



JAIPUR DEVELOPMENT AUTHORITY, JAIPUR

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No. JDA/EE (Elect-I) /2023/D- 961

Dated: 12.08.2023

CORRIGENDUM

निविदा संख्या 13/2023-24 में **BOQ** के आईटम नं0 14 के समस्त बिन्दुओं एवं 17 के समस्त बिन्दुओं को संलग्न दस्तावेजों के अनुसार विस्तृत पढ़ा जावें।

निविदा की अन्य सभी शर्तें यथावत रहेगी।

Executive Engineer (Elect.-I)
JDA, Jaipur

Ram Kishor Vyas Bhawan, Indra Circle, Jawahar Lal Nehru Marg, Jaipur-302004
EPABX - + 91-141-2569696 Ext: 7366j; Fax - + 91-141-2574555
E-mail: cpgupta.jda@rajasthan.gov.in

S. No.	Description of Items	Qty	Unit	Rate (Rs.)	Amount (Rs.)
14	Supplying, installation, testing & commissioning I.V cubical type tested Panel suitable for 415 Volt, 3 Phase, 4 wire, 50Hz AC supply system fabricated in compartmentalised design from CRCA sheet steel of 2mm thick for frame work and covers, 3mm thick for gland plates i/c cleaning & finishing complete with 9 tank process for powder coating in approved shade, having 4000 Amps capacity extensible type FP Aluminium Alloy bus bars of high conductivity DMC/SMC bus bar supports, with short circuit with stand capacity of 31 MVA for 1 Sec., bottom base channel of MS section not less than 100mm x 50mm x 5mm thick, fabrication shall be done in transportable section, entire panel shall have a common copper earth bar of suitable size at the rear with 2 Nos. earth stud, solid connections from main bus bar to switch gears with required size of Al. bus bars and control wiring with 2.5 sqmm PVC insulated copper conductor single core cable, cable alleys, cable gland plates in two half, i/c providing and fixing following switch gears. Panel should be Designed as per IEC 61439-2. This also including all accessories complete in all respect. includes Gel earthing and foundation etc. (i) Incomer from Transformer - 3 Nos. & DG 3 Nos. 3200 Amps 4 pole horizontal drawout type air circuit breaker 433V AC, 50Hz AC operation of fault breaking capacity 50 kA (Ics = Icu = Icw = 100%) for 1 sec. electrically operated (EIDO), with RS 485 Port on Modbus protocol along with Touch Screen Display, fitted with interlocked door, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators, zone selective interlocking, ready to close, over temperature protection, thermal memory and frame earthing contact, conforming to IEC 60947/IS-13947/Part-II/1993 latest version as amended up-to-date complete with a) Independent electrical and manual spring closing mechanism - 1 No. b) Microprocessor releases based release for adjustable setting for over current, earth fault & short circuit protection with 4 line LCD (R,Y,B,N) with bar graph display for % loading of phases, all three current, neutral current and Voltage, release should self powered requiring no external power supply, protection against phase unbalance and residual current, over temperature protection with 20 fault history and event history and inbuilt zone selective interlocking in-built thermal memory, 4NO/4NC auxiliary contacts with one trip contact, counting the number of operations and contact wear (ACB Life), confirming to IEC-60947/ IS-13947, Part-II/1993 (latest version). - 1 set. c) Undervoltage release for each ACB's - 1 No d) Digital type Multifunction Meter (IV,KW,KWH,KVA,PF,HZ), 96mm square flush pattern with one set of 3 nos. CT's of 4000/5A Class I accuracy and 15 VA burden - 1 Set. e) Phase indication LED lamps and breaker ON,OFF,TRIP indicating light , test terminal block set, circuit wiring as per standard practice, auxiliary contacts for positive interlocking of the breaker as reqd. - 1 Set f) Electrical Interlocking - 1 No. g) Over voltage relay - 1 Nos. h) Aux. Contactor + Add On Block 2No+2Nc - 3 Nos. i) 4P high protection 70kA, surge protectors with MPCB for incomer - 1 Nos. j) 2A SP Control MCB's for protection of control circuit - 7 Nos. k) A/M Selector Switch (1P, 2way With Off) - 1 Nos. l) 06A DP MCB 10kA - 3 Nos. m) 25A Breaker Control Switch - 1 Nos. n) CT 4000/5A Class I accuracy for APFC relay sensing. - 3 Nos. Only for transformer feeders (i) Incomer from DG - 750KVA 1 Nos. 1250 Amps 4 pole horizontal drawout type air circuit breaker 433V AC, 50Hz AC operation of fault breaking capacity 50 kA (Ics = Icu = Icw = 100%) for 1 sec. electrically operated (EIDO), with RS 485 Port on Modbus protocol along with Touch Screen Display, fitted with interlocked door, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators, zone selective interlocking, ready to close, over temperature protection, thermal memory and frame earthing contact, conforming to IEC 60947/IS-13947/Part-II/1993 latest version as amended up-to-date complete with following accessories for each a) Independent electrical and manual spring closing mechanism - 1 No. b) Microprocessor releases based release for adjustable setting for over current, earth fault & short circuit protection with 4 line LCD (R,Y,B,N) with bar graph display for % loading of phases, all three current, neutral current and Voltage, release should self powered requiring no external power supply, protection against phase unbalance and residual current, over temperature protection with 20 fault history and event history and inbuilt zone selective interlocking in-built thermal memory, 4NO/4NC auxiliary contacts with one trip contact, counting the number of operations and contact wear (ACB Life), confirming to IEC-60947/ IS-13947, Part-II/1993 (latest version). - 1 set. c) Undervoltage release for each ACB's - 1 No d) Digital type Multifunction Meter (IV,KW,KWH,KVA,PF,HZ), 96mm square flush pattern with one set of 3 nos. CT's of 1250/5A Class I accuracy and 15 VA burden - 1 Set. e) Phase indication LED lamps and breaker ON,OFF,TRIP indicating light , test terminal block set, circuit wiring as per standard practice, auxiliary contacts for positive interlocking of the breaker as reqd. - 1 Set f) Electrical Interlocking - 1 No. g) Over voltage relay - 1 Nos.				

h) Aux. Contactor + Add On Block 2no+2nc - 3 Nos.					
i) 4P high protection 70kA, surge protectors with MPCB for incomer -1 Nos.					
l) 2A SP Control MCB's for protection of control circuit -7 Nos.					
k) A/M Selector Switch (1P, 2way With Off) -1 Nos.					
l) 06A DP MCB 10kA -3 Nos.					
m) 25A Breaker Control Switch -1 Nos.					
All three DG Sets (2000KVA -2 Nos & 750KVA -1 Nos) should be auto load sharing basis through Synchronising controller of DIELF/Woodward for each DG sets					
All Incomer & Bus Coupler should be interlocked with each other as per scheme requirement					
(ii) BUS COUPLERS - 2 Nos					
4000 Amps four pole horizontal drawout type air circuit breaker of fault breaking capacity 50 kA (Ics = Icu = Icw=100%) for 1 sec. electrically operated (EDO) without release, fitted with interlocked door, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact, conforming to IEC 60947/IS-13947/Part-II/1993 latest version as amended up-to-date complete with following accessories for each ACB-1 set					
a) Independent electrical and manual Spring closing mechanism - 1 No.					
b) Breaker ON/OFF Indicating LED indicating light, test terminal block, circuit wiring as per standard practice, auxiliary contact for positive electrical interlocking of breakers, etc. as reqd. - 1 set					
c) Under Voltage release-220 V AC - 1 No.					
d) Electrical Interlocking - 1 No.					
e) Aux. Contactor + Add On Block 2no+2nc-3 Nos.					
f) 6A SP MCB -4 Nos.					
g) 25A Breaker Control Switch -1 Nos.					
h) On Delay Timer (240VAC)-2 Nos.					
i) A/M Selector Switch (1P, 2way with Off) - 1 Nos.					
(iii) BUS BARS:					
IPN aluminium bus bars of minimum of 4000A capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bars supports at required intervals complete, for cross section, size supports & their Spacing etc. for withstanding fault level of 31 MVA for 1 Sec. (For this the current capacity/density shall not be the limiting factor).					
(iv) OUTGOING:-					
Section -1					
i) Air circuit breaker upto 433V AC, 50Hz AC operation of fault breaking capacity 50 kA (Ics = Icu = Icw =100%) for 1 sec. manually /electrically operated (EDO), fitted with interlocked door, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact with Microprocessor releases based release for adjustable setting for over current, earth fault & short circuit protection with 4 line LCD (R,Y,B,N) with bar graph display for % loading of phases. all three current, neutral current and Voltage, release should self powered requiring no external power supply, protection against phase unbalance and residual current, over temperature protection with 20 fault history and event history and inbuilt zone selective interlocking in-built thermal memory, 4NO/4NC auxiliary contacts with one trip contact, counting the number of operations and contact wear (ACB Life). conforming to IEC:60947/IS-13947, Part-II/1993 (latest version) with Digital MFM Meter, Metering CT- ____/5Amp - CL- 1.0 (3 Nos) , ON/OFF, TRIP Indicating LED.					
a) 4000A FP MDO Type - 2 Nos.					
b) 1250A TP MDO Type - 1 Nos.					
Section -2					
i) Air circuit breaker upto 433V AC, 50Hz AC operation of fault breaking capacity 50 kA (Ics = Icu = Icw =100%) for 1 sec. manually /electrically operated (EDO), fitted with interlocked door, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact with Microprocessor releases based release for adjustable setting for over current, earth fault & short circuit protection with 4 line LCD (R,Y,B,N) with bar graph display for % loading of phases. all three current, neutral current and Voltage, release should self powered requiring no external power supply, protection against phase unbalance and residual current, over temperature protection with 20 fault history and event history and inbuilt zone selective interlocking in-built thermal memory, 4NO/4NC auxiliary contacts with one trip contact, counting the number of operations and contact wear (ACB Life). conforming to IEC:60947/IS-13947, Part-II/1993 (latest version) with Digital MFM Meter, Metering CT- ____/5Amp - CL- 1.0 (3 Nos) , ON/OFF, TRIP Indicating LED.					
a) 4000A FP MDO Type - 3 Nos.					
b) 1250A TP MDO Type - 2 Nos.					
Section -3					
i) Air circuit breaker upto 433V AC, 50Hz AC operation of fault breaking capacity 50 kA (Ics = Icu = Icw =100%) for 1 sec. manually /electrically operated (EDO), fitted with interlocked door, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact with Microprocessor releases based release for adjustable setting for over current, earth fault & short circuit protection with 4 line LCD (R,Y,B,N) with bar graph display for % loading of phases. all three current, neutral current and Voltage, release should self powered requiring no external power supply, protection against phase unbalance and residual current, over temperature protection with 20 fault history and event history and inbuilt zone selective interlocking in-built thermal memory, 4NO/4NC auxiliary contacts with one trip contact, counting the number of operations and contact wear (ACB Life). conforming to IEC:60947/IS-13947, Part-II/1993 (latest version) with Digital MFM Meter, Metering CT- ____/3Amp - CL- 1.0 (3 Nos) , ON/OFF, TRIP Indicating LED.					

		Nos.	1	8545000	8545000
17	a) 1600A FP MDO Type - 1 Nos. Complete LT panel as per above Supplying, installation, testing & commissioning LV cubical type tested Panel suitable for 415 Volt, 3 Phase, 4 wire, 50Hz AC supply system fabricated compartmentalised design from CRCA sheet steel of 2mm thick for frame work and covers, 3mm thick for gland plates i/c cleaning & finishing complete with 9 tank process for powder coating in approved shade, having 4000 Amps capacity extensible type FP Aluminium Alloy bus bars of high conductivity DMC/SMC bus bar supports, with short circuit with stand capacity of 31 MVA for 1 Sec., bottom base channel of MS section not less than 100mm x 50mm x 5mm thick, fabrication shall be done in transportable section, entire panel shall have a common copper earth bar of suitable size at the rear with 2 Nos. earth stud. Solid connections from main bus bar to switch gears with required size of Al. bus bars and control wiring with 2.5 sqmm PVC insulated copper conductor single core cable, cable alleys, cable gland plates in two half, i/c providing and fixing following switch gears. Panel should be Designed as per IEC 61439-2 and OEM/System house. This also including all accessories complete in all respect, includes Gel earthing and foundation etc. (i) Incomer from Transformer 1600KVA - 2 Nos. 2500 Amps 4 pole horizontal drawout type air circuit breaker 433V AC, 50Hz AC operation of fault breaking capacity 50 kA (Ics = Icu = Icw = 100%) for 1 sec. electrically operated (EDCO), with RS 485 Port on Modbus protocol along with Touch Screen Display, fitted with interlocked door, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators, zone selective interlocking, ready to close, over temperature protection, thermal memory and frame earthing contact, conforming to IEC 60947/IS-13947/Part-II/1993 latest version as amended up-to-date complete with following accessories for each ACB. a) Independent electrical and manual spring closing mechanism - 1 No. b) Microprocessor releases based release for adjustable setting for over current, earth fault & short circuit protection with 4 line LCD (R,Y,B,N) with bar graph display for % loading of phases. all three current, neutral current and Voltage, release should self powered requiring no external power supply, protection against phase unbalance and residual current, over temperature protection with 20 fault history and event history and inbuilt zone selective interlocking in-built thermal memory, 4NO/4NC auxiliary contacts with one trip contact, counting the number of operations and contact wear (ACB Life), confirming to IEC:60947/ IS:13947, Part-II/1993 (latest version). - 1 set. c) Undervoltage release for each ACB's - 1 No. d) Digital type Multifunction Meter (IV,KW,KWH,KVA,PF,HZ), 96mm square flush pattern with one set of 3 nos. CT's of 2500/5A Class 1 accuracy and 15 VA burden - 1 Set. e) Phase indication LED lamps and breaker ON/OFF,TRIP indicating light , test terminal block set, circuit wiring as per standard practice, auxiliary contacts for positive interlocking of the breaker as reqd. - 1 Set. f) Electrical Interlocking - 1 No. g) Over voltage relay - 1 No. h) Aux. Contactor + Add On Block 2no+2nc - 3 Nos. i) 4P high protection 70kA, surge protectors with MPCB for incomer -1 Nos. j) 2A SP Control MCB's for protection of control circuit -7 Nos. k) A/M Selector Switch (1P, 2way With Off) -1 Nos. l) 6EA DP MCB 10kA -3 Nos. m) 25A Breaker Control Switch -1 Nos. n) CT 2500/5A Class 1 accuracy for APFC relay sensing. - 3 Nos. Only for transformer feeders (ii) Incomer from DG - 1250KVA 1 Nos. 2000 Amps 4 pole horizontal drawout type air circuit breaker 433V AC, 50Hz AC operation of fault breaking capacity 50 kA (Ics = Icu = Icw = 100%) for 1 sec. electrically operated (EDCO), with RS 485 Port on Modbus protocol along with Touch Screen Display, fitted with interlocked door, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators, zone selective interlocking, ready to close, over temperature protection, thermal memory and frame earthing contact, conforming to IEC 60947/IS-13947/Part-II/1993 latest version as amended up-to-date complete with following accessories for each ACB. a) Independent electrical and manual spring closing mechanism - 1 No. b) Microprocessor releases based release for adjustable setting for over current, earth fault & short circuit protection with 4 line LCD (R,Y,B,N) with bar graph display for % loading of phases. all three current, neutral current and Voltage, release should self powered requiring no external power supply, protection against phase unbalance and residual current, over temperature protection with 20 fault history and event history and inbuilt zone selective interlocking in-built thermal memory, 4NO/4NC auxiliary contacts with one trip contact, counting the number of operations and contact wear (ACB Life), confirming to IEC:60947/ IS:13947, Part-II/1993 (latest version). - 1 set. c) Undervoltage release for each ACB's - 1 No. d) Digital type Multifunction Meter (IV,KW,KWH,KVA,PF,HZ), 96mm square flush pattern with one set of 3 nos. CT's of 2000/5A Class 1 accuracy and 15 VA burden - 1 Set. e) Phase indication LED lamps and breaker ON/OFF,TRIP indicating light , test terminal block set, circuit wiring as per standard practice, auxiliary contacts for positive interlocking of the breaker as reqd. - 1 Set. f) Electrical Interlocking - 1 No. g) Over voltage relay - 1 No. h) Aux. Contactor + Add On Block 2no+2nc - 3 Nos. i) 4P high protection 70kA, surge protectors with MPCB for incomer -1 Nos. j) 2A SP Control MCB's for protection of control circuit -7 Nos.				

k) A/M Selector Switch (1P, 2way With Off) -1 Nos.

l) 06A DP MCB 10kA -3 Nos.

m) 25A Breaker Control Switch -1 Nos.

(ii) Incomer from DG - 500KVA 1 Nos.

800 Amps 4 pole horizontal drawout type air circuit breaker 433V AC, 50Hz AC operation of fault breaking capacity 50 kA (Ics = Icu = Icw =100%) for 1 sec. electrically operated (EDCO), with RS 485 Port on Modbus protocol along with Touch Screen Display, fitted with interlocked door, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators, zone selective interlocking, ready to close, over temperature protection, thermal memory and frame earthing contact, conforming to IEC 60947/IS-13947/Part-II/1993 latest version as amended up-to-date complete with following, accessories for each ACB.

a) Independent electrical and manual spring closing mechanism -1 No.

b) Microprocessor releases based release for adjustable setting for over current, earth fault & short circuit protection with 4 line LCD (R,Y,B,N) with bar graph display for % loading of phases, all three current, neutral current and Voltage, release should self powered requiring no external power supply, protection against phase unbalance and residual current, over temperature protection with 20 fault history and event history and inbuilt zone selective interlocking in-built thermal memory, 4NO/4NC auxiliary contacts with one trip contact, counting the number of operations and contact wear (ACB Life). conforming to IEC-60947/ IS-13947, Part-II/1993 (latest version) - 1 set.

c) Undervoltage release for each ACB's -1 No

d) Digital type Multifunction Meter (IV,KW,KWH,KVA,PF,Hz), 96mm square flush pattern with one set of 3 nos. CT's of 800/5A Class I accuracy and 15 VA burden - 1 Set.

e) Phase indication LED lamps and breaker ON,OFF,TRIP indicating light , test terminal block set, circuit wiring as per standard practice, auxiliary contacts for positive interlocking of the breaker as reqd. - 1 Set

f) Electrical Interlocking - 1 No.

g) Over voltage relay -1 Nos.

h) Aux. Contactor + Add On Block 2no+2nc - 3 Nos.

i) 4P high protection 70kA, surge protectors with MPCB for incomer -1 Nos.

j) 2A SP Control MCB's for protection of control circuit -7 Nos.

k) A/M Selector Switch (1P, 2way With Off) -1 Nos.

l) 06A DP MCB 10kA -3 Nos.

m) 25A Breaker Control Switch -1 Nos.

Both the DG Sets (1250KVA -1 Nos & 500KVA -1 Nos) should be auto load sharing basis through Synchronising controller of DIFE/Woodward for each DG sets

All Incomer & Bus Coupler should be interlocked with each other as per scheme requirement

(iii) BUS COUPLERS - 1 No.

2500 Amps four pole horizontal drawout type air circuit breaker of fault breaking capacity 50 kA (Ics = Icu = Icw =100%) for 1 sec. electrically operated (EDO) without release, fitted with interlocked door, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact, conforming to IEC 60947/IS-13947/Part-II/1993 latest version as amended up-to-date complete with following accessories for each ACB -1 set

a) Independent electrical and manual Spring closing mechanism -1 No.

b) Breaker ON,OFF Indicating LED indicating light, test terminal block, circuit wiring as per standard practice, auxiliary contact for positive electrical interlocking of breakers, etc. as reqd. - 1 set.

c) Under Voltage release-220 V AC -1 No.

d) Electrical Interlocking - 1 No.

e) Aux. Contactor + Add On Block 2no+2nc-3 Nos.

f) 6A SP MCB -4 Nos.

g) 25A Breaker Control Switch -1 Nos.

h) On Delay Timer (240VAC)-2 Nos.

i) A/M Selector Switch (1P, 2way with Off) - 1 Nos.

(iii) BUS BARS:

TYP aluminium bus bars of minimum of 3000A capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bars supports at required intervals complete, for cross section, size supports & their Spacing etc. for withstanding fault level of 31 MVA for 1 Sec. (For this the current capacity/density shall not be the limiting factor).

(iv) OUTGOING:-

Section-1

i) Air circuit breaker upto 433V AC, 50Hz AC operation of fault breaking capacity 50 kA (Ics = Icu = Icw =100%) for 1 sec. manually /electrically operated (EDO), fitted with interlocked door, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact with Microprocessor releases based release for adjustable setting for over current, earth fault & short circuit protection with 4 line LCD (R,Y,B,N) with bar graph display for % loading of phases. all three current, neutral current and Voltage, release should self powered requiring no external power supply, protection against phase unbalance and residual current, over temperature protection with 20 fault history and event history and inbuilt zone selective interlocking in-built thermal memory, 4NO/4NC auxiliary contacts with one trip contact, counting the number of operations and contact wear (ACB Life). conforming to IEC-60947/ IS-13947, Part-II/1993 (latest version) with Digital MFM Meter, Metering CT- ____/5Amp - CL- 1.0 (3 Nos) , ON,OFF Indicating LED.

a) 2500A TP MDO Type - 2 Nos

b) 1000A TP MDO Type - 1 Nos

Section -2

i) Air circuit breaker upto 433V AC, 50Hz AC operation of fault breaking capacity 50 kA ($I_{cs} = I_{cu} = I_{sc} = 100\%$) for 1 sec. manually / electrically operated (EDO), fitted with interlocked door, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact with Microprocessor releases based release for adjustable setting for over current, earth fault & short circuit protection with 4 line LCD (R,Y,B,N) with bar graph display for % loading of phases, all three current, neutral current and Voltage, release should self powered requiring no external power supply, protection against phase unbalance and residual current, over temperature protection with 20 fault history and event history and inbuilt zone selective interlocking in-built thermal memory, 4NC/4NC auxiliary contacts with one trip contact, counting the number of operations and contact wear (ACB Life), conforming to IEC:60947/IS:13947, Part-II/1993 (latest version) with Digital MFM Meter, Metering CT- ____/5Amp - CT- 1.0 (3 Nos) , ON/OFF Indicating LED.

a) 2500A TP MDO Type - 2 Nos.

b) 1000A TP MDO Type - 1 Nos.

Complete I.T panel as per above

Nos.

1

7800000

7800000