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आई आई टी हैदराबाद
IIT Hyderabad

भारतीय प्रौद्योगिकी संस्थान हैदराबाद
कंडी - ५०२ २८ ४, सांगारेड्डी, तेलंगाना, भारत
फोन: (०४०) २३०१ ६०९१; फैक्स: (०४०) ६००३/३२
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Construction and Maintenance Division

F.No: IITH/CMD/F.35/ NIT-04/2021-22/317

Date: 4th August 2021

CORRIGENDUM

Sub: “Non-Comprehensive Annual Maintenance Contract (AMC) for Low Tension ACBs and Low Tension MCCBs installed at Service Buildings and MRS, IIT Hyderabad, Kandi Campus”-Reg.

Ref: NIT No. IITH/CMD/NIT/e-proc/2021-22/06.

With reference to the above cited this office NIT, the Corrigendum has been issued for the deletion of **Annexure – I of “Detailed Scope of Work”** i.e. from pdf Page Nos 27 to 29 and which shall be replaced with **“revised Detailed Scope of Work”** of pdf pages 27 to 30 of NIT document as mentioned below and it will be a part of the tender document.

Sl. No.	“As per NIT Document following pages are Deleted”	“Replaced with Revised Detailed Scope of Work as mentioned below”
1	NIT document Pdf Page-27 to 29 Annexure – I i.e. “Detailed Scope of Work”	NIT document Pdf Pages-27 to 30 Annexure – I i.e. revised “Detailed Scope of Work” as attached to this Corrigendum

Encl: Revised detailed scope of work.

04/08/2021
Executive Engineer (C)
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Annexure - I
DETAILED SCOPE OF WORK

The scope of work as mentioned below are the minimum expected from the firm / agency contractor apart from unlimited break down calls and any other work required for operation and maintenance in proper way as per the operation and maintenance manuals of respective equipment and as per good engineering practices will be required to be done under this scope of work.

ACB & MCCB Units of different ratings

Sl. No.	Rating of ACB/MCCB	Make & Model/Type	Quantity
1	ACB – 800 A - 1600A	L&T - EDO	164
2	ACB - 2500 A	L&T - EDO	74
3	ACB – 3200 A	L&T - EDO	10
4	MCCB - 250A	L&T	79
5	MCCB – 320A – 630A	L&T	128
6	MCCB – 800A	L&T	11

a) During AMC/Service/Attending breakdown calls of Switch Gears (ACB/MCCB), existing spares are required to be replaced with new spares for efficient and effective operation of ACB/MCCB. In such instances, the agency shall submit the new spares assessment to the Engineer-In-Charge for review and approval for the replacement of spares.

b) The rates of the spare parts mentioned in the Price Bid Part B shall be considered for payment. The bidder has to quote percentage above or below the rates of the standard price list provided in Part B of the tender for material/spare parts as mentioned in Annexure – II required for the day to day maintenance works.

c) Servicing of ACBs carried out by Authorized Service Channel partner of OEM (L&T) with Service report as per OEM recommended Check List.

d) Service Charges for Servicing, pole Calibration and Testing of Air Circuit Breakers, L&T make including ACB inbuilt protection release testing (over load, Short circuit, Earth fault) by L&T simulation test kit.

e) Servicing should be done with L&T make maintenance kit.



- f) Yearly 4 times complete over hauling Servicing / Preventive maintenance of ACBs.**
- i) 1st Visit:** Overhauling and servicing for ACB during the starting of AMC period (1st Quarter).
 - ii) 2nd Visit:** Preventive maintenance for ACB after completion of 3 months of AMC (2nd Quarter).
 - iii) 3rd Visit:** Overhauling and servicing for ACB after completion of 6 months of AMC (3rd Quarter).
 - iv) 4th Visit:** Preventive maintenance for ACB after completion of 9 months of AMC (4th Quarter)
- g) Yearly once Servicing / Preventive maintenance of MCCBs**
- h) Unlimited breakdown maintenance calls to rectify the defect (attendance) for 12 months of valid contract period.**
- i) Response: round the clock.**
- j) Resolution time: 2 to 3 hours.**
- k) Servicing and preventive maintenance schedule: As per the schedule given by IITH mostly on Sundays / Saturdays/ Holidays to maintain undisturbed power supply to users.**
- l) Agencies have to attend unlimited break- down service as and when required. The frequency may be increased depending up on requirement at site. As a whole it is to ensure that the equipment's are well maintained at all the time. The work will be carried out at suitable timings to ensure that IIT Hyderabad office work is not disturbed.**
- m) After attending the scheduled/routine maintenance, contractor will submit service report (s) as and when preventive periodical maintenance of any installation becomes due/ is carried out.**
- n) *If work is not done as per submitted schedule or any system is not functioning, then a penalty @ rate of Rs. 1,000/- per day shall be imposed on contractor for each location separately and will be deducted from the AMC amount due to the contractor and if unsatisfactory performance is continued for more than two days as felt by Engineer- in-charge, AMC is liable to be terminated.***

I-ACB SERVICING SCOPE

i) Activity prior to the rack out of the ACB:

- a) Reviewing ACB tripping history in Protection release
- b) Identify the material required during maintenance
- c) Observe the operating condition of ACB
- d) Inspection of missing components if any before servicing of ACB. Then ACB shall be racked out from the panel and shifted to convenient place.

i) Activity during after rack out of the ACB:

- a) Trip the ACB and again discharge the spring if spring is in charged condition
- b) Follow the lock out tag out procedures
- c) Check the mechanical and electrical operations if operational counter is present
- d) Perform the inspections and cleanings for Breaker, Arc chute, cradle, jaw
 - i. Cleaning of dust, spider Web, foreign particles etc. and electrical contacts.
 - ii. Removal of old grease from various parts of ACB.
 - iii. Cleaning of all parts with cleaning agent such as CRC2-26.
 - iv. Checking of arcing contact gap, releases rectify if any deviation.



- v. Check the tightness of hardware and also presence of missing hardware (to be supplied by customer).
- vi. Check the tightness of pole assembly fixed and movable contact
- vii. Fixing of spares which needs replacement. (customer to be provide the spares)
- viii. Re grease as recommended in service manual.
- ix. After cleaning and lubrication activity, the ACB will be assembled back and carried out all checks as per checklist. To ensure it freeness and proper operation.
- e) Check the status of cradle terminals, condition of ACB inside wiring, Main contact assembly, contact jaw alignment, CTs connecting probe, shutter assembly, SIC alignment, Arc chute interlock.
- f) Check the Functional tests: Manual ON/OFF operation, ON condition continuity Across the main contacts, Aux-contact change over, change over trip contact, closing coil plunger, Manual spring charging, racking IN/OUT operation, operation of safety shutter assembly
- g) Check the spring charging motor function, restore operation and limit switch operation
- h) Check the ON and OFF operation, tripping operation through various releases (Closing release, Under voltage release, shunt release), lockable trip push button
- i) Set the over load, short circuit, earth fault settings as per IITH requirement.
- j) Perform the IR test
- k) ACB inbuilt protection release testing (over load, Short circuit, Earth fault) by L&T simulation test kit
- l) Healthy operation of under voltage relay
- m) Healthy working of self-motor mechanism.
- n) Affix the sticker on ACB with date of service and next due date
- o) After completion of all the above works putting breaker back in isolation/test/ service position.

ii) Activity after the Rack in of the ACB:

- a) Energize the ACB and verify the normal operation.
- b) Prepare a report of maintenance and test results as per ACB Checklist

iii) General Maintenance:

- a) Checking control wiring of panel board along with control switches / knobs/ Indicating Lamps/ push buttons/ ammeter, Voltmeter, Relays, Contactors, CT's / PT's/ LA's, Control circuits / Auxiliary Circuits etc and its malfunctioning.
- b) Checking of bus-bar connections, tightening of nuts / bolts / cleaning of bus bar, removing foreign materials, including tightening of earth strip connections.
- c) Any other work required for the equipment for proper functioning.

iv) Preventive Maintenance of ACB:

- a) Review of ACB tripping history and visual inspection of ACB
- b) After rack out the ACB , checking of healthy ness of Breaker components, healthy ness of Arc chutes,
- c) Checking of Racking rails operation and rack in interlocks
- d) Cleaning of dust, spider Web, foreign particles etc. and electrical contacts.
- e) Cleaning of Electrical contacts with cleaning agent such as CRC2-26.
- f) Checking of arcing contact gap, releases and make it corrects.
- g) Greasing to be done if required only
- h) Check the tightness of hardware and also presence of missing hardware (to be

supplied by customer).

- i) Fixing of spares which needs replacement. (customer to be provided the spares)
- j) Checking of Lathes adjustments.
- k) Checking of operation of Mechanical latches and electrical accessories
- l) The ACB will be assembled back and carried out all checks as per checklist. To ensure it freeness and proper operation.
- m) Check the ON and OFF operation, tripping operation through various releases, lockable trip push button.
- n) Check the Anti pumping operation
- o) After completion of all the above works putting breaker back in service position.
- p) Set the over load, short circuit, earth fault settings as per customer requirement.
- q) Recommend the spares if required.

II-AMC of MCCB

i) MCCB SERVICE SCOPE

- a) Before check the door interlock of MCCB during ON condition
- b) Turn off the MCCB with operating handle
- c) Open the panel door.
- d) Removing the ROM of MCCB
- e) Check the status of terminals of MCCB
- f) Check the trip button healthy ness
- g) Check the resetting operation of MCCB with operating Knob
- h) Activity During Non-Live condition (MCCB Both ends no power)
 - i. Check the Contacts and arc chutes if it is possible only non live condition)
 - ii. Cleaning of dust, spider Web, foreign particles etc. and electrical contacts. iii. Removal of old grease from various parts of MCCB.
 - iii. Cleaning of all parts with cleaning agent such as CRC2-26.
 - iv. Re grease as recommended in service manual.
 - v. After cleaning lubricating parts, the MCCB will be assembled back.
- i) Check the ON and OFF operation, tripping operation through trip button.
- j) After completion of all the above works putting MCCB back in service position.
- k) Set the over load, short circuit, earth fault settings as per IITH requirement

Note-1: The date of servicing carried out and next due date of servicing in respect of systems shall be neatly stickered on assets in small fonts for effective monitoring as per direction of Engineer-in-charge.

Note-2: The contractor is required to make Proforma and submit details of quarterly preventive periodical maintenance schedule in the Computerized Maintenance Record Form for approval of Engineer-in-charge in respect of Periodical preventive maintenance schedule for all the ACBs/MCCBs under the scope of this contract, within 15 days from the date of letter of award.

