

# Detailed Report

Date of Submission : 10-06-2026 13:21

**GAJWEL - 220KV** tripped at **27-05-2026 06:02** and restored at **27-05-2026 20:36**

|                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Summary of Event (घटना का सारांश)</b>                                                               | <div><div>i. On 27-05-2026 at 06:02hrs, 220kV B-phase Bus-1 PT got blasted causing 220kV Bus-1 busbar protection operation and tripping of all the elements connected to 220kV Bus-1 at 400/220/132kV SS Gajwel.</div><div>ii. 315MVA ICT-1 &amp; 500MVA ICT-2 HV breakers (Main &amp; Tie) tripped on inter trip.</div><div>iii. Simultaneously 400kV Bus-1 LBB protection operated and tripped all the elements connected to 400kV Bus-1 at 400/220/132kV SS Gajwel.</div><div>iv. From the DRs, it is observed that even though there is no fault on Bus Reactor Tie breaker (directly connected to bus-1 because of half dia) PU relay initiated backtrip command to CU without any external LBB relay initiation resulting in tripping of all elements connected to 400kV Bus-1.</div><div>v. During the above trippings, there was heavy gale and lightning near the substation surroundings.</div><div>vi. There was no load loss due to the above tripping.</div></div> |
| <b>Time and Date of the event (घटना का समय और दिनांक)</b>                                              | 27-05-2026 06:02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Name of the Substation/Generating Station/Pooling Station affected (Along with Voltage level) :</b> | GAJWEL - 220KV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Event Category (श्रेणी के साथ इवेंट प्रकार)</b>                                                     | GI-2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Location/Control Area (स्थान/नियंत्रण क्षेत्र)</b>                                                  | TELANGANA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

**Configuration of Bus (HV/LV) :**

**. Along with details of Bus  
split Operation (if any)**

Bus Configuration Type : Double main and transfer bus scheme

Bus Coupler Status : NA

| Bus 1 Connected Elements                                                                                                                                                                                                                   | Bus 2 Connected Elements                                                                                                                                                                                                                | Bus 3 Connected Elements | Bus 4 Connected Elements |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|
| 1. 220KV-GAJWEL-<br>AKKARAM-1<br>2. 220KV-GAJWEL-<br>KONDAPAKKA-1<br>3. 220KV-SIDDIPET-<br>GAJWEL-1<br>4. 220KV-MEDCHAL-<br>GAJWEL-1<br>5. 400KV/220KV GAJWEL-<br>ICT-2<br>6. 400KV/220KV GAJWEL-<br>ICT-1<br>7. 220KV-MINPUR-<br>GAJWEL-1 | 1. 220KV-GAJWEL-<br>KAMAREDDY-1<br>2. 220KV-MINPUR-<br>GAJWEL-2<br>3. 220KV-SIDDIPET-<br>GAJWEL-2<br>4. 220KV-GAJWEL-<br>AKKARAM-2<br>5. 220KV-MEDCHAL-<br>GAJWEL-2<br>6. 400KV/220KV<br>GAJWEL-ICT-4<br>7. 400KV/220KV<br>GAJWEL-ICT-3 |                          |                          |

**Station Connectivity / SLD  
during antecedent :**

**Weather Conditions :** Rainy, Thunders, Windy

**Elements under outage prior  
to the event :**

**Other Information  
(Antecedent Cnditions) :**

**Renewable Energy Trip :** False

**Details of SPS Operation (if  
any): :** False

**Reason of tripping :** Fault Tripping

Type of Fault : SLG

phases inv : None, None

Auto Reclosure Operation : No

Fault Clearing Time (ms) : None

**Load and Generation Loss** :  
(लोड और जेनरेशन हानि)

| Total Generation Loss (MW) | Total Load Loss(MW) |
|----------------------------|---------------------|
| 0 MW                       | 0 MW                |

**Duration of interruption** :  
(रुकावट की अवधि)

**Details of Equipment Failure** :  
(if any during the event):

| Equipment Type | Equipment Make |
|----------------|----------------|
|----------------|----------------|

**List of elements tripped during the event** :

1. 220KV-GAJWEL-AKKARAM-1
2. 400KV/220KV GAJWEL-ICT-2
3. 220KV-GAJWEL-KONDAPAKKA-1
4. 220KV-MINPUR-GAJWEL-1
5. 220KV-MEDCHAL-GAJWEL-1
6. 400KV/220KV GAJWEL-ICT-1
7. 220KV-SIDDIPET-GAJWEL-1
8. GAJWEL - 220KV - Bus 1

**Station Connectivity/SLD during the event** : Enclosed

**Analysis of the event** :

- i. On 27-05-2026 at 06:02hrs, 220kV B-phase Bus-1 PT got blasted causing 220kV Bus-1 busbar protection operation and tripping of all the elements connected to 220kV Bus-1 at 400/220/132kV SS Gajwel.
- ii. 315MVA ICT-1 & 500MVA ICT-2 HV breakers (Main & Tie) tripped on inter trip.
- iii. Simultaneously 400kV Bus-1 LBB protection operated and tripped all the elements connected to 400kV Bus-1 at 400/220/132kV SS Gajwel.
- iv. From the DRs, it is observed that even though there is no fault on Bus Reactor Tie breaker (directly connected to bus-1 because of half dia) PU relay initiated backtrip command to CU without any external LBB relay initiation resulting in tripping of all elements connected to 400kV Bus-1.
- v. During the above trippings, there was heavy gale and lightning near the substation surroundings.
- vi. There was no load loss due to the above tripping.

**Protection / Operational Issues observed** :

| Restoration Details : |  | Sl. No. | Voltage Level (kV) | Name of the Element | Date of Restoration (DD-MM-YYYY) | Time of Restoration (Hrs) |
|-----------------------|--|---------|--------------------|---------------------|----------------------------------|---------------------------|
|                       |  | 1       | 400kV              | Ramagundam          | 27-05-2026                       | 10:46                     |
|                       |  | 2       | 400kV              | 315MVA ICT-1        | 27-05-2026                       | 10:48                     |
|                       |  | 3       | 400kV              | Ghanapur            | 27-05-2026                       | 10:48                     |
|                       |  | 4       | 400kV              | 500MVA ICT-2        | 27-05-2026                       | 10:53                     |
|                       |  | 5       | 400KV              | Bus-1               | 27-05-2026                       | 20:06                     |
|                       |  | 6       | 220KV              | Bus-1               | 27-05-2026                       | 20:36                     |
|                       |  | 7       | 220kV              | Kondapaka           | 27-05-2026                       | 20:36                     |
|                       |  | 8       | 220kV              | Medchal-1           | 27-05-2026                       | 20:42                     |
|                       |  | 9       | 220kV              | Akkaram-1           | 27-05-2026                       | 21:01                     |
|                       |  | 10      | 220KV              | Bus coupler         | 27-05-2026                       | 21:16                     |
|                       |  | 11      | 220kV              | 160MVA PTR-1        | 27-05-2026                       | 09:21                     |
|                       |  | 12      | 220kV              | Siddipet-1          | 27-05-2026                       | 21:44                     |
|                       |  | 13      | 220kV              | Minpur -1           | 27-05-2026                       | 21:51                     |
|                       |  | 14      | 220kV              | 160MVA PTR-3        | 27-05-2026                       | 07:45                     |

|                                                                  |   |                                                             |
|------------------------------------------------------------------|---|-------------------------------------------------------------|
| DR Time synchronization issues observed (सुरक्षा/प्रचालन समस्या) | : | False                                                       |
| Remedial Measures Taken (सुधारात्मक सुझाव)                       | : | i. Replaced the damaged 220KV Bus-1 PT and charged the Bus. |
| Relay/PLCC Operation Details                                     | : |                                                             |
| Control Panel Anunciation                                        | : | Busbar protection operated                                  |
| Main I Relay Indications                                         | : | 87BB operated                                               |
| Main II Relay Indications                                        | : | NIL                                                         |
| Other Relay Indications                                          | : |                                                             |

|                            |   |                                             |
|----------------------------|---|---------------------------------------------|
| PLCC Counter Increment I/T | : |                                             |
| PLCC Counter Increment D/T | : |                                             |
| Fault Current Value (kAmp) | : | None                                        |
| LA Counter                 | : |                                             |
| Remarks                    | : |                                             |
| <b>Attachments</b>         | : | 1. <a href="#">SLD/Connectivity Diagram</a> |