.1.2		2000Amp, 65KA, 4P, IP 65, Aluminum Conductor including all the accesories/horizontal & vertical bends.	meter	200		27053	-	54,10,600
5.1.3		1600Amp, 65KA, 4P, IP 65, Aluminum Conductor including all the accesories/horizontal & vertical bends.	meter	200		20794	-	41,58,800
				-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
5.2		Design, Manufacture, Supply, Installation, Testing and Commissioning of Cast Resin Busway 1000 volts system Busduct, 4bar - 3P & 1N, Aluminum conductor with aluminium busbar casted in homogenous insulated compound made epoxy resin mixed with fillers under vaccume short circuit faust withstand for 1 sec as specified. IT will be as per IS 8623 IP68 degree of protection as per IEC 60529, having mechanical impact strength IK 10. Busduct design as per IEC 61439 part 1 & 6 amended up to date. The bus duct suspension system shall be complete with steel rods, GI angle supports and dash fasteners etc. at required intervals for safe installation of bus ducts. Supporting system shall be fail proof even in earth quake situations, as per Sesmic requirement at site. Necessary flexible joints to be provided for building expansion joints & for thermal expansion as may be required.		-			-	-
		100% sized Neutral as of phase current.		-			-	-
				-			-	-
5.2.1	NSR	4000Amp, 65KA, 4P, IP 68, Aluminum Conductor including all the accesories/ horizontal & vertical bends.	meter	100		65109	-	65,10,900
				-			-	-
		Total Carried to Summary		-			-	5,43,52,800
				-			-	-
6.0		MV CABLING & CABLE TERMINATION		-			-	-
				-			-	-
6.1	7	MV CABLES		-			-	-
				-			-	-
6.1.1	7.8	Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 kV grade of following size on cable tray as required.		-			-	-
6.1.1.1	7.8.3 4	Above 185 sq. mm and upto 400 sq. mm (clamped with 40x3mm MS flat clamp)	meter	650	150		97,500	-
				-			-	-
6.1.2	7.1	Laying and fixing 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.		-			-	-
6.1.2.1	7.1.4	Above 185 sq. mm and upto 400 sq. mm	meter	750	396		2,97,000	-
6.1.2.1	7.1.1	upto 35 sq. mm	meter	14,000	323		45,22,000	-
				-			-	-
6.1.3		Supply of 1100V grade XLPE/PVC insulated sheathed & armoured (unless otherwise specified as flexible) Fire Retarded Low Smoke (FRLS) cables indoor or outdoor on existing trays/walls/columns/ indoor/ trenches complete as per specifications, as required and as below		-			-	-
6.1.3.1	NSR	3.5C 300 Sqmm XLPE AL	meter	1,400		1074	-	15,03,600
6.1.3.2	NSR	4C 16 Sqmm XLPE AL	meter	7,000		117	-	8,19,000
6.1.3.3	NSR	4C 10 Sqmm XLPE AL	meter	7,000		105	-	7,35,000
				-			-	-
6.2	9	MV CABLE JOINTING & END TERMINATION		-			-	-
				-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
6.2.1	9.1	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.		-			-	-
6.2.1.1	9.1.30	3½ X 300 sq. mm (70 mm)	Each	34	1106		37,604	-
6.2.1.2	9.1.30	4 X 10 sq. mm (25 mm)	Each	750	203		1,52,250	-
6.2.1.3	9.1.29	4 X 16 sq. mm (28mm)	Each	750	255		1,91,250	-
				-			-	-
		Total Carried to Summary		-			52,97,604	30,57,600
				-			-	-
7.0	4	CABLE TRAYS & RACEWAYS		-			-	-
				-			-	-
7.1		Hot Dipped Galvanized Iron Cable Tray		-			-	-
				-			-	-
7.1.1		Supplying and installing following size of Ladder Hot Dipped Galvanised Iron cable tray (galvanisation thickness not less than 50 microns) with rungs of 40mm & at 250mm center to center, in convenient sections, joined with connectors, suspended from the ceiling with G.I. suspenders including G.I. bolts & nuts, etc. as required.		-			-	-
7.1.1.1	NSR	750 mm width X 50 mm depth X 2.0 mm thickness	meter	100		828	-	82,800
7.1.1.2	NSR	1000 mm width X 50 mm depth X 2.0 mm thickness	meter	125		956	-	1,19,500
				-			-	-
				-			-	-
7.2		Supplying and installing following size of Ladder Hot Dipped Galvanised Iron cable tray "bends" (galvanisation not less than 50 microns) in convenient sections, joined with connectors, suspended from the ceiling with G.I. suspenders including G.I. bolts & nuts, etc. as required.		-			-	-
				-			-	-
				-			-	-
7.2.1	NSR	750 mm width X 50 mm depth X 2.0 mm thickness	Each	24		1309	-	31,416
7.2.2	NSR	1000 mm width X 75 mm depth X 2.0 mm thickness	Each	24		1630	-	39,120
				-			-	-
				-			-	-
7.3		Supplying and installing following size of Ladder Hot Dipped Galvanised Iron cable tray "Tee" (galvanisation not less than 50 microns) in convenient sections, joined with connectors, suspended from the ceiling with G.I. suspenders including G.I. bolts & nuts, etc. as required.		-			-	-
				-			-	-
				-			-	-
7.3.1	NSR	750 mm width X 50 mm depth X 2.0 mm thickness	Each	12		1522	-	18,264
7.3.2	NSR	1000 mm width X 75 mm depth X 2.0 mm thickness	Each	12		1876	-	22,512
				-			-	-
				-			-	-
7.4		Supplying and installing following size of Ladder Hot Dipped Galvanised Iron cable tray "Reducer" (galvanisation not less than 50 microns) in convenient sections, joined with connectors, suspended from the ceiling with G.I. suspenders including G.I. bolts & nuts, etc. as required.		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
				-			-	-
				-			-	-
7.4.1	NSR	900 mm width X 75 mm depth X 2.0 mm thickness	Each	7		1784	-	12,488
				-			-	-
		Total Carried to Summary		-			-	3,26,100
				-			-	-
8.0		EXTERNAL LIGHTING & FEEDER PILLARS		-			-	-
8.1		Supply Installation testing & commissioning of light fitting pole complete with lamps, internal wiring from pole junction box, necessary civil foundation, base plate, nut bolts & other fixing accessories etc.		-			-	-
8.1.1	NSR	16Mtr high mast, material of construction as per IS 5986/BSEN 10025. Fabricated in two parts of 8.5meter each with base and top dia 450mm and 150mm approx respectively, crossection of mast(number of sides) , 20 sided polygon thickness 4mm & 3mm of bottom section and top section respectively, Base plate dia = 670mmx32mm thick, PCD foundation bolt 590mm, head frame and lantern carriage with 16nos LED light fixture as per Crompton greaves catalogue no LSFO-C300-CDL-60 with 1x300W flood light with minimum lumen /lamp 31,000, including its foundation, all accesories like feeder pillar, double drum winch, SS wire rope, trailing cable L stopper, manual operating handle , motor mounting, lighting arester, junction box, double dome LED aviation light, wiring of light fixture from junction box, earthing of pole etc including any other item required for the proper functioning of the high mast complete as per technical specification and as required.	Each	4		666638	-	26,66,552
8.1.2	NSR	20Mtr high mast, material of construction as per IS 5986/BSEN 10025. Fabricated in two parts of 10.3meter each with base and top dia 450mm and 150mm approx respectively, crossection of mast(number of sides) , 20 sided polygon thickness 4mm & 3mm of bottom section and top section respectively, Base plate dia = 670mmx32mm thick, PCD foundation bolt 590mm, head frame and lantern carriage with 16nos LED light fixture as per Crompton greaves catalogue no LSFO-C300-CDL-60 with 1x300W flood light with minimum lumen /lamp 31,000, including its foundation, all accesories like feeder pillar, double drum winch, SS wire rope, trailing cable L stopper, manual operating handle , motor mounting, lighting arester, junction box, double dome LED aviation light, wiring of light fixture from junction box, earthing of pole etc including any other item required for the proper functioning of the high mast complete as per technical specification and as required.	Each	1		726630	-	7,26,630
8.1.3	NSR	4 Mtr High Octagonal tapering hot dip Galvanized decorative Pole with 40W LED streetlight (similar to Cat no crompton greaves LSTP-40-CDL)	Each	56		12005	-	6,72,280
8.1.4	NSR	4 Mtr High circular tapering hot dip Galvanized Pole with 40W streetlight (similar to Cat no crompton greaves LSTP-40-CDL)	Each	60		12005	-	7,20,300
8.1.5	NSR	9 Mtr High circular tapering hot dip Galvanized Pole with 90W streetlight with single arm (similar to Cat no crompton greaves (LSTN-90-CDL)	Each	442		26355	-	1,16,48,910
8.1.6	NSR	6 Mtr High circular tapering hot dip Galvanized Pole with 60W streetlight with single arm (similar to Cat no crompton greaves LSTP-60-CDL)	Each	84		19881	-	16,70,004

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
8.1.7	NSR	9 Mtr High circular tapering hot dip Galvanized Pole with 90W streetlight with double arm (similar to Cat no crompton greaves LSTP-90-CDL)	Each	54		37865	-	20,44,710
8.1.8	NSR	6 Mtr High circular tapering hot dip Galvanized Pole with 60W streetlight with double arm (similar to Cat no crompton greaves LSTP-60-CDL)	Each	21		24982	-	5,24,622
8.1.9	NSR	Post top lanterns for entry gates (similar to Cat no crompton greaves LPTO-40-CDL/M)	Each	170		9564	-	16,25,880
8.1.10	NSR	Bollard lights 10W 900mm High(similar to Cat no crompton greaves LBSL1-10-CDL)	Each	350		3355	-	11,74,250
8.1.11	NSR	Bollard lights 10W 600mm High(similar to Cat no crompton greaves LBSL1-10-CDL)	Each	200		3355	-	6,71,000
8.1.12	NSR	2.5 Mtr High circular tapering hot dip Galvanized Pole with 45W streetlight (similar to Cat no crompton greaves LSTP-45-CDL)	Each	8		10496	-	83,968
				-			-	-
8.2		<u>Feeder Pillars</u>		-			-	-
				-			-	-
		Supply, installation, testing & commissioning of 500V Feeder pillars as specified & shown on drawing with i) Copper busbars together with tapped neutral bar for individual phases. ii) Copper earth strip iii) Interconnections and earthing. iv) Sheet steel enclosure suitable for outdoor application (IP65) mounted on concrete pedestal with hinged lockable doors interlocked with the incomer switch. v) Phase to phase isolation (PPI) in case of 3Ph boards. vi) Fuses, MCBs with holder vii) 15A weather proof outlet with switch. viii) 9W bulk head CFL fitting with wheather proof switch. ix) Necessary support frame & painting, labeling, phase indicating lamps with fuses etc. complete.		-			-	-
8.2.1	NSR	External lighting distribution board consisting of: Incomer: i) 1# 100A TPN MCB + Surge Protection device ii) 1Set of Phase indicating lamps with fuses Outgoing: iii) 8# (25A 4P ELMCB (100mA) + Digital time switch) iv) 4# (32A 4P ELMCB (100mA) + Digital time switch) v) 6# (32A DP ELMCB (100mA) + Digital time switch)	Each	11		37242	-	4,09,662
				-			-	-
		Total Carried to Summary		-			-	2,46,38,768
				-			-	-
9.0		EXTERNAL PA		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
9.1		Supply, Installation, Testing & Commissioning of Speakers complete with Galvanised Steel Back box.		-			-	-
				-			-	-
9.1.1	NSR	12W Pole Mounted External Speaker Complete with 4meter GI Pole and all necessary accessories to finish the Job.	Each	20		27883	-	5,57,660
				-			-	-
9.2		Supply and installation of audio amplifiers incorporated as part of FACP		-			-	-
				-			-	-
9.2.1	NSR	180 W	Each	1		46385	-	46,385
				-			-	-
9.2.2	NSR	120 W	Each	2		22167	-	44,334
				-			-	-
9.2.3	NSR	60 W	Each	1		19095	-	19,095
				-			-	-
9.3		Wiring & Cabling		-			-	-
				-			-	-
9.3.1	NSR	Supply, Installation, Testing & Commissioning wiring for speakers using 2# 1 pair 1.0 sqmm shielded copper multistrand, twisted pairs PVC armoured cable having fire retardant low smoke (FRLS) insulation	Rm	5,000		127	-	6,35,000
				-			-	-
		Total Carried to Summary		-			-	13,02,474
				-			-	-
10.0		EPABX SYSTEM		-			-	-
10.1	NSR	DIGITAL EPABX SYSTEM (COMMUNICATION SERVER)	Set	1		10799541	-	1,07,99,541
		Supply, installation, testing & commissioning of 32 bit microprocessor based, fully digital, 100% non blocking, PCM-TDM, true ISDN & PRI Line and IP ready digital EPABX with distributed architecture for power supply cards, as per specifications with following configuration:		-			-	-
		IP PBX 2000 Extensions Expandable upto 10000 extension		-			-	-
		IP User -50 users		-			-	-
		Configured For-		-			-	-
		Analog P&T Lines- 32 (Expandable upto 48 Lines)		-			-	-
		ISDN PRI Line (30 Channels)- 6 nos with CLIP Facility		-			-	-
		24 Extension Digital Card : 2no		-			-	-
		SUBSCRIBER INTERFACE:		-			-	-
		Voice Mail system Consisting of Voice mail Boxes for all Users, Auto attended system with greeting messages PC for Attending voice mail system		-			-	-
		Redundant Lan Port and Wan Port-2		-			-	-
		Redundant Call Processor		-			-	-
		Redundant Power Supply		-			-	-
		Full Software Licences & Support		-			-	-
		In-built Music on Hold		-			-	-
		Remote maintenance.		-			-	-
		Ethernet port for LAN connectivity and System Management		-			-	-
		Support for Voice over IP (VoIP)		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		Day/ Night service		-			-	-
		8 party conference Facility		-			-	-
		Speed Dial		-			-	-
		Support for OFC Connectivity		-			-	-
		Support for Wi-Fi based wireless extensions.		-			-	-
		System Documentation on CD-ROM		-			-	-
		Hot Standby Duplication of all common control card without call disconnection.		-			-	-
		IP Based operator Console with PC - 1 Nos.		-			-	-
		should support IP Telephony and should be able to intergrate other EPBAX System on IP		-			-	-
		DIGITAL EPABX SYSTEM AS MENTIONED ABOVE		-			-	-
				-			-	-
10.2		DIGITAL EPABX SYSTEM (COMMUNICATION SERVER)	Set	4		2374508	-	94,98,032
		Supply, installation, testing & commissioning of 32 bit microprocessor based, fully digital, 100% non blocking, PCM-TDM, true ISDN & PRI Line and IP ready digital EPABX with distributed architecture for power supply cards, as per specifications with following configuration:		-			-	-
		IP PBX 400 Extensions Expandable upto 2000 extension		-			-	-
		IP User -24 users		-			-	-
		Configured For-		-			-	-
		Analog P&T Lines- 8 (Expandable upto 12 Lines)		-			-	-
		ISDN PRI Line (30 Channels)- 1 nos with CLIP Facility		-			-	-
		24 Extension Digital Card : 1no		-			-	-
		SUBSCRIBER INTERFACE:		-			-	-
		Voice Mail system Consisting of Voice mail Boxes for all Users, Auto attended system with greeting messages PC for Attending voice mail system		-			-	-
		Redundant Lan Port and Wan Port-2		-			-	-
		Redundant Call Processor		-			-	-
		Redundant Power Supply		-			-	-
		Full Software Licances & Support		-			-	-
		In-built Music on Hold		-			-	-
		Remote maintenance.		-			-	-
		Ethernet port for LAN connectivity and System Management		-			-	-
		Support for Voice over IP (VoIP)		-			-	-
		Day/ Night service		-			-	-
		8 party conference Facility		-			-	-
		Speed Dial		-			-	-
		Support for OFC Connectivity		-			-	-
		Support for Wi-Fi based wireless extensions.		-			-	-
		System Documentation on CD-ROM		-			-	-
		Hot Standby Duplication of all common control card without call disconnection.		-			-	-
		IP Based operator Console with PC - 1 Nos.		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		should support IP Telephony and should be able to intergrate other EPBAX System on IP		-			-	-
		DIGITAL EPABX SYSTEM AS MENTIONED ABOVE		-			-	-
				-			-	-
10.3		Flaot Cum Boost Charger (FCBC) for Above EPBAX System 48 V/125 Amp Inculding SMS Batteries with 2 hr Battery Back Up)	Set	5		115884	-	5,79,420
				-			-	-
10.4		Supply, Installation, Testing and commissiiong of IP Digital Phone having following features	set	50		17089	-	8,54,450
		IP Hard Console Phone		-			-	-
		Full Colour VGA Display with 4096 different colours!		-			-	-
		Full alphabetic keyboard		-			-	-
		Key-based navigation		-			-	-
		Hands free operation		-			-	-
		Best in Class loudspeaker for speakerphone operation; also includes microphones		-			-	-
		Jack for headset expansion		-			-	-
		Compatible with PC applications		-			-	-
		Bluetooth connectivity for the ultimate in integration		-			-	-
		2 Ethernet ports		-			-	-
		Downloadable admin softwar		-			-	-
		Eight Personalized Ring Patterns.		-			-	-
		Either desk or wall mountable.		-			-	-
		DIGITAL IP PHONES AS MENTIONED ABOVE		-			-	-
				-			-	-
10.5		Supply, installation of 24-port loaded, Angled Jack Panel compatible for Cat-6 cable, with labels and clear label covers, Height, 1U including all accessories as required.	Set	15		49676	-	7,45,140
				-			-	-
10.6		Supply, Installation, Testing and commissiiong of Digital Phone having following features (Before procurement of this item, the contractor shall have necessary approval approval of quantity from HSCC/ Client.	set	150		7749	-	11,62,350
		Adjustable graphical display		-			-	-
		Resolution 64X128 pixels.		-			-	-
		Size 70X38 mm		-			-	-
		Socket for headset		-			-	-
		40 Programmable keys		-			-	-
		2X3 contextual keys, 2 personal keys/LED		-			-	-
		Navigator keys 4 directions		-			-	-
		Alphabetic keyboard (Dial by name)		-			-	-
		Feature keys Like: Message + LED, Redial, End Key, Volume +/-, Mute with LED, Help, Handsfree with LED		-			-	-
				-			-	-
				-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
10.7		Supply of Analog phones having following features (Before procurement of this item, the contractor shall have necessary approval approval of quantity from HSCC/ Client.		-			-	-
		FSK/ DTMF Compatible Caller-Id		-			-	-
		16 Digit LCD single Display		-			-	-
		30 Incoming Memory		-			-	-
		5 Outgoing Memory		-			-	-
		Real Time Clock with Year, Date and Month display		-			-	-
		Conversation Time Display (Approx.)		-			-	-
		6 Step LCD Contrast Adjustable		-			-	-
		36 Digits Redial Memory		-			-	-
		Auto Filter Local Area Code up to 5-digit		-			-	-
		Real time & Date in Idle Mode		-			-	-
		Analog phones as mentoned above	Sets	2,500		616	-	15,40,000
				-			-	-
		Total Carried to Summary		-			-	2,51,78,933
				-			-	-
11.0		BMS SYSTEM		-			-	-
		IPD		-			-	-
11.1		FLUID CONTROL SYSTEMS		-			-	-
				-			-	-
11.1.1		DDC Controllers generally		-			-	-
		as specified complete with :		-			-	-
				-			-	-
		i) Microprocessor-32 Bit and minimum 240mHz		-			-	-
		ii) I/O Cards as specified & required		-			-	-
		iii) Indicating lamps		-			-	-
		iv) Port for hand held terminal		-			-	-
		v) Serial / Parallel port for networking		-			-	-
		vi) EPROM / EEPROM memory back-up		-			-	-
		vii) All peripherals and cabling for I/O devices		-			-	-
		as specified and shown on drgs.		-			-	-
		viii) All necessary software		-			-	-
		ix) Each DDC will have 25% spare on I/O capacity		-			-	-
		x) Should follow Flat IP Architecture		-			-	-
				-			-	-
11.1.2	NSR	DDC - WM- 01 for water Tank level	Each	2		41935	-	83,870
		control with all components		-			-	-
		as shown on I/O Summary		-			-	-
		complete with:		-			-	-
		i) 2 Nos # Hi/Lo Switches for OHT tanks		-			-	-
				-			-	-
				-			-	-
11.1.3	NSR	DDC - WM-PUMP ROOM for water Tank level	Each	2		157081	-	3,14,162
		control with all components		-			-	-
		as shown on I/O Summary		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		complete with:		-			-	-
		i) 10 Nos# Hi/Lo Switches for OHT tanks		-			-	-
		ii) 3 Nos# Digital water meter		-			-	-
				-			-	-
11.1.4	NSR	DDC - WM- 01 for water Tank level	Each	2		41935	-	83,870
		control with all components		-			-	-
		as shown on I/O Summary		-			-	-
		complete with:		-			-	-
		i) 2 Nos # Hi/Lo Switches for UGT tanks		-			-	-
				-			-	-
11.1.5	NSR	DDC - WM-PUMP ROOM for water Tank level	Each	2		335367	-	6,70,734
		control with all components		-			-	-
		as shown on I/O Summary		-			-	-
		complete with:		-			-	-
		i) 10 Nos# Hi/Lo Switches for UGT tanks		-			-	-
		ii) 3 Nos# Digital water meter		-			-	-
				-			-	-
11.1.6	NSR	Protocol Integrator for VSP systems for water supply.	Each	2		57800	-	1,15,600
				-			-	-
				-			-	-
11.2		ELECTRICAL MANAGEMENT		-			-	-
11.2.1	NSR	Supply, installation, testing and commissioning of "DDC-MAIN LT PANEL" electrical management complete as per I/O Summary	Each	2		514773	-	10,29,546
		i) Microprocessor-32 Bit and minimum 240mHz		-			-	-
		ii) I/O Cards as specified & required		-			-	-
		iii) Indicating lamps		-			-	-
		iv) Port for hand held terminal		-			-	-
		v) Serial / Parallel port for networking		-			-	-
		vi) EPROM / EEPROM memory back-up		-			-	-
		vii) All peripherals and cabling for I/O devices as specified and shown on drgs.		-			-	-
		viii) All necessary software		-			-	-
		ix) 1 No.# Serial interface unit for communication interface with energy meters.		-			-	-
		x) 1 No.# Protocol Integrator		-			-	-
		xi) All accessories & supporting structures.		-			-	-
		xii) Should follow Flat IP Architecture		-			-	-
				-			-	-
11.2.2	NSR	Supply, installation, testing and commissioning of "DDC- Utility LT PANEL" electrical management complete as per I/O Summary	Each	1		289598	-	2,89,598
		i) Microprocessor-32 Bit and minimum 240mHz		-			-	-
		ii) I/O Cards as specified & required		-			-	-
		iii) Indicating lamps		-			-	-
		iv) Port for hand held terminal		-			-	-
		v) Serial / Parallel port for networking		-			-	-
		vi) EPROM / EEPROM memory back-up		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		vii) All peripherals and cabling for I/O devices as specified and shown on drgs.		-			-	-
		viii) All necessary software		-			-	-
		ix) 1 No.# Serial interface unit for communication interface with energy meters.		-			-	-
		x) 3 No.# Protocol Integrator		-			-	-
		xi) All accessories & supporting structures.		-			-	-
		xii) Should follow Flat IP Architecture		-			-	-
				-			-	-
11.3		HVAC SYSTEM CONTROLS		-			-	-
				-			-	-
11.3.1		Air Handling Systems		-			-	-
11.3.1.1	NSR	Supply, installation, testing and commissioning of "DDC-AHU System -01 complete as per I/O Summary	Each	189		149779	-	2,83,08,231
		i) Microprocessors & I / O Cards etc as in item 1.1 and peripheral devices		-			-	-
		ii) 2 Nos.# DP Switch with necessary probes		-			-	-
		iii) AHU ON/OFF Command		-			-	-
		iv) AHU ON/OFF Status		-			-	-
		v) AHU Auto/Manual Status		-			-	-
		vi) Supply Air Temperature Sensor		-			-	-
		vii) Return Air Temperature Sensor		-			-	-
		viii) Fresh Air Temperature Sensor		-			-	-
		ix) Supply Chilled water Temperature Sensor		-			-	-
		x) Return Chilled Water Temperature Sensor		-			-	-
		xi) IAQ sensor (or CO2 sensor)		-			-	-
		xii) Supply Air Fire Damper		-			-	-
		xiii) 2# Return Air Fire Damper		-			-	-
		xiv) Fresh Air Motorised Damper		-			-	-
		xv) Filter Status		-			-	-
		xvi) AHU 2way CHW Valve Control		-			-	-
		xvii) Fire Signal		-			-	-
		xviii) DPS FOR STATIC PRESSURE		-			-	-
		xix) VFD STATUS/CONTROL		-			-	-
		1 Nos.# Protocol Integrator for EC Motor Controller		-			-	-
		2 No # Motorised dampers with motorised actuator, transformer as specified for the size given under (15Nm)		-			-	-
		From 0.6 sqm to 0.9 sqm		-			-	-
				-			-	-
11.3.1.2	NSR	Supply, installation, testing and commissioning of " DDC-TFA-01 complete as per I/O Summary	Each	2		149779	-	2,99,558
		i) Microprocessors & I / O Cards etc as in item 1.1 and peripheral devices		-			-	-
		ii) TFA ON/OFF Command		-			-	-
		iii) TFA ON/OFF Status		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		iv) TFA Auto/Manual Status		-			-	-
		v) Supply Air Temperature Sensor		-			-	-
		vi) 'Return Air Temperature Sensor		-			-	-
		v) 'Fresh Air Temperature Sensor		-			-	-
		vi) Supply FAN ON/OFF/TRIP STATUS		-			-	-
		vii) Return FAN ON/OFF/TRIP STATUS		-			-	-
		viii) 'IAQ sensor (or CO2 sensor)		-			-	-
		ix) 'Supply Air Fire Damper		-			-	-
		x) 'Return Air Fire Damper		-			-	-
		xi) 'Filter Status		-			-	-
		xii) 'TFA 2way CHW Valve Control		-			-	-
		xiii) 'Fire Signal		-			-	-
		xiv) 'VFD STAUS/CONTROL		-			-	-
				-			-	-
				-			-	-
11.3.1.3	NSR	DDC -VF01-@ Terrace complete with:	Each	4		17370	-	69,480
		i) Microprocessor & I/O cards		-			-	-
		etc. as in item 1.1 and peripheral		-			-	-
		devices as per I/O Summary		-			-	-
				-			-	-
11.3.1.4	NSR	DDC -VF02-@ Terrace complete with:	Each	4		17370	-	69,480
		i) Microprocessor & I/O cards		-			-	-
		etc. as in item 1.1 and peripheral		-			-	-
		devices as per I/O Summary		-			-	-
				-			-	-
11.3.1.5	NSR	DDC -VF03- @ Terrace complete with:	Each	2		17370	-	34,740
		i) Microprocessor & I/O cards		-			-	-
		etc. as in item 1.1 and peripheral		-			-	-
		devices as per I/O Summary		-			-	-
				-			-	-
11.3.1.6	NSR	DDC -VF04- @ Terrace complete with:	Each	2		17370	-	34,740
		i) Microprocessor & I/O cards		-			-	-
		etc. as in item 1.1 and peripheral		-			-	-
		devices as per I/O Summary		-			-	-
				-			-	-
11.4		BTU METER & POWER METER MONITORING		-			-	-
				-			-	-
11.4.1	NSR	Serial Interface Units for BTU meters	Each	4		37879	-	1,51,516
				-			-	-
11.4.2	NSR	Protocol Integrator for BTU meters	Each	4		22360	-	89,440
				-			-	-
				-			-	-
				-			-	-
11.5		CONTROL CABLING		-			-	-
				-			-	-
11.5.1	NSR	Cabling from DDC'S to various control	RM	18,000		72	-	12,96,000

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
		and monitoring equipment, different metering		-			-	-
		devices consisting of 2C 1 sqmm		-			-	-
		copper twisted pair armoured FRLS PVC insulated cables.		-			-	-
				-			-	-
11.5.2	NSR	Cabling between DDC'S and finally to	RM	5,300		85	-	4,50,500
		supervisory controller consisting of		-			-	-
		2C 1.5 sqmm copper armoured FRLS PVC insulated cables.		-			-	-
				-			-	-
11.5.3		Cable Trays		-			-	-
				-			-	-
11.5.3.1	4.6	Supplying and installing following size of perforated Hot Dipped Galvanised Iron cable tray (galvanisation thickness not less than 50 microns) with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with G.I. suspenders including G.I. bolts & nuts, etc. as required.		-			-	-
11.5.3.1.1	4.6.2	150 mm width X 50 mm depth X 1.6 mm thickness	m	1,940	644		12,49,360	-
10.5.3.1.2	4.6.4	300 mm width X 50 mm depth X 1.6 mm thickness	m	2,325	875		20,34,375	-
10.5.3.1.3	4.6.6	450 mm width X 50 mm depth X 2 mm thickness	m	1,225	1213		14,85,925	-
				-			-	-
11.6		Supervisory Control Panels & Man Machine interface		-			-	-
				-			-	-
				-			-	-
11.6.1	NSR	Supply, installation, testing and commissioning of Man Machine interface with	Set	5		183438	-	9,17,190
				-			-	-
				-			-	-
		1# xeon or equal		-			-	-
		16 GB RAM & 2 GB Graphic Card		-			-	-
		2 TB hard disc		-			-	-
		21" high resolution		-			-	-
		(1920 x 1080 pixels) colour LED		-			-	-
		monitor with VGA/HDMI/USB Ports		-			-	-
		2 serial ports, 2 parallel ports,		-			-	-
		2 USB ports		-			-	-
		101 keyboard		-			-	-
		Server OS		-			-	-
		operating system of latest version		-			-	-
		DVDR-W Drive		-			-	-
		1# Portable operator terminal		-			-	-
		1# High speed wide format (A3) inkjet printer		-			-	-
		1# 132 Column Dot matrix Printer		-			-	-
		BMS Software with GUI		-			-	-
		i) Seamless Integration to be considered.		-			-	-
		ii) Software should have Inbuilt Energy Dashboard.		-			-	-
				-			-	-
11.6.2	NSR	Portable operator terminals-inbuilt in DDC					-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
				-			-	-
11.6.3	NSR	16 Port Hub with all necessary accessories and cabling to run the network.	Each	35		24719	-	8,65,165
				-			-	-
11.6.4	NSR	Supervisory Control Panels complete with:	Set	5		381375	-	19,06,875
				-			-	-
		i) I/O cards as required		-			-	-
		ii) EPROM or EEPROM memory back up		-			-	-
		iii) Microprocessor		-			-	-
		iv) Indicating lamps		-			-	-
		v) Networking ports		-			-	-
		vi) Port for handheld terminal		-			-	-
				-			-	-
11.6.5	NSR	Energy Management Software with Dashboard	Each	5		105002	-	5,25,010
				-			-	-
		Total Carried to Summary		-			47,69,660	3,76,05,305
				-			-	-
12.0		IP CCTV SURVEILLANCE & ACCESS CONTROL SYSTEMS		-			-	-
12.1	NSR	Supply, installation, testing & commissioning of Outdoor Bullet type , 1/3" Progressive CMOS 2 MP Outdoor 1920x1080 Manual Vari Focal f = 2.8 ~ 12 mm Field of View "36.2°~100.6° (Horizontal), 20.4° ~54.9° (Vertical), 38.3°~103.1° (Diagonal)" IR range upto 30 Mtr Smart IR SNV Min. Illumination 0.05 Lux @ F1.4 (Color), 0.01 Lux @ F1.4 (B/W) 3D Noise Reduction H.264, MJPEG 4 simultaneous streams S/N Ratio 65 dB Dynamic Range 69.4 dB WDR Enhanced MicroSD/SDHC card slot ONVIF IP66, IK 10 ,CE, LVD, FCC Class A, VCCI, C-Tick.	Nos	25		56917	-	14,22,925
12.2	NSR	SITC of outdoor box type , 1/3-inch color CCD, progressive scan, 540 TVL, Quad Streaming: Dual H.264 and M-JPEG simultaneously, 4CIF resolution, Auto lens detection ,compatible with digital video recorder, PoE (Power-over-Ethernet), 24 VAC and 12 VDC ,UL Listed,ONVIF conformant with IP 66 weather proof housing and 2.8 to 10 mm/5 to 50mm Lens, Inbuilt video analytics at edge	Nos	10		89257	-	8,92,570
12.3	NSR	SITC OF COLOUR 1080P resolution at 25 fps OUTDOOR P/TZ CAMERA (LENS - F=4 MM TO 88 MM,OPTICAL= 30X OPTICAL ZOOM),DAY & NIGHT FEATURE INCLUDING INTEGRATED HOUSING (DOME TYPE), CONNECTORS, A.I.LENS, CAMERA MOUNTS, ALL ANCILLARY EQUIPMENT & ALL ACCESSORIES		20		220000	-	44,00,000
12.4	NSR	Supply, installation, testing & commissioning of GI Pole, 50mm dia, 3m high with 2 coats of reoxide primer and 3 coats of external colour as per Architects recommendation, complete with mouting accesssoires as required for the pole as well as the cameras, suitable to mount the outdoor cameras to the directions of the consultant.	Nos	58		15750	-	9,13,500
				-			-	-
12.5	NSR	Supply & installation of IP to Analog media converter for converting IP signal to Analog Signal with necessary accesories .	Nos	41		20995	-	8,60,795

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
				-			-	-
12.6	NSR	Supply & installation of Analog to IP media converter for converting Analog signal to IP Signal with necessary accesories .	Nos	41		20995	-	8,60,795
				-			-	-
12.7	NSR	Supply, Installation, Testing & Commissioning of 24 Port + 2 SFP (switch fibre port), Port with multimode module managed L2 switch for camera power & Data management system.	Set	8		80747	-	6,45,976
				-			-	-
12.8	NSR	Layer 2 networking NON - POE switch with minumum of 24 ports for camera connections to server for all cameras complete with jacks,joints, or any other networking accessory required to complete the job.	Set	9		1,52,163	-	13,69,467
				-			-	-
12.9	NSR	Supply, Installation, Testing & Commissioning of 12 Port L3 Managed Switch Level 3 for camera power & Data management system.	Set	1		6,88,052	-	6,88,052
				-			-	-
12.1	NSR	Supply, Installation, Testing & Commissioning of 24 Port Loaded LIU panel with accessories (multi-mode).	Set	1		30838	-	30,838
				-			-	-
12.11	NSR	Supply, Installation, Testing & Commissioning of Rack mounted type 24 Ports, Light guide loaded Interconnect Unit with adapter Panel for termination of Optical fibre cables on wall/ provided U Rack	Set	19		29057	-	5,52,083
				-			-	-
12.12	NSR	Supply, Installation, Testing & Commissioning of Single/Multimode 6 core fibre optic cable,zero halogen,low smoke,complete with but not limited to necessary termination,splices,LC/LC,SC/SC patch cord etc in cable tray / Conduit (From Layer 2 switch to LIU & LIU to Layer 3 switch)	meter	950		105	-	99,750
				-			-	-
12.13	NSR	Supply, laying and termination of 3Cx1.5 sq.mm PVC insulalted copper conductor flexible unarmoured cable in conduits/raceway/cable tray for camera power.	meter	10,850		87	-	9,43,950
				-			-	-
12.14	NSR	Supply, laying, Testing & commissioning of RG - 11 FRLS coaxial cable in FR rigid PVC HMS conduits / Raceways with necessary clamps,supports,termination etc. (From Layer 2 switch to Outdoor Camera through IP to Analog media converter)	meter	10,850		96	-	10,41,600
				-			-	-
12.15	1.53.1	Supply, Installation, Testing & Commissioning of Cat 6 armoured cable from L2 switch to Outdoor cameras complete with necessary clamps,supports,termination etc.	meter	4,400		73	-	3,21,200
				-			-	-
12.16	NSR	Supply & installation of 1000 MhZ media converter .	Set	1		14774	-	14,774
				-			-	-
		Total Carried to Summary		-			-	1,50,58,275
				-			-	-
13.0		UPS & INVERTERS		-			-	-
				-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
13.1	NSR	Supply, installation, testing & commissioning of IGBT based micro processor controlled True On line double conversion 3 phase input and 3 phase 415V output 3 X 200 kVA (0.9PF) Parallel Redundant UPS operating in Parallel redundant configuration (N+1) consisting of following:	Set	1		8830275	-	88,30,275
a.		Each UPS module with integrated 100% rectifier + inverter.		-			-	-
b.		Battery Circuit breaker for Each UPS Module in CRCA housing with all required fixing accerrories & hardware.		-			-	-
c.		Galvanic Isolation transformer K-13, at the inverter output of Each UPS Module.		-			-	-
d.		RS 485 BACnet / Modbus protocol with each UPS module for BMS Connectivity. All the informations to be provided to the BMS vendor at one point.		-			-	-
e.		In-built Static switch for bypass & inverter in each UPS module.		-			-	-
f.		In-built Manual Maintenace bypass for each UPS.		-			-	-
g.		Interconnecting copper cabling (DC cabling) between UPS, Battery breaker & Batteries of required length and size for each UPS.		-			-	-
h.		Each UPS shall have a SNMP card for LAN/WEB connectivity. The SNMP card shall have an inbuilt memory for event logging.		-			-	-
i.		Sealed Maintenance free batteries for 3 X 200 kVA UPS with 30 <u>Mins.</u> backup time on each UPS module with inerconnectors, Rack and accessories. Rack shall have shrouds for safety from live battery terminals.		-			-	-
j.		Suitable MS stand of 450mm high for each UPS module duly painted for each UPS.		-			-	-
k.		RAM Module with each UPS and Cat 5 cable for RAM connectivity.		-			-	-
l.		Charger Capacity 120%		-			-	-
m.		UPS to have atleast two dry contacts for remote alarms.		-			-	-
				-			-	-
13.2	NSR	Supply, installation, testing & commissioning of IGBT based micro processor controlled True On line double conversion 3 phase input and 3 phase 415V output 4 X 150 kVA (0.9PF) Parallel Redundant UPS operating in Parallel redundant configuration (N+1) consisting of following:	Set	1		10460105	-	1,04,60,105
a.		Each UPS module with integrated 100% rectifier + inverter.		-			-	-
b.		Battery Circuit breaker for Each UPS Module in CRCA housing with all required fixing accerrories & hardware.		-			-	-
c.		Galvanic Isolation transformer K-13, at the inverter output of Each UPS Module.		-			-	-
d.		RS 485 BACnet / Modbus protocol with each UPS module for BMS Connectivity. All the informations to be provided to the BMS vendor at one point.		-			-	-
e.		In-built Static switch for bypass & inverter in each UPS module.		-			-	-
f.		In-built Manual Maintenace bypass for each UPS.		-			-	-
g.		Interconnecting copper cabling (DC cabling) between UPS, Battery breaker & Batteries of required length and size for each UPS.		-			-	-
h.		Each UPS shall have a SNMP card for LAN/WEB connectivity. The SNMP card shall have an inbuilt memory for event logging.		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
i.		Sealed Maintenance free batteries for 4 X 150 kVA UPS with 30 <u>Mins.</u> backup time on each UPS module with inerconnectors, Rack and accessories. Rack shall have shrouds for safety from live battery terminals.		-			-	-
j.		Suitable MS stand of 450mm high for each UPS module duly painted for each UPS.		-			-	-
k.		RAM Module with each UPS and Cat 5 cable for RAM connectivity.		-			-	-
l.		Charger Capacity 120%		-			-	-
m.		UPS to have atleast two dry contacts for remote alarms.		-			-	-
				-			-	-
13.3	NSR	Supply of IGBT based micro processor controlled True On line double conversion 3 Phase input 415V and 3 Phase output 1X 40 KVA (0.9PF) Inverter (N) consisting of following:		2		1458333	-	29,16,666
		Each module with integrated 100% rectifier + inverter.		-			-	-
		Battery Circuit breaker for module in CRCA housing with all required fixing accessories & hardware.		-			-	-
		RS 485 BACnet / Modbus protocol with module for BMS Connectivity. All the informations to be provided to the BMS vendor at one point.		-			-	-
		In-built static switch for bypass & inverter in module.		-			-	-
		In-built Manual maintenance bypass.		-			-	-
		Interconnecting copper cabling (DC cabling) between Inverter, Battery breaker & Batteries of required length and size.		-			-	-
		Shall have a SNMP card for LAN/WEB connectivity. The SNMP card shall have an inbuilt memory for event logging.		-			-	-
		Sealed maintenance free batteries for 1 x 30 KVA Inverter with 90 <u>mins.</u> backup time on Inverter module with inerconnectors, Rack and accessories. Rack shall have shrouds for safety from live battery terminals.		-			-	-
		Suitable MS stand of 450mm high for Inverter module duly painted.		-			-	-
		RAM module with UPS and Cat 5 cable for RAM connectivity.		-			-	-
		Charger Capacity 120%		-			-	-
		Inverter to have atleast two dry contacts for remote alarms.		-			-	-
		Inverter to have atleast two dry contacts for remote alarms.		-			-	-
		Inverter to have atleast two dry contacts for remote alarms.		-			-	-
				-			-	-
13.4	NSR	Supply, installation, testing & commissioning of IGBT based micro processor controlled True On line double conversion 3 phase input and 3 phase 415V output 2 X 20 kVA (0.9PF) UPS consisting of following:	Set	1		1216291	-	12,16,291
a.		Each UPS module with integrated 100% rectifier + inverter.		-			-	-
b.		Battery Circuit breaker for Each UPS Module in CRCA housing with all required fixing accerrories & hardware.		-			-	-
c.		Galvanic Isolation transformer K-13, at the inverter output of Each UPS Module.		-			-	-
d.		RS 485 BACnet / Modbus protocol with each UPS module for BMS Connectivity. All the informations to be provided to the BMS vendor at one point.		-			-	-
e.		In-built Static switch for bypass & inverter in each UPS module.		-			-	-
f.		In-built Manual Maintenace bypass for each UPS.		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
g.		Interconnecting copper cabling (DC cabling) between UPS, Battery breaker & Batteries of required length and size for each UPS.		-			-	-
h.		Each UPS shall have a SNMP card for LAN/WEB connectivity. The SNMP card shall have an inbuilt memory for event logging.		-			-	-
i.		Sealed Maintenance free batteries for 2 X 20 kVA UPS with 30 Mins. backup time on each UPS module with inerconnectors, Rack and accessories. Rack shall have shrouds for safety from live battery terminals.		-			-	-
j.		Suitable MS stand of 450mm high for each UPS module duly painted for each UPS.		-			-	-
k.		RAM Module with each UPS and Cat 5 cable for RAM connectivity.		-			-	-
l.		Charger Capacity 120%		-			-	-
m.		UPS to have atleast two dry contacts for remote alarms.		-			-	-
				-			-	-
13.5	NSR	Supply of IGBT based micro processor controlled True On line double conversion 3 Phase input 415V and 3 Phase output 1X 15 kVA (0.9PF) Inverter (N) consisting of following:		1		595983	-	5,95,983
		Each module with integrated 100% rectifier + inverter.		-			-	-
		Battery Circuit breaker for module in CRCA housing with all required fixing accessories & hardware.		-			-	-
		RS 485 BACnet / Modbus protocol with module for BMS Connectivity. All the informations to be provided to the BMS vendor at one point.		-			-	-
		In-built static switch for bypass & inverter in module.		-			-	-
		In-built Manual maintenance bypass.		-			-	-
		Interconnecting copper cabling (DC cabling) between Inverter, Battery breaker & Batteries of required length and size.		-			-	-
		Shall have a SNMP card for LAN/WEB connectivity. The SNMP card shall have an inbuilt memory for event logging.		-			-	-
		Sealed maintenance free batteries for 1 x 15 kVA Inverter with 90mins. backup time on Inverter module with inerconnectors, Rack and accessories. Rack shall have shrouds for safety from live battery terminals.		-			-	-
		Suitable MS stand of 450mm high for Inverter module duly painted.		-			-	-
		RAM module with UPS and Cat 5 cable for RAM connectivity.		-			-	-
		Charger Capacity 120%		-			-	-
		Inverter to have atleast two dry contacts for remote alarms.		-			-	-
		Inverter to have atleast two dry contacts for remote alarms.		-			-	-
		Inverter to have atleast two dry contacts for remote alarms.		-			-	-
				-			-	-
13.6	NSR	Supply, installation, testing & commissioning of IGBT based micro processor controlled True On line double conversion 3 phase input and 3 phase 415V output 1 X 5 kVA (0.9PF) UPS consisting of following:	Set	1		352724	-	3,52,724
a.		Each UPS module with integrated 100% rectifier + inverter.		-			-	-
b.		Battery Circuit breaker for Each UPS Module in CRCA housing with all required fixing accerrories & hardware.		-			-	-
c.		Galvanic Isolation transformer K-13, at the inverter output of Each UPS Module.		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
d.		RS 485 BACnet / Modbus protocol with each UPS module for BMS Connectivity. All the informations to be provided to the BMS vendor at one point.		-			-	-
e.		In-built Static switch for bypass & inverter in each UPS module.		-			-	-
f.		In-built Manual Maintenance bypass for each UPS.		-			-	-
g.		Interconnecting copper cabling (DC cabling) between UPS, Battery breaker & Batteries of required length and size for each UPS.		-			-	-
h.		Each UPS shall have a SNMP card for LAN/WEB connectivity. The SNMP card shall have an inbuilt memory for event logging.		-			-	-
i.		Sealed Maintenance free batteries for 1 X 5 kVA UPS with 30 <u>Mins.</u> backup time on each UPS module with inerconnectors, Rack and accessories. Rack shall have shrouds for safety from live battery terminals.		-			-	-
j.		Suitable MS stand of 450mm high for each UPS module duly painted for each UPS.		-			-	-
k.		RAM Module with each UPS and Cat 5 cable for RAM connectivity.		-			-	-
l.		Charger Capacity 120%		-			-	-
m.		UPS to have atleast two dry contacts for remote alarms.		-			-	-
m.		Inverter to have atleast two dry contacts for remote alarms.		-			-	-
13.7	NSR	Supply of IGBT based micro processor controlled True On line double conversion 3 Phase input 415V and 3 Phase output 1X 10 kVA (0.9PF) Inverter (N) consisting of following:		1		401376	-	4,01,376
		Each module with integrated 100% rectifier + inverter.		-			-	-
		Battery Circuit breaker for module in CRCA housing with all required fixing accessories & hardware.		-			-	-
		RS 485 BACnet / Modbus protocol with module for BMS Connectivity. All the informations to be provided to the BMS vendor at one point.		-			-	-
		In-built static switch for bypass & inverter in module.		-			-	-
		In-built Manual maintenance bypass.		-			-	-
		Interconnecting copper cabling (DC cabling) between Inverter, Battery breaker & Batteries of required length and size.		-			-	-
		Shall have a SNMP card for LAN/WEB connectivity. The SNMP card shall have an inbuilt memory for event logging.		-			-	-
		Sealed maintenance free batteries for 1 x 10 kVA Inverter with 90 <u>mins.</u> backup time on Inverter module with inerconnectors, Rack and accessories. Rack shall have shrouds for safety from live battery terminals.		-			-	-
		Suitable MS stand of 450mm high for Inverter module duly painted.		-			-	-
		RAM module with UPS and Cat 5 cable for RAM connectivity.		-			-	-
		Charger Capacity 120%		-			-	-
		Inverter to have atleast two dry contacts for remote alarms.		-			-	-
		Inverter to have atleast two dry contacts for remote alarms.		-			-	-
		Inverter to have atleast two dry contacts for remote alarms.		-			-	-
				-			-	-
13.8	NSR	Supply, installation, testing & commissioning of IGBT based micro processor controlled True On line double conversion 3 phase input and 3 phase 415V output 1 X 5 kVA (0.9PF) UPS consisting of following:	Set	1		352724	-	3,52,724
a.		Each UPS module with integrated 100% rectifier + inverter.		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
b.		Battery Circuit breaker for Each UPS Module in CRCA housing with all required fixing accerrories & hardware.		-			-	-
c.		Galvanic Isolation transformer K-13, at the inverter output of Each UPS Module.		-			-	-
d.		RS 485 BACnet / Modbus protocol with each UPS module for BMS Connectivity. All the informations to be provided to the BMS vendor at one point.		-			-	-
e.		In-built Static switch for bypass & inverter in each UPS module.		-			-	-
f.		In-built Manual Maintenace bypass for each UPS.		-			-	-
g.		Interconnecting copper cabling (DC cabling) between UPS, Battery breaker & Batteries of required length and size for each UPS.		-			-	-
h.		Each UPS shall have a SNMP card for LAN/WEB connectivity. The SNMP card shall have an inbuilt memory for event logging.		-			-	-
i.		Sealed Maintenance free batteries for 1 X 5 kVA UPS with 30 <u>Mins.</u> backup time on each UPS module with inerconnectors, Rack and accessories. Rack shall have shrouds for safety from live battery terminals.		-			-	-
j.		Suitable MS stand of 450mm high for each UPS module duly painted for each UPS.		-			-	-
k.		RAM Module with each UPS and Cat 5 cable for RAM connectivity.		-			-	-
l.		Charger Capacity 120%		-			-	-
m.		UPS to have atleast two dry contacts for remote alarms.		-			-	-
m.		Inverter to have atleast two dry contacts for remote alarms.		-			-	-
				-			-	-
13.9	NSR	Supply of IGBT based micro processor controlled True On line double conversion 3 Phase input 415V and 3 Phase output 1X 10 <u>KVA (0.9PF)</u> <u>Inverter (N)</u> consisting of following:		1		401376	-	4,01,376
		Each module with integrated 100% rectifier + inverter.		-			-	-
		Battery Circuit breaker for module in CRCA housing with all required fixing accessories & hardware.		-			-	-
		RS 485 BACnet / Modbus protocol with module for BMS Connectivity. All the informations to be provided to the BMS vendor at one point.		-			-	-
		In-built static switch for bypass & inverter in module.		-			-	-
		In-built Manual maintenance bypass.		-			-	-
		Interconnecting copper cabling (DC cabling) between Inverter, Battery breaker & Batteries of required length and size.		-			-	-
		Shall have a SNMP card for LAN/WEB connectivity. The SNMP card shall have an inbuilt memory for event logging.		-			-	-
		Sealed maintenance free batteries for 1 x 10 <u>KVA</u> Inverter with 90 <u>mins.</u> backup time on Inverter module with inerconnectors, Rack and accessories. Rack shall have shrouds for safety from live battery terminals.		-			-	-
		Suitable MS stand of 450mm high for Inverter module duly painted.		-			-	-
		RAM module with UPS and Cat 5 cable for RAM connectivity.		-			-	-
		Charger Capacity 120%		-			-	-
		Inverter to have atleast two dry contacts for remote alarms.		-			-	-
		Inverter to have atleast two dry contacts for remote alarms.		-			-	-
		Inverter to have atleast two dry contacts for remote alarms.		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
				-			-	-
13.10	NSR	Supply, installation, testing & commissioning of IGBT based micro processor controlled True On line double conversion 3 phase input and 3 phase 415V output 2 X 60 kVA (0.9PF) Parallel Redundant UPS operating in Parallel redundant configuration (N+1) consisting of following:	Set	1		1873089	-	18,73,089
a.		Each UPS module with integrated 100% rectifier + inverter.		-			-	-
b.		Battery Circuit breaker for Each UPS Module in CRCA housing with all required fixing accerrories & hardware.		-			-	-
c.		Galvanic Isolation transformer K-13, at the inverter output of Each UPS Module.		-			-	-
d.		RS 485 BACnet / Modbus protocol with each UPS module for BMS Connectivity. All the informations to be provided to the BMS vendor at one point.		-			-	-
e.		In-built Static switch for bypass & inverter in each UPS module.		-			-	-
f.		In-built Manual Maintenace bypass for each UPS.		-			-	-
g.		Interconnecting copper cabling (DC cabling) between UPS, Battery breaker & Batteries of required length and size for each UPS.		-			-	-
h.		Each UPS shall have a SNMP card for LAN/WEB connectivity. The SNMP card shall have an inbuilt memory for event logging.		-			-	-
i.		Sealed Maintenance free batteries for 2 X 60 kVA UPS with 15 Mins. backup time on each UPS module with inerconnectors, Rack and accessories. Rack shall have shrouds for safety from live battery terminals.		-			-	-
j.		Suitable MS stand of 450mm high for each UPS module duly painted for each UPS.		-			-	-
k.		RAM Module with each UPS and Cat 5 cable for RAM connectivity.		-			-	-
l.		Charger Capacity 120%		-			-	-
m.		UPS to have atleast two dry contacts for remote alarms.		-			-	-
				-			-	-
13.11	NSR	Supply, installation, testing & commissioning of IGBT based micro processor controlled True On line double conversion 3 phase input and 3 phase 415V output 2 X 30 kVA (0.9PF) Parallel Redundant UPS operating in Parallel redundant configuration (N+1) consisting of following:	Set	1		1118988	-	11,18,988
a.		Each UPS module with integrated 100% rectifier + inverter.		-			-	-
b.		Battery Circuit breaker for Each UPS Module in CRCA housing with all required fixing accerrories & hardware.		-			-	-
c.		Galvanic Isolation transformer K-13, at the inverter output of Each UPS Module.		-			-	-
d.		RS 485 BACnet / Modbus protocol with each UPS module for BMS Connectivity. All the informations to be provided to the BMS vendor at one point.		-			-	-
e.		In-built Static switch for bypass & inverter in each UPS module.		-			-	-
f.		In-built Manual Maintenace bypass for each UPS.		-			-	-
g.		Interconnecting copper cabling (DC cabling) between UPS, Battery breaker & Batteries of required length and size for each UPS.		-			-	-
h.		Each UPS shall have a SNMP card for LAN/WEB connectivity. The SNMP card shall have an inbuilt memory for event logging.		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
i.		Sealed Maintenance free batteries for 2 X 30 kVA UPS with 15 <u>Mins.</u> backup time on each UPS module with inerconnectors, Rack and accessories. Rack shall have shrouds for safety from live battery terminals.		-			-	-
j.		Suitable MS stand of 450mm high for each UPS module duly painted for each UPS.		-			-	-
k.		RAM Module with each UPS and Cat 5 cable for RAM connectivity.		-			-	-
l.		Charger Capacity 120%		-			-	-
m.		UPS to have atleast two dry contacts for remote alarms.		-			-	-
m.		UPS to have atleast two dry contacts for remote alarms.		-			-	-
				-			-	-
13.12	NSR	Supply, installation, testing & commissioning of IGBT based micro processor controlled True On line double conversion 3 phase input and 3 phase 415V output 2 X 25 kVA (0.9PF) Parallel Redundant UPS operating in Parallel redundant configuration (N+1) consisting of following:	Set	1		1094662	-	10,94,662
a.		Each UPS module with integrated 100% rectifier + inverter.		-			-	-
b.		Battery Circuit breaker for Each UPS Module in CRCA housing with all required fixing accerrories & hardware.		-			-	-
c.		Galvanic Isolation transformer K-13, at the inverter output of Each UPS Module.		-			-	-
d.		RS 485 BACnet / Modbus protocol with each UPS module for BMS Connectivity. All the informations to be provided to the BMS vendor at one point.		-			-	-
e.		In-built Static switch for bypass & inverter in each UPS module.		-			-	-
f.		In-built Manual Maintenance bypass for each UPS.		-			-	-
g.		Interconnecting copper cabling (DC cabling) between UPS, Battery breaker & Batteries of required length and size for each UPS.		-			-	-
h.		Each UPS shall have a SNMP card for LAN/WEB connectivity. The SNMP card shall have an inbuilt memory for event logging.		-			-	-
i.		Sealed Maintenance free batteries for 2 X 25 kVA UPS with 15 <u>Mins.</u> backup time on each UPS module with inerconnectors, Rack and accessories. Rack shall have shrouds for safety from live battery terminals.		-			-	-
j.		Suitable MS stand of 450mm high for each UPS module duly painted for each UPS.		-			-	-
k.		RAM Module with each UPS and Cat 5 cable for RAM connectivity.		-			-	-
l.		Charger Capacity 120%		-			-	-
m.		UPS to have atleast two dry contacts for remote alarms.		-			-	-
				-			-	-
13.13	NSR	Supply, installation, testing & commissioning of IGBT based micro processor controlled True On line double conversion 3 phase input and 3 phase 415V output 2 X 20 kVA (0.9PF) Parallel Redundant UPS operating in Parallel redundant configuration (N+1) consisting of following:	Set	2		1070336	-	21,40,672
a.		Each UPS module with integrated 100% rectifier + inverter.		-			-	-
b.		Battery Circuit breaker for Each UPS Module in CRCA housing with all required fixing accerrories & hardware.		-			-	-
c.		Galvanic Isolation transformer K-13, at the inverter output of Each UPS Module.		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
d.		RS 485 BACnet / Modbus protocol with each UPS module for BMS Connectivity. All the informations to be provided to the BMS vendor at one point.		-			-	-
e.		In-built Static switch for bypass & inverter in each UPS module.		-			-	-
f.		In-built Manual Maintenance bypass for each UPS.		-			-	-
g.		Interconnecting copper cabling (DC cabling) between UPS, Battery breaker & Batteries of required length and size for each UPS.		-			-	-
h.		Each UPS shall have a SNMP card for LAN/WEB connectivity. The SNMP card shall have an inbuilt memory for event logging.		-			-	-
i.		Sealed Maintenance free batteries for 2 X 20 kVA UPS with 15 Mins. backup time on each UPS module with inerconnectors, Rack and accessories. Rack shall have shrouds for safety from live battery terminals.		-			-	-
j.		Suitable MS stand of 450mm high for each UPS module duly painted for each UPS.		-			-	-
k.		RAM Module with each UPS and Cat 5 cable for RAM connectivity.		-			-	-
l.		Charger Capacity 120%		-			-	-
m.		UPS to have atleast two dry contacts for remote alarms.		-			-	-
				-			-	-
13.14	NSR	Supply of IGBT based micro processor controlled True On line double conversion 3 Phase input 415V and 3 Phase output 1X 10 KVA (0.9PF) UPS (N) consisting of following:	Set	4		231095	-	9,24,380
a.		Each UPS module with integrated 100% rectifier + inverter.		-			-	-
b.		Battery Circuit breaker for UPS module in CRCA housing with all required fixing accessories & hardware.		-			-	-
c.		RS 485 BACnet / Modbus protocol with UPS module for BMS Connectivity. All the informations to be provided to the BMS vendor at one point.		-			-	-
d.		In-built static switch for bypass & inverter in UPS module.		-			-	-
e.		In-built Manual maintenance bypass.		-			-	-
f.		Interconnecting copper cabling (DC cabling) between UPS, Battery breaker & Batteries of required length and size.		-			-	-
g.		UPS shall have a SNMP card for LAN/WEB connectivity. The SNMP card shall have an inbuilt memory for event logging.		-			-	-
h.		Sealed maintenance free batteries for 1 x10 KVA UPS with 15mins. backup time on UPS module with inerconnectors, Rack and accessories. Rack shall have shrouds for safety from live battery terminals.		-			-	-
i.		Suitable MS stand of 450mm high for UPS module duly painted.		-			-	-
j.		RAM module with UPS and Cat 5 cable for RAM connectivity.		-			-	-
k.		Charger Capacity 120%		-			-	-
l.		UPS to have atleast two dry contacts for remote alarms.		-			-	-
				-			-	-
13.15	NSR	Supply of IGBT based micro processor controlled True On line double conversion 1 Phase input 230V and 1 Phase output 1X 5 KVA (0.9PF) UPS (N) consisting of following:	Set	5		182444	-	9,12,220
a.		Each UPS module with integrated 100% rectifier + inverter.		-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
b.		Battery Circuit breaker for UPS module in CRCA housing with all required fixing accessories & hardware.		-			-	-
c.		RS 485 BACnet / Modbus protocol with UPS module for BMS Connectivity. All the informations to be provided to the BMS vendor at one point.		-			-	-
d.		In-built static switch for bypass & inverter in UPS module.		-			-	-
e.		In-built Manual maintenance bypass.		-			-	-
f.		Interconnecting copper cabling (DC cabling) between UPS, Battery breaker & Batteries of required length and size.		-			-	-
g.		UPS shall have a SNMP card for LAN/WEB connectivity. The SNMP card shall have an inbuilt memory for event logging.		-			-	-
h.		Sealed maintenance free batteries for 1 x5 KVA UPS with 90mins. backup time on UPS module with inerconnectors, Rack and accessories. Rack shall have shrouds for safety from live battery terminals.		-			-	-
i.		Suitable MS stand of 450mm high for UPS module duly painted.		-			-	-
j.		RAM module with UPS and Cat 5 cable for RAM connectivity.		-			-	-
k.		Charger Capacity 120%		-			-	-
l.		UPS to have atleast two dry contacts for remote alarms.		-			-	-
m.		UPS to have atleast two dry contacts for remote alarms.		-			-	-
m.		UPS to have atleast two dry contacts for remote alarms.		-			-	-
				-			-	-
		Total Carried to Summary		-			-	3,35,91,531
				-			-	-
14.0		EARTHING		-			-	-
14.1	5.18	Providing and fixing 6 SWG dia G.I. wire on surface or in recess for loop earthing along with existing surface/ recessed conduit/ submain wiring/ cable as required.	meter	4,500	37		1,66,500	-
14.2	NSR	Supply and installation of one number earth pit with advance maintainance free Earthing System consisting of one Number, CPRI tested copper bonded steel electrode of minimum 25 mm dia. (as per IE C62561-2) With a minimum coating thickness of 250 microns and length of 3 meters, 25 kg/ Electrode of earth enhancing compound (tested as per IEC-62561-7) fill the 100mm augered hole surrounding to the electrode, SS Universal Clamp of Size 175X50X3 mm for terminal Connection including Poly Propylene Heavy duty Pit cover including all accessories, excavation of earth, filling with back fill compound, and earth pit marking. The Complete installation shall be as per the drawing, technical specifications and as required.	Set	26		11183	-	2,90,758

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
14.3	NSR	Supply and installation of one number earth pit with advance maintenance free Earthing System consisting of one Number, CPRI tested copper bonded steel electrode of minimum 19 mm dia (as per IE C62561-2) With a minimum. coating thickness of 250 microns and length of 3 meters. 25 kg/ Electrode of earth enhancing compound (tested as per IEC-62561-7) fill the 100mm augered hole surrounding to the electrode, SS Universal Clamp of Size 175X50X3 mm for terminal Connection including Poly Propylene Heavy duty Pit cover including all accessories, excavation of earth, filling with back fill compound, and earth pit marking. The Complete installation shall be as per the drawing, technical specifications and as required.	Set	4		10018	-	40,072
				-			-	-
14.4	NSR	Supply and installation of one number earth pit with of advance maintenance free Earthing System consisting of one Number UL Listed CPRI tested copper bonded steel electrode of minimum 13 mm dia. (as per IE C62561-2) With a minimum. coating thickness of 250 microns and length of 3 meters. 25 kg/ Electrode of earth enhancing compound (tested as per IEC-62561-7) fill the 100mm augered hole surrounding to the electrode , SS Universal Clamp of Size 175X50X3 mm for terminal Connection including Poly Propylene Heavy duty Pit cover including all accessories, excavation of earth, filling with back fill compound, and earth pit marking. The Complete installation shall be as per the drawing, technical specifications and as required.		60		8977	-	5,38,620
14.4		Earth wire/strips		-			-	-
		Providing and fixing following strip on surface or in recess for connections etc. as required with necessary fixing accessories		-			-	-
14.4.1	NSR	75 x 10 mm GI	meter	1,400		586	-	8,20,400
14.4.2	NSR	50 x 12 mm GI	meter	75		483	-	36,225
14.4.3	NSR	50 x 8 mm GI	meter	65		353	-	22,945
				-			-	-
		Total Carried to Summary		-			1,66,500	17,49,020
15.0		BOOM BARRIER SYSTEM		-			-	-
15.1	NSR	Supply, installation, testing and commissioning of automatic boom barrier suitable for 5.0m-7.5m road width for intensive applications, high speed with 4.5 second opening time with Straight aluminium boom of minimum size 100mm x 70 mm, built in blinker indicator etc. complete as required as per specifications & at site of work.	Set	10		276397	-	27,63,970
				-			-	-
15.2	NSR	Supply, installation, testing and commissioning of a set of Entry/ Exit push buttons for manual open and closing of barrier etc. complete as required.	Set	10		4269	-	42,690
				-			-	-
		TOTAL CARRIED TO SUMMARY		-			-	28,06,660
				-			-	-
16.0		MISC. WORKS		-			-	-
				-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
16.1	14.16	Supplying and laying of following size DWC HDPE pipe ISI marked along with all accessories like socket, bend, coupler etc. conforming to IS 14930, Part II complete with fitting and cutting, jointing etc. direct in ground (75 cm below ground level) including excavation and refilling the trench but excluding sand cushioning and protective covering etc., complete as required.		-			-	-
16.1.1	14.16.2	90 mm dia (OD-90 mm & ID-76 mm nominal)	Mtrs	1,500	249		3,73,500	-
				-			-	-
16.2	14.14	Providing, laying and fixing following dia RCC pipe NP2 class (light duty) in ground complete with RCC collars, jointing with cement mortar 1:2 (1 cement : 2 fine sand) including trenching (75 cm deep) and refilling etc. as required.		-			-	-
				-			-	-
16.2.1	14.14.2	150 mm dia	Mtrs	100	598		59,800	-
16.2.2	14.14.4	300 mm dia	Mtrs	9,340	854		79,76,360	-
				-			-	-
16.3		Constructing water tight brick masonry manhole with 75 class designation bricks in cement mortar 1:4 (1 cement: 4 coarse sand), R.C.C. top slab with 1:2:4 mix (1 cement: 2 coarse sand: 4 graded stone aggregate 20 mm nominal size). Foundation concrete 150 mm thick 1:4:8 mix (1 cement: 4 coarse sand :8 graded stone aggregate 40 mm nominal size), inside and outside plastering 12 mm thick with cement plaster 1:3 (1 cement :3 coarse sand) finished with a floating coat of neat cement and making channels and benching in cement concrete 1:2:4 mix (1 cement: 2 coarse sand: 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement complete as per standard design, complete with DI cover Heavy duty of adequate size as per standard design and approved drawings. (Price shall include the, cost of excavation, back filling, disposal of surplus earth, dewatering & water proofing of manholes as directed at site & other associated civil works).		-			-	-
				-			-	-
16.3.1	NSR	Inside size 600mm x 600 mm x 750 mm deep.	Each	47		13472	-	6,33,184
16.3.2	NSR	Inside size 800mm x 900mm x 750mm deep.	Each	130		16349	-	21,25,370
16.3.3	NSR	Inside size 600mm x 600 mm x 1100 mm deep.	Each	74		13472	-	9,96,928
16.3.4	NSR	Inside size 800mm x 900mm x 1100mm deep.	Each	100		16480	-	16,48,000
16.3.5	NSR	Extra over item above for depth exceeding 75 cm to 90 cm.	RM	2		10319	-	20,638
16.3.6	NSR	Extra over item above for depth exceeding 900-2500 cm.	RM	2		19235	-	38,470
				-			-	-
		TOTAL CARRIED TO SUMMARY		-			84,09,660	54,62,590
				-			-	-
17.0		SAFETY EQUIPMENTS		-			-	-
				-			-	-
17.1	2.21	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	12	226		2,712	-
				-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
17.2	2.22	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	30	244		7,320	-
				-			-	-
17.3	NSR	Supply and fixing wooden framed covered with glass shock treatment chart printed on cloth in English, Hindi & Local language.	Each	15		6989	-	1,04,835
				-			-	-
17.4	NSR	Supply and fixing suitable size wooden framed covered with glass for Main Panel SLD in electrical room as per IE rules fixed to wall as required.	Each	12		8543	-	1,02,516
				-			-	-
17.5	NSR	Supply, installation, testing and commissioning of Standard First aid box complete with all accessories as required.	Each	12		1281	-	15,372
				-			-	-
17.6		Supply and Installation of M.S. buckets 5 nos. of 20 litres capacity painted with red oxide paint & lettered as 'Fire' with White and mounted on free standing stand, as required including filling with dry sand.	Set	12		4194	-	50,328
				-			-	-
17.8		Supply and Installation of Portable 5 kg. dry type fire extinguisher suitable for electrical fire and as recommended by the tariff advisory committee.	Each	4		1879	-	7,516
				-			-	-
17.9		Supply and fixing of in-position the fire extinguishers dry chemical power (ABC) 5 kg capacity.	No.	4		2265	-	9,060
				-			-	-
17.10		Supply and fixing of in position the fire extinguishers dry chemical power (ABC) 2 kg capacity.	No.	4		1207	-	4,828
				-			-	-
17.11		Supply and fixing of tool kit with all standard tools such as screw driver, spanner etc as required.	Each	5		8586	-	42,930
				-			-	-
17.12		Supply and Installation of Elastomer mat 1000 mm. wide, 2mm thick, for upto 3.3kV grade as per Latest BIS Codes (IS: 15652/ 2006). (Vendor to check the thickness of the mat as per latest IS code & Quoe accordingly and also mention the thickness provided).	RM	200		946	-	1,89,200
				-			-	-
17.13		Supply and Installation of Elastomer mat 1000 mm. wide, 2.5mm thick, for above 3.3kV and upto 11 kV grade as per Latest BIS Codes (IS: 15652/ 2006). (Vendor to check the thickness of the mat as per latest IS code & Quoe accordingly and also mention the thickness provided).	RM	320		1193	-	3,81,760
				-			-	-
17.14		Supply and Installation of Elastomer mat 1000 mm. wide, 3mm thick, for above 11kV and upto 65kV grade as per Latest BIS Codes (IS: 15652/2006). (Vendor to check the thickness of the mat as per latest IS code & Quoe accordingly and also mention the thickness provided).	RM	100		1516	-	1,51,600
				-			-	-
17.15		Supply and Installation of Rubber gloves of 11 KV grade as per per Latest BIS Codes	Pair	10		582	-	5,820

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
				-			-	-
17.16		Supply and Installation of Rubber gloves of 33kV/ 22kV grade as per per Latest BIS Codes	Pair	10		1205	-	12,050
		TOTAL CARRIED TO SUMMARY		-			10,032	10,77,815
				-			-	-
18		<u>SPECIALIZED SERVICES OF AUDITORIUM</u>		-			-	-
				-			-	-
18.01		Supply, Installation, Testing & Commissioning of 54x3W CE certified LED Par with CCT 3200K,12310 lux level at 2mtr, 54 LED's each should be at warm color temperature of 3200K, back LED display, CRI Value above 85, Self dimming option from 0-100%, 5 Pin Dmx XLR for mix dimming operation but without any accessories, loop in loop out option. undergone through 7 Tank chemical treatment to keep them rust free and, black matt texture finish etc. all complete. Make:Robe / Martin / Canara lighting	No.	16		32,916.00	-	5,26,656
				-			-	-
18.02		Supply, Installation, Testing & Commissioning of 3x54W LED par light complete with 8-channel DMX 512, high brightness mixing color evenly, stable performance with sound active auto, DMX, and power and DMX loop in and out option. undergone through 7 Tank chemical treatment to keep them rust free and, black matt texture finish etc. all complete. Make:Robe / Martin / Canara lighting	No.	38		27,787.00	-	10,55,906
				-			-	-
18.03		Supply, Installation, Testing & Commissioning of 2x2 blinder matrix fixture with advanced COB LED technology light, 4 LEDs, Light Color: Single color warm white (3200K), Lifetime: Over 50,000 hours, Dimmer: 0~100% linearly adjustable, Beam Angle: 30 degree, Control mode: DMX512,Master/Slave, Auto Run, Sound active etc. all complete. Make:Canara Lighting / Selecon / Robe	No.	8		57,995.00	-	4,63,960
				-			-	-
18.04		Supply, Installation, Testing & Commissioning of 4x 500W cyclorama light fittings with normal yoke, Lamp - 500W tungsten halogen with R7S base, Lamp Socket - Base R7s, berass tubular holder chromium plated, undergone through 7 Tank chemical treatment to keep them rust free and,black matt texture finish etc. all complete. Make:Desisti / ARRI / Canara lighting	No.	5		19,093.00	-	95,465
				-			-	-
18.05		Supply, Installation, Testing & Commissioning of 1000W CE Certified halogen Fresnel spot light providing illumination of 28000 lix at 2 mt in spot at 10° beam angle while 4600 lix at 2 mt when operated in flood at 48° beam angle , dimension as 290 x 405 x 290mm, 150mm aid German lens, weight of 4.6Kg, Gx9.5 base lamp socket,power cord with 16amps 3 pin CE plug and normal yoke but without lamp and accessories etc. all complete. Make:Desisti / ARRI / Canara lighting	No.	14		18,218.00	-	2,55,052
				-			-	-
18.60		Supply, Installation, Testing & Commissioning of 1000W spun aluminum PARCAN made out of spun aluminum 16 SWG in 2 piece cylindrical construction with punched slot on Par can housing for natural ventilation and floating ceramic GX16d base lamp socket,Yoke made of MS flat 25 X 3mm with 13mm free mounting hole to fit the adapter, spigot with 28mm and filter frame but without lamp etc. all complete. Make:Desisti / ARRI / Canara lighting	No.	14		4,347.00	-	60,858
				-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
18.07		Supply, Installation, Testing & Commissioning of 4- leaf barndoor with scrims for 1KW fresnel spot light, undergone through 7 Tank chemical treatment to keep them rust free and, duly powder coated in black matt texture finish etc. all complete. Make:Desisti / ARRI / Canara lighting	No.	14		1,710.00	-	23,940
				-			-	-
18.08		Supply, Installation, Testing & Commissioning of 4- leaf barndoor for LED PAR spot light, undergone through 7 Tank chemical treatment to keep them rust free and, duly powder coated in black matt texture finish etc. all complete. Make:Robe / Martin / Canara lighting	No.	32		1,710.00	-	54,720
				-			-	-
18.09		Supply, Installation, Testing & Commissioning of Diecast aluminum "C" clamp with safety locking chain, duly powder coated in black matt texture finish etc. all complete. Make:Desisti / ARRI / Canara lighting	No.	87		1,226.00	-	1,06,662
				-			-	-
18.10		Supply, Installation, Testing & Commissioning of Safety bond with lock clip to be fixed around the grid to avoid fall of the material in case if the "C" clamp is not locked properly . SWL 100Kgs etc. all complete. Make:Desisti / ARRI / Canara lighting	No.	87		485.00	-	42,195
				-			-	-
18.11		Supply, Installation, Testing & Commissioning of Grid mount photo isolator DMX splitter unit 1 DMX input and 8 isolated output with following specifications:Power Supply: 90-240V AC, 45-63Hz.Control: DMX 512 protocol,Control Signal input: 5 pin XLR female, etc. all complete.Make:Liteputer / ADB / Zero88	No.	2		43,460.00	-	86,920
				-			-	-
18.12		Supply, Installation, Testing & Commissioning of Rack mount 12 channel (12chx2.5KW) Dimmer pack, Automatic frequency sensor can detect power frequency (45Hz – 63Hz) in different areas & stabilizes the dimming output, Output can be limited from 50% to 100% for over load protection, intelligent thermo- protection will cease the output when over 85oC and restart output when below 65oC, Self testing function to test without a console, Each channel can be set as dimming or non-dimming, Control: DMX 512 protocol etc. all complete.Make:Liteputer / ADB / Zero88	No.	4		99,745.00	-	3,98,980
				-			-	-
18.13		Supply, Installation, Testing & Commissioning of Digital Lighting Console with 2048 dimmer, Fixture Library of more than 3,000 files, Over a hundred show files, Improved method of Fixture selection for Patching, 2048 Channels, 240 Intelligent Fixtures, 240 Dimmer Control Channels, Theatrical Plotting and Playback functions, 15 Playback Masters controlling 450 memories, chases or cue lists, MIDI and Bass, Mid, Treble sound to light triggers etc. all complete. Make:Liteputer / ADB / Zero88	No.	1		3,56,232.00	-	3,56,232
				-			-	-
18.14		Supply, Installation, Testing & Commissioning of MS Power junction box made up of 22SWG CRCA sheet of jindal make undergone through 7 tank process with various chemical treatment to keep them rust free, duly powder coated with Matt black texture finish 1 way 16A CEE Socket etc. all complete.	No.	55		983.00	-	54,065
				-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
18.15		Supply, Installation, Testing & Commissioning of MS Power junction box made up of 22SWG CRCA sheet of jindal make 7 tank process with various chemical treatment to keep them rust free, duly powder coated with Matt black texture finish 4 way 16A CEE Socket etc. all complete.	No.	19		3,349.00	-	63,631
				-			-	-
18.16		Supply, Installation, Testing & Commissioning of MS Power junction box made up of 22SWG CRCA sheet of jindal make undergone through 7 tank process with various chemical treatment to keep them rust free, duly powder coated with Matt black texture finish 4 way 10A CEE Socket etc. all complete.	No.	14		770.00	-	10,780
				-			-	-
18.17		Supply, Installation, Testing & Commissioning of MS Signal junction box made up of 22SWG CRCA sheet of jindal make undergone through 7 tank process with various chemical treatment to keep them rust free, duly powder coated with Matt black texture finish 5 pin XLR DMX out connector etc. all complete.	No.	14		911.00	-	12,754
				-			-	-
18.18		Supply, Installation, Testing & Commissioning of MS Signal junction box made up of 22SWG CRCA sheet of jindal make undergone through 7 tank process with various chemical treatment to keep them rust free, duly powder coated with Matt black texture finish finish 5 pin XLR DMX in connector etc. all complete.	No.	1		911.00	-	911
				-			-	-
18.19		Supply, Installation, Testing & Commissioning of MS DMX lighting junction loop box made up of 22SWG CRCA sheet of jindal make undergone through 7 tank process with various chemical treatment to keep them rust free, duly powder coated with Matt black texture finish 5 pin XLR DMX in / out connector etc. all complete.	No.	1		3,063.00	-	3,063
				-			-	-
18.20		Supply, Installation, Testing & Commissioning of MS Auxilary fabricated marshalling boxes made up of 20SWG CRCA sheet undergone through 7 tank process with various chemical treatment to keep them rust free, duly powder coated with Matt black texture finish for all the light bar with required no of ivory connectors etc. all complete. Make:Canara Lighting / ABB / SCHNEIDER	No.	1		47,023.00	-	47,023
				-			-	-
18.21		Supply, Installation, Testing & Commissioning of MS fabricated 40 way power marshalling box made up of 20SWG CRCA sheet undergone through undergone through 7 tank process with various chemical treatment to keep them rust free, duly powder coated with Matt black texture finish ivory connect conectwell make and FC-11 naylor gland,Brass galnd suitable for power cable with proper earthing connecter etc. all complete. Make:Canara Lighting / ABB / SCHNEIDER	No.	2		28,498.00	-	56,996
				-			-	-
18.22		Supply, Installation, Testing & Commissioning of Fabricated RACK for housing PDCP(with MCBP) and DIMMER modules etc. all complete. Make:Canara Lighting / ABB / SCHNEIDER	No.	2		42,748.00	-	85,496
				-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
18.23		Supply, Installation, Testing & Commissioning of Well designed and engineered rack mount chocolate brown epoxy polyster coated type power distribution centre panel with necessary metering like voltmeter ammeter, Selector switch, indicators, outgoing feeders and 400amps main incomer L&T / SEIMENS make and emergency trip arrangement with shunt Release(PDCP-400) and MCB Panel rack mount internally wired to control individual Direct light points with suitable MCBs of L&T / SEIMENS make with proper earthing and suitable brass glands for outgoing power cables etc. all complete. Make: Canara Lighting / ABB / SCHNEIDER	No.	1		2,55,774.00	-	2,55,774
				-			-	-
18.24		Supply, Installation, Testing & Commissioning of MS Fabricated made up of 22SWG CRCA sheet of jindal make undergone through 7 tank process with various chemical treatment to keep them rust free, duly powder coated with Matt black texture finish power junction box (PJB) with black Matt texture finish to terminate the Motorized section power connections etc. all complete. Make: Canara Lighting / ABB / SCHNEIDER	No.	12		1,069.00	-	12,828
				-			-	-
18.25		Supply, Installation, Testing & Commissioning of Well designed and engineered Wall mount 10 feeder motor control centre panel with necessary meterings and contactors and relays to control motorised system (MCCP-10) etc. all complete. Make: Canara Lighting / ABB / SCHNEIDER	No.	1		1,59,591.00	-	1,59,591
				-			-	-
18.26		Supply, Installation, Testing & Commissioning of Well designed and engineered Wall mount 10 feeder Remote control panel with necessary meterings and contactors and relays to control the control motorised system.(RCP-10) etc. all complete.	No.	1		59,847.00	-	59,847
				-			-	-
18.27		Supply, Installation, Testing & Commissioning of Well designed and engineered Wall mount 2 feeder motor control centre panel / Remote control system with necessary meterings and contactors and relays to control motorised system (MCCP / RCP -2) etc. all Make: Canara Lighting / ABB / SCHNEIDER complete.	No.	1		64,122.00	-	64,122
				-			-	-
18.28		Supply, Installation, Testing & Commissioning of MS sheet metal fabricated emergency push button station undergone through 7 tank process with various chemical treatment to keep them rust free duly powder coated with Matt black texture finish for emergency trip etc. all complete. Make: Canara Lighting / ABB / SCHNEIDER	No.	1		1,568.00	-	1,568
				-			-	-
18.29		Supply, Installation, Testing & Commissioning of 1000W 230V single ended halogen lamp CP24 / CP70 Base Gx9.5 etc. all complete. Make: Philips / Osram	No.	14		2,195.00	-	30,730
				-			-	-
18.30		Supply, Installation, Testing & Commissioning of 1000W 230V Par-64 narrow / medium / wide lamps with base Gx16d for 1kW Halogen parcans etc. all complete. Make: Philips / Osram	No.	14		2,557.00	-	35,798
				-			-	-

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
18.31		Supply, Installation, Testing & Commissioning of Stage Furnishing System - Main Front Stage Curtain - Made out of velvet with horizontal / vertical sliding arrangement complete with fixing rails, brackets, sliding arrangement and Motorised operation complete with runners, master runners, pulleys, 3mm steel wire rope, one HP motors - 2 Nos., Air bracker contractors, 2 Nos. micro switches for auto stop, 3 Nos. push buttons for forward, reverse and stop positions, draped to half area when in closed position, minimum overlap at centre should be 900mm and should be stitched in double gathering with masking frill drop from prosc along with Motorised rail. with electric motor, Gear Box, running on bearings, switchable mode using Gear Box, railing System, Roller, Bearings, Relay, Limit Switch, Track etc. all complete. As approved by site incharge	No.	1		8,74,788.00	-	8,74,788
				-			-	-
18.32		Supply, Installation, Testing & Commissioning of Stage Furnishing System - Rear Stage Curtain - Made out of Glazed Cotton / cashmilon with horizontal / vertical sliding arrangement complete with fixing rails, brackets, sliding arrangement and Motorised operation complete with runners, master runners, pulleys, 3mm steel wire rope, one HP motors - 2 Nos., Air bracker contractors, 2 Nos. micro switches for auto stop, 3 Nos. push buttons for forward, reverse and stop positions, draped to half area when in closed position, minimum overlap at centre should be 900mm and should be stitched in double gathering with masking frill drop from prosc along with Motorised rail. with electric motor, Gear Box, running on bearings, switchable mode using Gear Box, railing System, Roller, Bearings, Relay, Limit Switch, Track etc. all complete.As approved by site incharge	No.	2		6,73,205.00	-	13,46,410
				-			-	-
18.33		Supply, Installation, Testing & Commissioning of Stage Furnishing System - Main Side Wings - Made out of Glazed Cotton / Cashmilon fixed on over head pivot track covered with Fabric Frame made up of 1"x2" MS Pipe etc. all complete.As approved by site incharge	No.	8		45,598.00	-	3,64,784
				-			-	-
18.34		Supply, Installation, Testing & Commissioning of Stage Furnishing System - Frills mounted on frill bar made out of double gathering glazed cotton / casminlon to be fitted above the stage with 32mm dia GI Pipe to Cover the lights and other other stage ceiling Gadgets etc. all complete.As approved by site incharge	No.	3		91,978.00	-	2,75,934
				-			-	-
18.35		Supply, Installation, Testing & Commissioning of Stage Furnishing System - Side Ladder in Side Wings for Mounting Light Fixtures. Dimension: 2'x6'. Made up of with 1"x2" MS Pipe etc. all complete.As approved by site incharge	No.	6		25,649.00	-	1,53,894
18.36				-			-	-
		Supply, Installation, Testing & Commissioning of Stage Furnishing System - Main Lights Bars (Back, Center and FOH Light Bars) ,made with 48mm GI pipe etc. all complete.	No.	3		49,872.00	-	1,49,616
18.37				-			-	-
		Supply, Installation, Testing & Commissioning of Stage Furnishing System - Cyclorama Screen with Frame -Screen Size 10x6 Mtr, Made of Matte White / High quality cinematographic material to be fixed on tubular frame 35mm dia. MS Pipe tied with rope / strings etc. all complete.As approved by site incharge	No.	1		99,289.00	-	99,289

Sl. No.	Item no.	Description of Item	Unit	Total QTY	DSR Rates-18	NSR Rates	DSR Amount	NSR Amount
1.0	2	3	4					
				-			-	-
18.38		Supply, Installation, Testing & Commissioning of PVC Copper unarmoured flexible FRLS insulated multicore cable 1100V grade confirming to IS694 size 3cx2.5 sq mm etc. all complete.Make:Walan / SBEE / Polycab	Meters	2,300		139	-	3,19,700
				-			-	-
18.39		Supply, Installation, Testing & Commissioning of PVC Copper unarmoured flexible FRLS insulated multicore cable 1100V grade confirming to IS694 size 12cx2.5 sq mm etc. all complete.Make:Walan / SBEE / Polycab	Meters	650		563	-	3,65,950
				-			-	-
18.40		Supply, Installation, Testing & Commissioning of FRLS PVC copper multistrand flexible cable 7 core x 1.5 sq.mm etc. all complete.Make:Walan / SBEE / Polycab	Meters	500		198	-	99,000
				-			-	-
18.41		Supply, Installation, Testing & Commissioning of PVC Copper unarmoured flexible FRLS insulated multicore cable 1100V grade confirming to IS694 size 24cx0.5sq mm etc. all complete. Make:Walan / SBEE / Polycab	Meters	60		314	-	18,840
				-			-	-
18.42		Supply, Installation, Testing & Commissioning of DMX signal cable for DMX network etc. all complete.Make:Falcon / Belden / Polycab	Meters	600		152	-	91,200
				-			-	-
18.43		Supply and laying of following size of M.S, Conduit pipe in recess including all accessories MS pull/junction boxes, GI fish wire of 6 SWG, fixing hardware etc., including cutting, chasing the walls/floor and plastering the chased portion and making good the damages etc., complete as required.		-			-	-
	i	25 mm dia	Mts	1,000		165	-	1,65,000
		TOTAL CARRIED TO SUMMARY		-			-	88,06,928
				-			-	-
19.00		SOLAR PHOTVOLTAIC POWER GENERATION		-			-	-
19.01		Design, Supply, installation, testing and commissioning of following capacity 3 phase 415 V grid interactive roof top solar photovoltaic power generation system including solar inverters (Make: Delta, Solis, Fronius), Data logger compatible to inverter, temperature and irradiance sensor (Make: Mahindra, IMT), AC Disconnecter Board, Cables, interconnections, chemical earthing, GI Strip, Lightning arresters etc. including all items required for its synchronization with grid and its synchronization with grid at LT Panel, complete as required in ready to use condition. liasion with authorities for subsidy, if any is also in the scope.		-			-	-
	i	50KWp	Set	2		3679329	-	73,58,658
	ii	Extra for Design, Supply, installation, testing and commissioning of space frame (Module Mounting Structure) in M.S. for above 50KWp solar system including all necessary civil works in ready to use condition.	Set	2		500000	-	10,00,000
		TOTAL CARRIED TO SUMMARY		-			-	83,58,658