

INNOVA Schedule Maintenance & Service

INNOVA/AFL/AMC/22032021-01

Date: 28/03/2021

To
The Managing Director
Arabi Fashion
Gazipur, Dhaka.

Subject: Offer for schedule maintenance & service for 11KV/0415KV Substation.

Dear Sir

Innova Engineering Ltd is the manufacturer and assembler of advanced & reliable distribution & power transformer and panel. We offering a proposal of schedule maintenance & service of installed substation in your reputed organization.

Why Need To Schedule Maintenance & Service for Substation

- To avoid unwanted accident like fire hazard, burn & damage of transformer, switchgear, circuit breaker, magnetic contactor, relay, capacitor & other equipment/device of substation.
- To avoid extra electricity consumption.
- To avoid fine for low power factor from utility department.
- To avoid unwanted electric shock.
- Schedule maintenance increase overall life time of substation.
- Schedule maintenance is important for smooth, sustainable & reliable production.

Price Proposal Schedule Maintenance & Service

For Per Three Months Service:

SI No.	Sub-Stations	Fees	
		Inside Dhaka	Outside Dhaka
1	100 KVA~250 KVA	5,000.00	6,500.00
2	315 KVA~630 KVA	6,000.00	7,500.00
3	750 KVA~ 1500 KVA	8,000.00	9,500.00
4	2000 KVA ~ 3150 KVA	10,000.00	11,500.00

For Per Yearly Service:

SI No.	Sub-Stations	Fees	
		Inside Dhaka	Outside Dhaka
1	100 KVA~250 KVA	10,000.00	13,00.00
2	315 KVA~630 KVA	15,000.00	17,500.00
3	750 KVA~ 1500 KVA	20,000.00	23,000.00
4	2000 KVA ~ 3150 KVA	25,000.00	28,000.00

Service & Maintenance Schedule

Scope of Service contain two schedule which are mention below

Schedule 1 – Equipment List

Schedule 2 – Scope of Services

SCHEDULE 1

Equipment List: To be prepared after approval of **(client)**.

1. HT Switchgear
2. 11/0.415kv transformer
3. ATS/MTS
4. LT Switchgear
5. PFI

SCHEDULE 2:

1. SCOPE OF WORK TO BE CARRIED OUT UNDER THE CONTRACT

1.1 Introduction:

HT & LT Switchgear, Transformer, bus bars of Switchgears inside Substation, etc. Which are required to be maintained on Maintenance Contract basis for trouble free electricity supply to **(Client)**

a. DESCRIPTION OF COMPLETE ELECTRICAL SYSTEM - UNDER THE CONTRACT

a.1 HT Switchgear Panel:

From outgoing of 11KV meter power comes to incoming **LBS/VCB**, Meters, PT & CT.

a.2 Transformers:

From the HT panels there are one outgoing through HT cables to transformer of 11KV/415V, capacity each with Buchholz relays installed. Outgoing of transformer is taken to LT panel through cable .

a.3 ATS/MTS System

Through the cable from transformers supply power to LT panel via **ATS/MTS** . From these panel Utility/Generator power supply to LT panel through **MCCB/ACB**.

a.4 LT Panel System:

Through the cable from transformers supply is taken via **ATS/MTS** in to one incomer of LT **MCCB/ACB** in LT panels are installed. From these panels supply is distributed through **MCCB/ACB** and Switches to different parts of outgoing.

a.5 PFI Panel System:

Through the cable from LT Panel via **MCCB/ACB** is taken in to PFI panels are installed. PFI panel contain capacitor bank, magnetic contact, Fuse/CB, Relay etc.

1.2 Scope of service divided into two part

1.2.1 Per two month service

1.2.2 Per year service

1.2.1 WORK TO BE CARRIED OUT PER THREE MONTHS:

- a. Checking and operating switch gear and trip circuit of HT panel for its proper functioning. In case of defective/mal-functioning to be rectified immediately.
- b. Checking and operating switch gear and trip circuit of Transformer for its proper functioning. In case of defective/mal-functioning to be rectified immediately.
- c. Checking and operating each switch gear and trip circuit of LT panels for their proper functioning. In case of defective/mal-functioning to be rectified immediately.
- d. Checking the load on each phase of distribution system and ensuring that load is within limit and no MCB, switch, cable is over loaded.
- e. Checking and monitoring all the ATSS.
- f. Checking of power factor equipment and capacitor banks, magnetic contact, HRC fuse, relay, panel etc. and rectifying any fault detected and ensuring that P.F. is maintained.
- g. Checking of current power factor, power and voltage at each switch in LT panels;
- h. Cleaning of Distribution Systems;
- i. Oil sample testing of transformers oil for acidity and BDV value and submitting the report (if required)

1.2.2 WORK TO BE CARRIED OUT IN YEARLY SERVICING:

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- a. All works to be carried out as carried out in per two months schedule above.
- b. Testing of all relays and calibrating them with relay test kit.
- c. Cleaning of interior of HT, LT & PFI panels and tightening of all nuts and bolts including bus bar bolts, cable connections, switch connections etc;
- d. Recording the IR values of transformers;
- e. Checking the earth pits and recording the value of earth resistance. In-case high, taking the corrective action to bring it up.
- f. Checking and servicing the breakers and equipment of ATSS.
- g. Testing of earthing of each panel on HT, LT & PFI. In case improper need to be corrected; and
- h. Cleaning of interior of bus duct and tightening all nuts and bolts including checking and correcting of earth strip.
- i. Checking and ensuring that all the distributions are properly earthed. In case some wiring is to be done up to distribution box for earthing, the same is to be carried out. All material will be supplied by Customer.
- j. Checking, tightening and up keeping then insulation of main bus bar and cable connection.
- k. Servicing of all VCBs including filtration of oil if required.
- l. Silica gel: Replacement of silica gel and cup oil.
- m. Buchholz relay magnetic oil gauge: Check its operation, control circuit and repair/replace required.
- n. Cleaning of all LT, PFI & HT Panels contacts with CT, indicating devices, voltmeter, ammeter, selector switch.

NOTE:

- i). For the above maintenance any or all (routine, special) Tools, plants, Instruments etc. and consumable items viz. grease, oil, cloth, etc. needed are to be arranged by the contractor at his own cost. Institute will not provide anything to the contractor. Filtration of transformer oil is not included in the contract. However, any repair etc. needed is to be carried out by the contractor under the contract. Material for replacement will be provided by customer **(client name)**.
- ii). The rates quoted will not include all the necessary T and P/Labor/civil work.
- iii). Any material etc. needed will be provided by Customer **(client name)**. If it is required to take permission from Govt Authority to dig anything, that permit must be taken by Customers.



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