

**REB FORM NO.-455(SUBSTATION PERIODIC INSPECTION AND MAINTENANCE FORM)**

PBS: Tangail Substation: Nagorpur-1 CAPACITY = 25/33 MVA

Date of Commission:- Date of Augmentation:- Date of maintenance:- 10/01/22

PUT TICK (√) MARK BY ITEM INSPECTED OR MAINTAINED

**1. POWER TRANSFORMER (1Φ Bank)**

| ITEMS CHECKED↓                          | REMARKS→ | R-Φ       | Y-Φ       | B-Φ       | Spare |
|---|----------|-----------|-----------|-----------|-------|
| 01.Manufacture                          |          | ALFA 2003 | ALFA 2003 | ALFA 2003 |       |
| 02.SI No.(as per previous connection)   |          | 1667/20   | 1667/21   | 1667/19   |       |
| 03.SI No.(as per new connection)        |          | -         | -         | -         |       |
| Item checked for the Phases of          |          | -         | -         | -         |       |
| 04. Bushing chipped/broken/cracked      |          | No        | No        | No        |       |
| 05.Record level oil                     |          | 1600      | 1600      | 1600      |       |
| 06.Winding temperature (Present °C)     |          | 60        | 60        | 60        |       |
| Max (°C)                                |          | 65        | 65        | 65        |       |
| 07.Oil/liquid temperature Present (°C)  |          | 60        | 60        | 60        |       |
| Max (°C)                                |          | 65        | 65        | 65        |       |
| 08.Record gas pressure (kg/cm2/lbs/in2) |          | 0.5       | 0.5       | 0.5       |       |
| 09.Pressure release device operation    |          | √         | √         | √         | √     |
| 10.Auxiliary fan operation              |          | √         | √         | √         |       |
| 11.General condition & foundation       |          | √         | √         | √         | √     |
| 12.Leakage of radiator, valve,plug etc. |          | √         | √         | √         | √     |
| 13.Dielectric strength of oil (KV)      |          | 62.8      | 60        | 38        |       |
| 14.Connection loose or corroded         |          | √         | √         | √         |       |
| 15.240Volt power supply & wiring        |          | √         | √         | √         |       |
| 16.% Impedance                          |          | 6         | 6         | 6         |       |
| 17.Tapchanger position                  |          | 5         | 5         | 5         |       |

**18. Megger results(MΩ )(Tested By 5KV Insulation Tester)**

| Phase(Φ) | H1-H2 | X1-X2 | HT-LT | HT-BDY | LT-BDY | L/A | Amp(NL) | Amp(Load) | Remarks |
|----------|-------|-------|-------|--------|--------|-----|---------|-----------|---------|
| R        |       |       |       |        |        |     |         |           |         |
| Y        |       |       |       |        |        |     |         |           |         |
| B        |       |       |       |        |        |     |         |           |         |
| SPR      |       |       | -     | -      |        |     |         |           |         |

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**2. AUTOMATIC CIRCUIT RECOSER (1Φ Bank)**

| Item Checked↓<br>Remarks→                 | 33KV<br>ACR          | 11KV Feeders  |
|---|----------------------|---------------|
|   |                      | 13M           |
| 01.Manufacturer                           | Schneider            | Entec         |
| 02.Control type                           | Numerical            | Numerical     |
| 03.SL.No                                  | PB-2012-11<br>446869 | PR113040525   |
| 04.Rating(,Amps)                          |                      |               |
| 05.Curvesetting(phase)<br>&time Multiply  | 310<br>IEC-NI        | 180<br>IEC-SI |
| 06.Curvesetting(ground)<br>&time Multiply | 40<br>IEC-NI         | 40<br>IEC-SI  |
| 07.Bushings                               | √                    | √             |
| 08.Tank/bpdy                              | √                    | √             |
| 09.Operation Counter                      | √                    | √             |
| 10.Op. Counter reading                    | 1748                 | 000           |
| 11.Battery Condition                      | √                    | √             |
| 12.Mis-operation detect                   | No                   | No            |
| 13.Moisture indication                    | √                    | √             |
| 14.Misalignment/arcng                     | √                    | √             |
| 15.Oil level indicator                    | √                    | √             |
| 16.SF6 pressure(KPag)                     | √                    | √             |
| 17.OIL strength(KV0)                      | -                    | -             |
| 18.Operation To<br>Lockout                | √                    | √             |
| 19.FRAME/struction                        | √                    | √             |
| 20.Servicing                              | √                    | √             |
| 21.Oil changed                            | No                   | No            |
| 22.SF6 gas added                          | No                   | No            |
| 23.Control,S<br>FUNCTION                  | √                    | √             |
| 24.Load(MW)Norn<br>Cond(off-Peak/Peak)    |                      |               |
| 25.Load(MW)<br>Irri Cond(off-Peak/Peak)   |                      |               |

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**3. AUXILIARY EQUIPMENT:-****A. METER CABINET & CONTROL PANELS**

| Item Checked↓ Remarks→                      | Remarks | ITEMS | Remarks |
|---|---------|-------|---------|
| 01.Wiring/Lighting/terminal Blocks/switches | √       |       |         |
| 0.3Meter type:- Q-METER                     | √       |       |         |

**B.CURRENT & POTENTIAL TRANSFORMER**

| Item Checked↓ Remarks→           | Current Transformer |     | Potential Transformer |     |
|----------------------------------|---------------------|-----|-----------------------|-----|
|                                  | R-Y                 | B-Y | R-Y                   | B-Y |
| 01.Manufacturer                  |                     |     |                       |     |
| 02.SL.No                         |                     |     |                       |     |
| 03.Ratio( Put √ for ratio used ) |                     |     |                       |     |
| 04.Bushing contaminated          | √                   | √   | √                     | √   |
| 05.Bushing broken or Cracked     | √                   | √   | √                     | √   |
| 06.Connection loose corroded     | √                   | √   | √                     | √   |
| 07.tank/body damaged or leak     | √                   | √   | √                     | √   |
| 08.OIL level/STRENGTH(KV)        | √                   | √   | √                     | √   |
| 09. Megger results(MΩ )          |                     |     |                       |     |

**4. SURGE ARRESTERS(Power Transformer)**

| Item Checked Remarks→        | Red phase |       | Yellow phase |       | Blue phase |       |
|------------------------------|-----------|-------|--------------|-------|------------|-------|
|                              | 33KV      | 11 KV | 33 KV        | 11 KV | 33 KV      | 11 KV |
| 01.Manufacturer              |           |       |              |       |            |       |
| 02.SL.No                     |           |       |              |       |            |       |
| 03.Rating(KV)                | Rating    |       |              |       |            |       |
|                              | MCOV      |       |              |       |            |       |
| 04. Megger results(MΩ )      |           |       |              |       |            |       |
| 05.Porcelain,broken /Cracked | √         | √     | √            | √     | √          | √     |

**VI. ISOLATION SWITCHES (199&166)**

| Items Check↓ Rem→    | Item Checked | Remarks→ |
|----------------------|--------------|----------|
| 01.Liver/Handle      | √            |          |
| 02.Blade,contacts    | √            |          |
| 03.Smooth operation  | √            |          |
| 04.Ground connection | √            |          |

**VII. ISOLATION SWITCHES (299&266)**

| Items Check↓ Rem→    | Item Checked | Remarks→ |
|----------------------|--------------|----------|
| 01.Liver/Handle      | √            |          |
| 02.Blade,contacts    | √            |          |
| 03.Smooth operation  | √            |          |
| 04.Ground connection | √            |          |

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**VIII. 33 KV FUSES**

| Items CHECK↓ Rem→   | R-Φ | Y-Φ | B-Φ | Items CHECK↓ Rem→  | RΦ | YΦ | BΦ |
|---------------------|-----|-----|-----|--------------------|----|----|----|
| 01.Manufacturer     |     |     |     | 05.Base& mOUNTING  | √  | √  | √  |
| 02.Rating(AMPS      |     |     |     | 06.Smooth opration | √  | √  | √  |
| 03.Fuse link/barrel | √   | √   | √   | 07.Alignment       | √  | √  | √  |
| 04.Contacts         | √   | √   | √   | 08.Connection      | √  | √  | √  |

**IX. INSULATORS**

| Items Chack↓ Rem→        |   | Items Chack↓ Remarks→          |   | Items Chack↓ Rem→    |   |
|--------------------------|---|--------------------------------|---|----------------------|---|
| 01Porcelain broken/crack | √ | 02. Metal parts/base/ mounting | √ | 03. Washing&cleaning | √ |

**X.PROTECTIVE LIGHTING**

| Items Ch. | Remarks | Items Chacked                | Remarks | Items Chacked            | Remarks |
|-----------|---------|------------------------------|---------|--------------------------|---------|
| Glassware | √       | Photo electric cell assembly |         | Conduit/fitting/fixtures | √       |

**XI. STRUCTURES(WOODEN)**

| ITEMS(Steel Structure)   | Remarks | ITEMS (Wooden pole          | Remarks |
|--------------------------|---------|-----------------------------|---------|
| 01.Painting performed    | √       | 01. Condition of poles      | √       |
| 02.Rust removed          | √       | 02. Condition of Cross arm  | √       |
| 03.Loose broken& missing | √       | 03. Condition of guy/anchor | √       |

**XII.PAD& FOUNDATION**

| ITEMS                         | Remarks | ITEMS           | Remarks |
|-------------------------------|---------|-----------------|---------|
| 01.Steel Structure foundation | √       | 02.X-former pad | √       |
| 03.v.r. pad                   | √       | 04.OCR/ACR pad  | √       |

**XIII.SUBSTATION YARD**

| ITEMS                        | Remarks | ITEMS                  | Remarks |
|------------------------------|---------|------------------------|---------|
| 01.Fencw/painting/intactness | √       | 02.Leveling/Slope/road | √       |
| 03.Gate & its opration       | √       | 04. Locks&keys         | √       |
| 05.Weed/flooding             | √       | 06.WARNING SIGNS       | √       |

**XIV.GROUNDING SYSTEM**

| ITEMS                            | Remarks | ITEMS                               | Remarks |
|----------------------------------|---------|-------------------------------------|---------|
| 01.Connections loose or corroded | √       | 02.Grounding resistance measurement | √       |

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**1.POWER TRANSFORMER (Unit-1)**

| ITEMS CHECKED                                 |                | Unit-1          |
|---|----------------|-----------------|
| 01.Manufacture                                |                | Confidence-2017 |
| 02.SI No                                      |                | CELT-0026       |
| 03.Bushing chipped/broken/cracked             |                | √               |
| 04.Record level oil                           |                | 4250L           |
| 05. Temperature gauge (winding)               | (Present (°C)) | 40              |
|   | (Max (°C))     | -               |
| 06. Temperature gauge (Oil)                   | (Present (°C)) | 40              |
|   | (Max (°C))     | 55/60           |
| 07.Record gas pressure (kg/cm2/lbs/in2)       |                |                 |
| 08.Pressure release device operation          |                | √               |
| 09.Auxiliary fan operation                    |                | √               |
| 10.General condition & foundation             |                | √               |
| 11.Radiator, valve, plug etc.                 |                | √               |
| 12.Conservator"stank regulator, breather etc. |                | √               |
| 13.Dielectric strength of oil (KV)            |                | 57.2            |
| 14.Connection loose or corroded               |                | √               |
| 15.240Volt power supply & wiring              |                | √               |
| 16.% Impedance                                |                | 8.13/11.38      |
| 17.Tapchanger position                        |                | √               |
| 18.Vector Grop                                |                | √               |

19. . Megger results(MΩ )(Tested By 5KV Insulation Tester)

| Bank | H1/H2/H3 | X1/X2/X3 | HT-LT | HT-BODY | LT-BODY | Amp(NL) | Amp(Load) | Remarks |
|------|----------|----------|-------|---------|---------|---------|-----------|---------|
| -    | 0        | 0        | 34GΩ  | 28GΩ    | 21GΩ    | -       | -         | OK      |

**II. VOLTAGE REGULATOR**

| ITEMS CHECKED   | R-Phase           | Y-Phase           | B-Phase           |
|---|-------------------|-------------------|-------------------|
| 01.Manufacturer   | Cooper power      | Cooper power      | Cooper power      |
| 02.SL.No  | 2016-4-1650004000 | 2016-5-1650004689 | 2016-5-1650004688 |
| 03.Control type   | Automatic         | Automatic         | Automatic         |
| 04.Rating(A,Ampere)   | 656               | 656               | 656               |
| 05.Bushing contamination  | √                 | √                 | √                 |
| 06.Bushing chipped,broken orcracked   | √                 | √                 | √                 |
| 07.Record level of oil  |                   |                   |                   |
| 08.Connection loose or corroded   | √                 | √                 | √                 |
| 09.Oil tank damage or leaking   | √                 | √                 | √                 |
| 10.Dielectric strength of oil (KV)  | 80.2              | 74.3              | 55.6              |
| 11.Operation Counter reading  |                   |                   |                   |
| 12.Control panel seetting:- Voltage level = 120V, Bandwidth =4.0V, Time deley = 60Sec |                   |                   |                   |
| 13. Megger results(MΩ )(Tested By 5KV Insulation Tester)                              |                   |                   |                   |

| Phase(Φ) | S/L/SL | S/Body | L/Body | SL/Body | Amp(NL) | Amp(Load) | Remarks |
|----------|--------|--------|--------|---------|---------|-----------|---------|
| R        | 0      | 15.6   | 15.0   | 15.4    | -       | -         | OK      |
| Y        | 0      | 15.9   | 16.1   | 18      | -       | -         | OK      |
| B        | 0      | 20.8   | 20.3   | 23      | -       | -         | OK      |

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**III. AUTOMATIC CIRCUIT RECOSER**

| Item Checked↓<br>Remarks→                 | 33KV<br>ACR                 | 11KV Feeders                |                  |                  |
|---|-----------------------------|-----------------------------|------------------|------------------|
|   |                             | 1A                          | 2B               | 4D               |
| 01.Manufacturer                           | Entec                       | Entec                       | Cooper<br>power  | Cooper<br>power  |
| 02.Control type                           | Numerical                   | Numerical                   | Numerical        | Numerical        |
| 03.SL.No                                  | 2016-12-<br>PR316120<br>309 | 2019-01-<br>PR11901<br>0163 | CP58FXD10<br>519 | CP58FXD1<br>0539 |
| 04.Rating(,Amps)                          | 630                         | 630                         | 630              | 630              |
| 05.Curvesetting(phase)<br>&time Multiply  | 190<br>IEC-SI               | 120<br>IEC-SI               | 180<br>IEC-NI    | 250<br>IEC-NI    |
| 06.Curvesetting(ground)<br>&time Multiply | 40<br>IEC-SI                | 40<br>IEC-SI                | 40<br>IEC-NI     | 40<br>IEC-NI     |
| 07.Bushings                               | √                           | √                           | √                | √                |
| 08.Tank/bpdy                              | √                           | √                           | √                | √                |
| 09.Operation Counter                      | √                           | √                           | √                | √                |
| 10.Op. Counter reding                     | 1090                        | -                           | 4495             | 3942             |
| 11.Battery Condition                      | √                           | √                           | √                | √                |
| 12.Mis-operation detect                   | √                           | √                           | √                | √                |
| 13.Moisture indication                    | √                           | √                           | √                | √                |
| 14.Misalignment/arcng                     | √                           | √                           | √                | √                |
| 15.Oil level indicator                    | √                           | √                           | √                | √                |
| 16.SF6 pressure(KPag)                     | √                           | √                           | √                | √                |
| 17.OIL strength(KV0                       | √                           | √                           | √                | √                |
| 18.Operation To Lockout                   | √                           | √                           | √                | √                |
| 19.FRAME/struction                        | √                           | √                           | √                | √                |
| 20.Servicing                              | √                           | √                           | √                | √                |
| 21.Oil changed                            | No                          | No                          | No               | No               |
| 22.SF6 gas added                          | No                          | No                          | No               | No               |
| 23.Control,S FUNCTION                     | √                           | √                           | √                | √                |
| 24.Load(MW)Norn<br>Cond(off-Peak/Peak)    |                             |                             |                  |                  |
| 25.Load(MW)<br>Irri Cond(off-Peak/Peak)   |                             |                             |                  |                  |

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**IV. AUXILIARY EQUIPMENT:-****A. METER CABINET & CONTROL PANELS**

| Item Checked↓ Remarks→                      | Remarks | ITEMS | Remarks |
|---|---------|-------|---------|
| 01.Wiring/Lighting/terminal Blocks/switches | √       |       |         |
| 0.3Meter type:- Q-METER                     | √       |       |         |

**B.CURRENT & POTENTIAL TRANSFORMER**

| Item Checked↓ Remarks→           | Current Transformer |     | Potential Transformer |     |
|----------------------------------|---------------------|-----|-----------------------|-----|
|                                  | R-Y                 | B-Y | R-Y                   | B-Y |
| 01.Manufacturer                  |                     |     |                       |     |
| 02.SL.No                         |                     |     |                       |     |
| 03.Ratio( Put √ for ratio used ) |                     |     |                       |     |
| 04.Bushing contaminated          |                     |     |                       |     |
| 05.Bushing broken or Cracked     | √                   | √   | √                     | √   |
| 06.Connection loose corroded     | √                   | √   | √                     | √   |
| 07.tank/bodydamaged or leak      | √                   | √   | √                     | √   |
| 08.OIL level/STRENGTH(KV)        | √                   | √   | √                     | √   |
| 09. Megger results(MΩ )          |                     |     |                       |     |

**V. SURGE ARRESTERS(Power Transformer)**

| Item Checked Remarks→        | Red phase |       | Yellow phase |       | Blue phase |       |
|------------------------------|-----------|-------|--------------|-------|------------|-------|
|                              | 33KV      | 11 KV | 33 KV        | 11 KV | 33 KV      | 11 KV |
| 01.Manufacturer              |           |       |              |       |            |       |
| 02.SL.No                     |           |       |              |       |            |       |
| 03.Rating(KV)                | Rating    |       |              |       |            |       |
|                              | MCOV      |       |              |       |            |       |
| 04. Megger results(MΩ )      |           |       |              |       |            |       |
| 05.Porcelain,broken /Cracked | √         | √     | √            | √     | √          | √     |

**VI. ISOLATION SWITCHES (199&166)**

| Items Check↓ Rem→    | Item Checked | Remarks→ |
|----------------------|--------------|----------|
| 01.Liver/Handle      | √            |          |
| 02.Blade,contacts    | √            |          |
| 03.Smooth operation  | √            |          |
| 04.Ground connection | √            |          |

**VII. ISOLATION SWITCHES (299&266)**

| Items Check↓ Rem→    | Item Checked | Remarks→ |
|----------------------|--------------|----------|
| 01.Liver/Handle      | √            |          |
| 02.Blade,contacts    | √            |          |
| 03.Smooth operation  | √            |          |
| 04.Ground connection | √            |          |

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**VIII. 33 KV FUSES**

| Items CHECK↓ Rem→   | R-Φ | Y-Φ | B-Φ | Items CHECK↓ Rem→  | RΦ | YΦ | BΦ |
|---------------------|-----|-----|-----|--------------------|----|----|----|
| 01.Manufacturer     |     |     |     | 05.Base& mOUNTING  | √  | √  | √  |
| 02.Rating(AMPS      |     |     |     | 06.Smooth opration | √  | √  | √  |
| 03.Fuse link/barrel | √   | √   | √   | 07.Alignment       | √  | √  | √  |
| 04.Contacts         | √   | √   | √   | 08.Connection      | √  | √  | √  |

**IX. INSULATORS**

| Items Chack↓ Rem→        |   | Items Chack↓ Remarks→          |   | Items Chack↓ Rem→    |   |
|--------------------------|---|--------------------------------|---|----------------------|---|
| 01Porcelain broken/crack | √ | 02. Metal parts/base/ mounting | √ | 03. Washing&cleaning | √ |

**X.PROTECTIVE LIGHTING**

| Items Ch. | Remarks | Items Chacked                | Remarks | Items Chacked            | Remarks |
|-----------|---------|------------------------------|---------|--------------------------|---------|
| Glassware | √       | Photo electric cell assembly | √       | Conduit/fitting/fixtures | √       |

**XI. STRUCTURES(WOODEN)**

| ITEMS(Steel Structure)   | Remarks | ITEMS (Wooden pole          | Remarks |
|--------------------------|---------|-----------------------------|---------|
| 01.Painting performed    | √       | 01. Condition of poles      | √       |
| 02.Rust removed          | √       | 02. Condition of Cross arm  | √       |
| 03.Loose broken& missing | √       | 03. Condition of guy/anchor | √       |

**XII.PAD& FOUNDATION**

| ITEMS                         | Remarks | ITEMS           | Remarks |
|-------------------------------|---------|-----------------|---------|
| 01.Steel Structure foundation | √       | 02.X-former pad | √       |
| 03.v.r. pad                   | √       | 04.OCR/ACR pad  | √       |

**XIII.SUBSTATION YARD**

| ITEMS                        | Remarks | ITEMS                  | Remarks |
|------------------------------|---------|------------------------|---------|
| 01.Fencw/painting/intactness | √       | 02.Leveling/Slope/road | √       |
| 03.Gate & its opration       | √       | 04. Locks&keys         | √       |
| 05.Weed/flooding             | √       | 06.WARNING SIGNS       | √       |

**XIV.GROUNDING SYSTEM**

| ITEMS                            | Remarks | ITEMS                               | Remarks |
|----------------------------------|---------|-------------------------------------|---------|
| 01.Connections loose or corroded | √       | 02.Grounding resistance measurement | √       |

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**1.POWER TRANSFORMER (Unit-2)**

| ITEMS CHECKED                                 |               | Unit-2   |
|---|---------------|----------|
| 01.Manufacture                                |               | TS       |
| 02.SI No                                      |               | 2019-052 |
| 03.Bushing chipped/broken/cracked             |               | No       |
| 04.Record level oil                           |               | 6800L    |
| 05. Temperature gauge (winding )              | (Present (°C) | 55       |
|   | (Max (°C)     | 60       |
| 06. Temperature gauge (Oil )                  | (Present (°C) | 50       |
|   | (Max (°C)     | 60       |
| 07.Record gas pressure (kg/cm2/lbs/in2        |               |          |
| 08.Pressure release device operation          |               | √        |
| 09.Auxiliary fan operation                    |               | √        |
| 10.General condition & foundation             |               | √        |
| 11.Radiator, valve, plug etc.                 |               | √        |
| 12.Conservator"stank regulator, breather etc. |               | √        |
| 13.Dielectric strength of oil (KV)            |               | 35.4     |
| 14.Connection loose or corroded               |               | √        |
| 15.240Volt power supply & wiring              |               | √        |
| 16.% Impedance                                |               |          |
| 17.Tapchanger position                        |               |          |
| 18.Vector Grop                                |               |          |

19. . Megger results(MΩ )(Tested By 5KV Insulation Tester)

| Bank | H1/H2/H3 | X1/X2/X3 | HT-LT  | HT-BODY  | LT-BODY | Amp(NL) | Amp(Load) | Remarks |
|------|----------|----------|--------|----------|---------|---------|-----------|---------|
|      | 0        | 0        | 12.6GΩ | 19.36 GΩ | 8 GΩ    | -       | -         | OK      |

**II. VOLTAGE REGULATOR**

| ITEMS CHECKED   | R-Phase            | Y-Phase            | B-Phase            |
|---|--------------------|--------------------|--------------------|
| 01.Manufacturer   | Cooper Power       | Cooper Power       | Cooper Power       |
| 02.SL.No  | 2004-10-0437017529 | 2004-10-0437017620 | 2004-10-0437017658 |
| 03.Control type   | Numerical          | Numerical          | Numerical          |
| 04.Rating(A,Ampere)   | 328                | 328                | 328                |
| 05.Bushing contamination  | √                  | √                  | √                  |
| 06.Bushing chipped,broken orcracked   | √                  | √                  | √                  |
| 07.Record level of oil  |                    |                    |                    |
| 08.Connection loose or corroded   | √                  | √                  | √                  |
| 09.Oil tank damage or leaking   | √                  | √                  | √                  |
| 10.Dielectric strength of oil (KV)  |                    |                    |                    |
| 11.Operation Counter reading  |                    |                    |                    |
| 12.Control panel seetting:- Voltage level = 120V, Bandwidth =4.0V, Time deley = 60Sec |                    |                    |                    |

13. Megger results(MΩ )(Tested By 5KV Insulation Tester)

| Phase(Φ) | S/L/SL | S/Body | L/Body  | SL/Body | Amp(NL) | Amp(Load) | Remarks |
|----------|--------|--------|---------|---------|---------|-----------|---------|
| R        | 0      | 24.4GΩ | 34.1 GΩ | 69.6 GΩ | -       | -         | OK      |
| Y        | 0      | 17.1GΩ | 23.3 GΩ | 26.3 GΩ | -       | -         | OK      |
| B        | 0      | 15.5GΩ | 26.8 GΩ | 23.3 GΩ | -       | -         | OK      |

**REB FORM NO.-455(SUBSTATION PERIODIC INSPECTION AND MAINTENANCE FORM)**

PBS: Tangail

Substation: Nagorpur-1

CAPACITY = 25/33 MVA

Date of Commission:-

Date of Augmentation:-

Date of maintenance:- 10/01/22

PUT TICK (√) MARK BY ITEM INSPECTED OR MAINTAINED

AGM(O&M)  
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BREB, TangailExecutive Engineer  
BREB Tangail**III. AUTOMATIC CIRCUIT RECOSER**

| Item Checked↓<br>Remarks→              | 33KV<br>ACR        | 11KV Feeders     |                     |                             |                             |                          |  |
|--|--------------------|------------------|---------------------|-----------------------------|-----------------------------|--------------------------|--|
|  |                    | 8H               | 9I                  | 10J                         | 11K                         | 12L                      |  |
| 01.Manufacturer                        | Schneider Electric | ENTEC            | ENTEC               | Chardon Korea               | <b>Cooper Power</b>         | Schneider Electric       |  |
| 02.Control type                        | Numerical          | Numerical        | Numerical           | Numerical                   | Numerical                   | Numerical                |  |
| 03.SL.No                               | PB-2012-11-446869  | 2018-08-PR118080 | 2020-12-PR120120979 | 2016-7-10-CRMR7201610BG0766 | <b>2018-08-CP58FXD09037</b> | <b>PB-2010-02-394049</b> |  |
| 04.Rating(,Amps)                       | 630                | 625              | 625                 | 630                         | <b>630</b>                  | <b>630</b>               |  |
| 05.Curvesetting(phase) &time Multiply  |                    |                  |                     |                             |                             |                          |  |
| 06.Curvesetting(ground) &time Multiply |                    |                  |                     |                             |                             |                          |  |
| 07.Bushings                            | √                  | √                | √                   | √                           | √                           | √                        |  |
| 08.Tank/bpdy                           | √                  | √                | √                   | √                           | √                           | √                        |  |
| 09.Operation Counter                   | √                  | √                | √                   | √                           | √                           | √                        |  |
| 10.Op. Counter reding                  |                    |                  |                     |                             |                             |                          |  |
| 11.Battery Condition                   | √                  | √                | √                   | √                           | √                           | √                        |  |
| 12.Mis-operation detect                | √                  | √                | √                   | √                           | √                           | √                        |  |
| 13.Moisture indication                 | √                  | √                | √                   | √                           | √                           | √                        |  |
| 14.Misalignment/arcng                  | √                  | √                | √                   | √                           | √                           | √                        |  |
| 15.Oil level indicator                 |                    |                  |                     |                             |                             |                          |  |
| 16.SF6 pressure(KPag)                  | √                  | √                | √                   | √                           | √                           | √                        |  |
| 17.OIL strength(KV0                    |                    |                  |                     |                             |                             |                          |  |
| 18.Operation To Lockout                | √                  | √                | √                   | √                           | √                           | √                        |  |
| 19.FRAME/struction                     | √                  | √                | √                   | √                           | √                           | √                        |  |
| 20.Servicing                           | √                  | √                | √                   | √                           | √                           | √                        |  |
| 21.Oil changed                         | No                 | No               | No                  | No                          | No                          | No                       |  |
| 22.SF6 gas added                       | √                  | √                | √                   | √                           | √                           | √                        |  |
| 23.Control,S FUNCTION                  | √                  | √                | √                   | √                           | √                           | √                        |  |
| 24.Load(MW)Norn Cond(off-Peak/Peak)    |                    |                  |                     |                             |                             |                          |  |
| 25.Load(MW) Irri Cond(off-Peak/Peak)   |                    |                  |                     |                             |                             |                          |  |

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Date of Commission:- Date of Augmentation:- Date of maintenance:- 10/01/22

PUT TICK (√) MARK BY ITEM INSPECTED OR MAINTAINED

**IV. AUXILIARY EQUIPMENT:-****A. METER CABINET & CONTROL PANELS**

| Item Checked↓ Remarks→                      | Remarks | ITEMS | Remarks |
|---|---------|-------|---------|
| 01.Wiring/Lighting/terminal Blocks/switches | √       |       |         |
| 03.Meter type:- Q-METER                     | √       |       |         |

**B.CURRENT & POTENTIAL TRANSFORMER**

| Item Checked↓ Remarks→           | Current Transformer |     | Potential Transformer |     |
|----------------------------------|---------------------|-----|-----------------------|-----|
|                                  | R-Y                 | B-Y | R-Y                   | B-Y |
| 01.Manufacturer                  |                     |     |                       |     |
| 02.SL.No                         |                     |     |                       |     |
| 03.Ratio( Put √ for ratio used ) |                     |     |                       |     |
| 04.Bushing contaminated          | √                   | √   | √                     | √   |
| 05.Bushing broken or Cracked     | √                   | √   | √                     | √   |
| 06.Connection loose corroded     | √                   | √   | √                     | √   |
| 07.tank/bodydamaged or leak      | √                   | √   | √                     | √   |
| 08.OIL level/STRENGTH(KV)        |                     |     |                       |     |
| 09. Megger results(MΩ )          |                     |     |                       |     |

**V. SURGE ARRESTERS(Power Transformer)**

| Item Checked                 | Remarks→ | Red phase |       | Yellow phase |       | Blue phase |       |
|------------------------------|----------|-----------|-------|--------------|-------|------------|-------|
|                              |          | 33KV      | 11 KV | 33 KV        | 11 KV | 33 KV      | 11 KV |
| 01.Manufacturer              |          |           |       |              |       |            |       |
| 02.SL.No                     |          |           |       |              |       |            |       |
| 03.Rating(KV)                | Rating   |           |       |              |       |            |       |
|                              | MCOV     |           |       |              |       |            |       |
| 04. Megger results(MΩ )      |          |           |       |              |       |            |       |
| 05.Porcelain,broken /Cracked |          | √         | √     | √            | √     | √          | √     |

**VI. ISOLATION SWITCHES (199&166)**

| Items Check↓ Rem→    | Item Checked | Remarks→ |
|----------------------|--------------|----------|
| 01.Liver/Handle      | √            |          |
| 02.Blade,contacts    | √            |          |
| 03.Smooth operation  | √            |          |
| 04.Ground connection | √            |          |

**VII. ISOLATION SWITCHES (299&266)**

| Items Check↓ Rem→    | Item Checked | Remarks→ |
|----------------------|--------------|----------|
| 01.Liver/Handle      | √            |          |
| 02.Blade,contacts    | √            |          |
| 03.Smooth operation  | √            |          |
| 04.Ground connection | √            |          |

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PUT TICK (√) MARK BY ITEM INSPECTED OR MAINTAINED

**VIII. 33 KV FUSES**

| Items CHECK↓ Rem→   | R-Φ | Y-Φ | B-Φ | Items CHECK↓ Rem→  | RΦ | YΦ | BΦ |
|---------------------|-----|-----|-----|--------------------|----|----|----|
| 01.Manufacturer     |     |     |     | 05.Base& mOUNTING  | √  | √  | √  |
| 02.Rating(AMPS      |     |     |     | 06.Smooth opration | √  | √  | √  |
| 03.Fuse link/barrel |     |     |     | 07.Alignment       | √  | √  | √  |
| 04.Contacts         | √   | √   | √   | 08.Connection      | √  | √  | √  |

**IX. INSULATORS**

| Items Chack↓ Rem→         |   | Items Chack↓ Remarks→          |   | Items Chack↓ Rem→    |   |
|---------------------------|---|--------------------------------|---|----------------------|---|
| 01.Porcelain broken/crack | √ | 02. Metal parts/base/ mounting | √ | 03. Washing&cleaning | √ |

**X.PROTECTIVE LIGHTING**

| Items Ch. | Remarks | Items Chacked                | Remarks | Items Chacked            | Remarks |
|-----------|---------|------------------------------|---------|--------------------------|---------|
| Glassware | √       | Photo electric cell assembly | √       | Conduit/fitting/fixtures | √       |

**XI. STRUCTURES(WOODEN)**

| ITEMS(Steel Structure)   | Remarks | ITEMS (Wooden pole)         | Remarks |
|--------------------------|---------|-----------------------------|---------|
| 01.Painting performed    | √       | 01. Condition of poles      | √       |
| 02.Rust removed          | √       | 02. Condition of Cross arm  | √       |
| 03.Loose broken& missing | √       | 03. Condition of guy/anchor | √       |

**XII.PAD& FOUNDATION**

| ITEMS                         | Remarks | ITEMS           | Remarks |
|-------------------------------|---------|-----------------|---------|
| 01.Steel Structure foundation | √       | 02.X-former pad | √       |
| 03.v.r. pad                   | √       | 04.OCR/ACR pad  | √       |

**XIII.SUBSTATION YARD**

| ITEMS                        | Remarks | ITEMS                  | Remarks |
|------------------------------|---------|------------------------|---------|
| 01.Fencw/painting/intactness | √       | 02.Leveling/Slope/road | √       |
| 03.Gate & its opration       | √       | 04. Locks&keys         | √       |
| 05.Weed/flooding             | √       | 06.WARNING SIGNS       | √       |

**XIV.GROUNDING SYSTEM**

| ITEMS                            | Remarks | ITEMS                               | Remarks |
|----------------------------------|---------|-------------------------------------|---------|
| 01.Connections loose or corroded | √       | 02.Grounding resistance measurement | √       |

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