

**PROFORMA 'D'**

**Statement showing the cost of Transmission or Distribution**

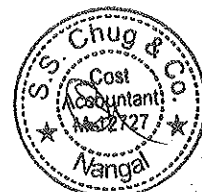
|   |  |
|---|--|
| Name of the Company                     | Punjab State Transmission Corporation Ltd. |
| Name and Address of the Generating Unit | Grid MTC( P&M) Verpal 98-665               |
| For the Period/Year                     | 01.04.2022 - 31.03.2023                    |

**I Quantitative Information:**

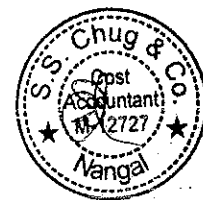
| SNo. | Particulars  | Unit      | Current Year | Previous Year |
|------|--|-----------|--------------|---------------|
| A1   | Surge Impedence Loading (SIL) or Rated Voltage                   |           |              |               |
| 2    | Power received from generating units including purchased, if any | MU        |              |               |
| 3    | Loss in transmission or distribution                             | MU        |              |               |
| 4    | Self Consumption for employees and office                        | MU        |              |               |
| 4a   | Other adjustments, if any (specify)                              | MU        |              |               |
| 5    | Net Power Transmitted or Distributed                             | MU        |              |               |
| 6    | Length of Transmission or Distribution lines                     |           |              |               |
|      | a. 220KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
|      | a. 132KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
| B1   | Gross Fixed Assets at the end of the year/period                 | Rs. Lakhs |              |               |
| 2    | Net Fixed Assets at the end of the year/period                   | Rs. Lakhs |              |               |
| 3    | Date of Commissioning  |           |              |               |

**II Cost Information**

| SNo. | Particulars                                      | Quantity | Rate Rs. Per Unit | Amount Rs. | Amount in Rs. |               |
|------|--|----------|-------------------|------------|---------------|---------------|
|      |  |          |                   |            | Current Year  | Previous Year |
| 1    | Cost of Power :                                  |          |                   |            |               |               |
|      | (a) Self generated transferred from Proforma 'C' |          |                   |            | 0             | 0             |
|      | (b) Purchased -                                  |          |                   |            |               |               |
|      | (i) Thermal                                      |          |                   |            | 0             | 0             |
|      | (ii) Hydro-electric                              |          |                   |            | 0             | 0             |
|      | (iii) Atomic, etc.                               |          |                   |            | 0             | 0             |
|      | (c) Sub-Total                                    |          |                   |            | 0             | 0             |
| 2    | Utilities, (specify details)                     |          |                   |            | 0             | 0             |
| 3    | Direct Employees Cost                            |          |                   |            | 52663972      | 40004163      |
| 4    | Consumable Stores and Spares                     |          |                   |            | 0             | 0             |



| SNo. | Particulars   | Quantity | Rate Rs.<br>Per Unit | Amount<br>Rs. | Amount in Rs.     |                    |
|------|---|----------|----------------------|---------------|-------------------|--------------------|
|      |   |          |                      |               | Current Year      | Previous Year      |
| 5    | Repairs and Maintenance:<br>(a) Sub-station<br>(b) Transmission Lines<br>(c) others (specify)   |          |                      |               | 5985861<br>0<br>0 | 18509125<br>0<br>0 |
| 6    | Insurance   |          |                      |               | 0                 | 0                  |
| 8    | Lease Rent, if any  |          |                      |               | 0                 | 0                  |
| 9    | Quality Control Expenses  |          |                      |               | 0                 | 0                  |
| 10   | Research and Development  |          |                      |               | 0                 | 0                  |
| 11   | Royalty or Technical know-how fee   |          |                      |               | 0                 | 0                  |
| 12   | Depreciation or Amortization  |          |                      |               | 41804967          | 42322996           |
| 13   | Other Plant Overheads   |          |                      |               | 3787868           | 3777118            |
| 14   | Total Cost of Transmission/Distribution   |          |                      |               | 104242668         | 104613402          |
| 15   | Less: Credits, if any   |          |                      |               |                   |                    |
| 16   | Administrative Overheads  |          |                      |               | 3992148           | 3248960            |
| 17   | Selling Expenses  |          |                      |               |                   |                    |
| 18   | Interest and Financing Charges  |          |                      |               | 3154              | 1298               |
| 19   | Cost of Sales   |          |                      |               |                   |                    |
| 20   | Total cost of Transmission or<br>Distribution transferred to Proforma 'E'   |          |                      |               | 108237970         | 107863660          |
| 21   | If sold, sales realization or<br>Transmission Charges or Distribution<br>Charges<br>i) at Notified rates approved by<br>Regulatory Bodies)<br>(a) Base amount<br>(b) Incentive amount<br>(c) others (specify)<br>(ii) Sales at other than notified rates<br>(a) Base amount<br>(b) Incentive amount<br>(c) Others (specify)<br>(iii) Total (i) + (ii) |          |                      |               |                   |                    |
| 22   | Margin (21 -20)   |          |                      |               |                   |                    |
| 23   | Add: Export Benefits and Incentives,if any  |          |                      |               |                   |                    |
| 24   | Total Margin (21 + 22)  |          |                      |               |                   |                    |



## PROFORMA 'D'

### Statement showing the cost of Transmission or Distribution

|   |  |
|---|--|
| Name of the Company                     | Punjab State Transmission Corporation Ltd. |
| Name and Address of the Generating Unit | Grid Maintenance( P&M) Amritsar 91-666     |
| For the Period/Year                     | 01.04.2022 - 31.03.2023                    |

#### I Quantitative Information:

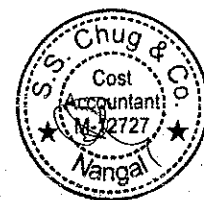
| SNo. | Particulars  | Unit      | Current Year | Previous Year |
|------|--|-----------|--------------|---------------|
| A1   | Surge Impedence Loading (SIL) or Rated Voltage                   |           |              |               |
| 2    | Power received from generating units including purchased, if any | MU        |              |               |
| 3    | Loss in transmission or distribution                             | MU        |              |               |
| 4    | Self Consumption for employees and office                        | MU        |              |               |
| 4a   | Other adjustments, if any (specify)                              | MU        |              |               |
| 5    | Net Power Transmitted or Distributed                             | MU        |              |               |
| 6    | Length of Transmission or Distribution lines                     |           |              |               |
|      | a. 220KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
|      | a. 132KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
| B1   | Gross Fixed Assets at the end of the year/period                 | Rs. Lakhs |              |               |
| 2    | Net Fixed Assets at the end of the year/period                   | Rs. Lakhs |              |               |
| 3    | Date of Commissioning  |           |              |               |

#### II Cost Information

| SNo. | Particulars                                      | Quantity | Rate Rs. Per Unit | Amount Rs. | Amount in Rs. |               |
|------|--|----------|-------------------|------------|---------------|---------------|
|      |  |          |                   |            | Current Year  | Previous Year |
| 1    | Cost of Power :                                  |          |                   |            |               |               |
|      | (a) Self generated transferred from Proforma 'C' |          |                   |            | 0             | 0             |
|      | (b) Purchased -                                  |          |                   |            |               |               |
|      | (i) Thermal                                      |          |                   |            | 0             | 0             |
|      | (ii) Hydro-electric                              |          |                   |            | 0             | 0             |
|      | (iii) Atomic, etc.                               |          |                   |            | 0             | 0             |
|      | (c) Sub-Total                                    |          |                   |            | 0             | 0             |
| 2    | Utilities, (specify details)                     |          |                   |            | 0             | 0             |
| 3    | Direct Employees Cost                            |          |                   |            | 107410016     | 85416328      |
| 4    | Consumable Stores and Spares                     |          |                   |            | 0             | 0             |



| SNo. | Particulars   | Quantity | Rate Rs.<br>Per Unit | Amount<br>Rs. | Amount in Rs.                |                            |
|------|---|----------|----------------------|---------------|------------------------------|----------------------------|
|      |   |          |                      |               | Current Year                 | Previous Year              |
| 5    | Repairs and Maintenance:<br>(a) Sub-station<br>(b) Transmission Lines<br>(c) others (specify)   |          |                      |               | 13476056<br>2540311<br>15100 | 11128334<br>83772<br>15250 |
| 6    | Insurance   |          |                      |               | 16586                        | 0                          |
| 8    | Lease Rent, if any  |          |                      |               | 0                            | 0                          |
| 9    | Quality Control Expenses  |          |                      |               | 0                            | 0                          |
| 10   | Research and Development  |          |                      |               | 0                            | 0                          |
| 11   | Royalty or Technical know-how fee   |          |                      |               | 0                            | 0                          |
| 12   | Depreciation or Amortization  |          |                      |               | 180006700                    | 169813633                  |
| 13   | Other Plant Overheads   |          |                      |               | 9020979                      | 4875597                    |
| 14   | Total Cost of Transmission/Distribution   |          |                      |               | 312485748                    | 271332914                  |
| 15   | Less: Credits, if any   |          |                      |               |                              |                            |
| 16   | Administrative Overheads  |          |                      |               | 7671178                      | 5294905                    |
| 17   | Selling Expenses  |          |                      |               |                              |                            |
| 18   | Interest and Financing Charges  |          |                      |               | 2891                         | 2891                       |
| 19   | Cost of Sales   |          |                      |               |                              |                            |
| 20   | Total cost of Transmission or<br>Distribution transferred to Proforma 'E'   |          |                      |               | 320159817                    | 276630710                  |
| 21   | If sold, sales realization or<br>Transmission Charges or Distribution<br>Charges<br>i) at Notified rates approved by<br>Regulatory Bodies)<br>(a) Base amount<br>(b) Incentive amount<br>(c) others (specify)<br>(ii) Sales at other than notified rates<br>(a) Base amount<br>(b) Incentive amount<br>(c) Others (specify)<br>(iii) Total (i) + (ii) |          |                      |               |                              |                            |
| 22   | Margin (21 -20)   |          |                      |               |                              |                            |
| 23   | Add: Export Benefits and Incentives,if any  |          |                      |               |                              |                            |
| 24   | Total Margin (21 + 22)  |          |                      |               |                              |                            |



## PROFORMA 'D'

### Statement showing the cost of Transmission or Distribution

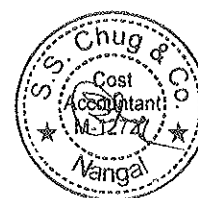
|   |  |
|---|--|
| Name of the Company                     | Punjab State Transmission Corporation Ltd. |
| Name and Address of the Generating Unit | P&M Division- Ferozpur 91-644              |
| For the Period/Year                     | 01.04.2022 - 31.03.2023                    |

#### I Quantitative Information:

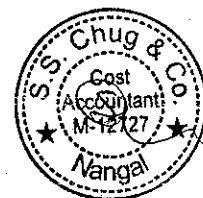
| SNo. | Particulars  | Unit      | Current Year | Previous Year |
|------|--|-----------|--------------|---------------|
| A1   | Surge impedance Loading (SIL) or Rated Voltage                   |           |              |               |
| 2    | Power received from generating units including purchased, if any | MU        |              |               |
| 3    | Loss in transmission or distribution                             | MU        |              |               |
| 4    | Self Consumption for employees and office                        | MU        |              |               |
| 4a   | Other adjustments, if any (specify)                              | MU        |              |               |
| 5    | Net Power Transmitted or Distributed                             | MU        |              |               |
| 6    | Length of Transmission or Distribution lines                     |           |              |               |
|      | a. 220KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
|      | a. 132KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
| B1   | Gross Fixed Assets at the end of the year/period                 | Rs. Lakhs |              |               |
| 2    | Net Fixed Assets at the end of the year/period                   | Rs. Lakhs |              |               |
| 3    | Date of Commissioning  |           |              |               |

#### II Cost Information

| SNo. | Particulars                                      | Quantity | Rate Rs. Per Unit | Amount Rs. | Amount in Rs. |               |
|------|--|----------|-------------------|------------|---------------|---------------|
|      |  |          |                   |            | Current Year  | Previous Year |
| 1    | Cost of Power :                                  |          |                   |            |               |               |
|      | (a) Self generated transferred from Proforma 'C' |          |                   |            | 0             | 0             |
|      | (b) Purchased -                                  |          |                   |            |               |               |
|      | (i) Thermal                                      |          |                   |            | 0             | 0             |
|      | (ii) Hydro-electric                              |          |                   |            | 0             | 0             |
|      | (iii) Atomic, etc.                               |          |                   |            | 0             | 0             |
|      | (c) Sub-Total                                    |          |                   |            | 0             | 0             |
| 2    | Utilities, (specify details)                     |          |                   |            | 0             | 0             |
| 3    | Direct Employees Cost                            |          |                   |            | 58422288      | 40215712      |
| 4    | Consumable Stores and Spares                     |          |                   |            | 0             | 0             |



| SNo. | Particulars   | Quantity | Rate Rs.<br>Per Unit | Amount<br>Rs. | Amount in Rs.         |                        |
|------|---|----------|----------------------|---------------|-----------------------|------------------------|
|      |   |          |                      |               | Current Year          | Previous Year          |
| 5    | Repairs and Maintenance:<br>(a) Sub-station<br>(b) Transmission Lines<br>(c) others (specify)   |          |                      |               | 8531389<br>0<br>36002 | 14596774<br>0<br>13710 |
| 6    | Insurance   |          |                      |               | 0                     | 0                      |
| 8    | Lease Rent, if any  |          |                      |               | 0                     | 0                      |
| 9    | Quality Control Expenses  |          |                      |               | 0                     | 0                      |
| 10   | Research and Development  |          |                      |               | 0                     | 0                      |
| 11   | Royalty or Technical know-how fee   |          |                      |               | 0                     | 0                      |
| 12   | Depreciation or Amortization  |          |                      |               | 213172457             | 206808578              |
| 13   | Other Plant Overheads   |          |                      |               | 4921438               | 4035563                |
| 14   | Total Cost of Transmission/Distribution   |          |                      |               | 285083574             | 265670337              |
| 15   | Less: Credits, if any   |          |                      |               |                       |                        |
| 16   | Administrative Overheads  |          |                      |               | 6755959               | 5482066                |
| 17   | Selling Expenses  |          |                      |               |                       |                        |
| 18   | Interest and Financing Charges  |          |                      |               | 1829                  | 1829                   |
| 19   | Cost of Sales   |          |                      |               |                       |                        |
| 20   | Total cost of Transmission or<br>Distribution transferred to Proforma 'E'   |          |                      |               | 291841362             | 271154232              |
| 21   | If sold, sales realization or<br>Transmission Charges or Distribution<br>Charges<br>i) at Notified rates approved by<br>Regulatory Bodies)<br>(a) Base amount<br>(b) Incentive amount<br>(c) others (specify)<br>(ii) Sales at other than notified rates<br>(a) Base amount<br>(b) Incentive amount<br>(c) Others (specify)<br>(iii) Total (i) + (ii) |          |                      |               |                       |                        |
| 22   | Margin (21 -20)   |          |                      |               |                       |                        |
| 23   | Add: Export Benefits and Incentives,if any  |          |                      |               |                       |                        |
| 24   | Total Margin (21 + 22)  |          |                      |               |                       |                        |



## PROFORMA 'D'

### Statement showing the cost of Transmission or Distribution

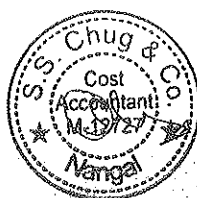
|   |  |
|---|--|
| Name of the Company                     | Punjab State Transmission Corporation Ltd. |
| Name and Address of the Generating Unit | P&M Division- Moga 645                     |
| For the Period/Year                     | 01.04.2022 - 31.03.2023                    |

#### I Quantitative Information:

| SNo. | Particulars  | Unit      | Current Year | Previous Year |
|------|--|-----------|--------------|---------------|
| A1   | Surge Impedence Loading (SIL) or Rated Voltage                   |           |              |               |
| 2    | Power received from generating units including purchased, if any | MU        |              |               |
| 3    | Loss in transmission or distribution                             | MU        |              |               |
| 4    | Self Consumption for employees and office                        | MU        |              |               |
| 4a   | Other adjustments, if any (specify)                              | MU        |              |               |
| 5    | Net Power Transmitted or Distributed                             | MU        |              |               |
| 6    | Length of Transmission or Distribution lines                     |           |              |               |
|      | a. 220KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
|      | a. 132KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
| B1   | Gross Fixed Assets at the end of the year/period                 | Rs. Lakhs |              |               |
| 2    | Net Fixed Assets at the end of the year/period                   | Rs. Lakhs |              |               |
| 3    | Date of Commissioning  |           |              |               |

#### II Cost Information

| SNo. | Particulars                                      | Quantity | Rate Rs. Per Unit | Amount Rs. | Amount in Rs. |               |
|------|--|----------|-------------------|------------|---------------|---------------|
|      |  |          |                   |            | Current Year  | Previous Year |
| 1    | Cost of Power :                                  |          |                   |            |               |               |
|      | (a) Self generated transferred from Proforma 'C' |          |                   |            | 0             | 0             |
|      | (b) Purchased -                                  |          |                   |            |               |               |
|      | (i) Thermal                                      |          |                   |            | 0             | 0             |
|      | (ii) Hydro-electric                              |          |                   |            | 0             | 0             |
|      | (iii) Atomic, etc.                               |          |                   |            | 0             | 0             |
|      | (c) Sub-Total                                    |          |                   |            |               |               |
| 2    | Utilities, (specify details)                     |          |                   |            | 0             | 0             |
| 3    | Direct Employees Cost                            |          |                   |            | 42163254      | 31729269      |
| 4    | Consumable Stores and Spares                     |          |                   |            | 0             | 0             |



| SNo. | Particulars   | Quantity | Rate Rs.<br>Per Unit | Amount<br>Rs. | Amount in Rs.         |                         |
|------|---|----------|----------------------|---------------|-----------------------|-------------------------|
|      |   |          |                      |               | Current Year          | Previous Year           |
| 5    | Repairs and Maintenance:<br>(a) Sub-station<br>(b) Transmission Lines<br>(c) others (specify)   |          |                      |               | 8392005<br>0<br>85837 | 15677834<br>0<br>139860 |
| 6    | Insurance   |          |                      |               | 0                     | 0                       |
| 8    | Lease Rent, if any  |          |                      |               | 0                     | 0                       |
| 9    | Quality Control Expenses  |          |                      |               | 0                     | 0                       |
| 10   | Research and Development  |          |                      |               | 0                     | 0                       |
| 11   | Royalty or Technical know-how fee   |          |                      |               | 0                     | 0                       |
| 12   | Depreciation or Amortization  |          |                      |               | 22155436              | 32083500                |
| 13   | Other Plant Overheads   |          |                      |               | 4868130               | 2895769                 |
| 14   | Total Cost of Transmission/Distribution   |          |                      |               | 77664662              | 82526232                |
| 15   | Less: Credits, if any   |          |                      |               |                       |                         |
| 16   | Administrative Overheads  |          |                      |               | 5708307               | 4783273                 |
| 17   | Selling Expenses  |          |                      |               |                       |                         |
| 18   | Interest and Financing Charges  |          |                      |               | 1829                  | 1593                    |
| 19   | Cost of Sales   |          |                      |               |                       |                         |
| 20   | Total cost of Transmission or<br>Distribution transferred to Proforma 'E'   |          |                      |               | 83374798              | 87311098                |
| 21   | If sold, sales realization or<br>Transmission Charges or Distribution<br>Charges<br>i) at Notified rates approved by<br>Regulatory Bodies)<br>(a) Base amount<br>(b) Incentive amount<br>(c) others (specify)<br>ii) Sales at other than notified rates<br>(a) Base amount<br>(b) Incentive amount<br>(c) Others (specify)<br>iii) Total (i) + (ii) |          |                      |               |                       |                         |
| 22   | Margin (21 -20)   |          |                      |               |                       |                         |
| 23   | Add: Export Benefits and Incentives,if any  |          |                      |               |                       |                         |
| 24   | Total Margin (21 + 22)  |          |                      |               |                       |                         |





PROFORMA 'D'

Statement showing the cost of Transmission or Distribution

|   |  |
|---|--|
| Name of the Company                     | Punjab State Transmission Corporation Ltd. |
| Name and Address of the Generating Unit | P&M Division- Muktsar 654                  |
| For the Period/Year                     | 01.04.2022 - 31.03.2023                    |

I Quantitative Information:

| SNo. | Particulars  | Unit      | Current Year | Previous Year |
|------|--|-----------|--------------|---------------|
| A1   | Surge Impedence Loading (SIL) or Rated Voltage                   |           |              |               |
| 2    | Power received from generating units including purchased, if any | MU        |              |               |
| 3    | Loss in transmission or distribution                             | MU        |              |               |
| 4    | Self Consumption for employees and office                        | MU        |              |               |
| 4a   | Other adjustments, if any (specify)                              | MU        |              |               |
| 5    | Net Power Transmitted or Distributed                             | MU        |              |               |
| 6    | Length of Transmission or Distribution lines                     |           |              |               |
|      | a. 220KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
|      | a. 132KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
| B1   | Gross Fixed Assets at the end of the year/period                 | Rs. Lakhs |              |               |
| 2    | Net Fixed Assets at the end of the year/period                   | Rs. Lakhs |              |               |
| 3    | Date of Commissioning  |           |              |               |

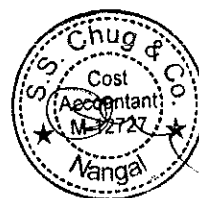
II Cost Information

| SNo. | Particulars                                      | Quantity | Rate Rs. Per Unit | Amount Rs. | Amount in Rs. |               |
|------|--|----------|-------------------|------------|---------------|---------------|
|      |  |          |                   |            | Current Year  | Previous Year |
| 1    | Cost of Power :                                  |          |                   |            |               |               |
|      | (a) Self generated transferred from Proforma 'C' |          |                   |            | 0             | 0             |
|      | (b) Purchased -                                  |          |                   |            | 0             | 0             |
|      | (i) Thermal                                      |          |                   |            | 0             | 0             |
|      | (ii) Hydro-electric                              |          |                   |            | 0             | 0             |
|      | (iii) Atomic, etc.                               |          |                   |            | 0             | 0             |
|      | (c) Sub-Total                                    |          |                   |            | 0             | 0             |
| 2    | Utilities, (specify details)                     |          |                   |            | 0             | 0             |
| 3    | Direct Employees Cost                            |          |                   |            | 77292955      | 57536334      |
| 4    | Consumable Stores and Spares                     |          |                   |            | 0             | 0             |



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| SNo. | Particulars   | Quantity | Rate Rs.<br>Per Unit | Amount<br>Rs. | Amount in Rs.                 |                             |
|------|---|----------|----------------------|---------------|-------------------------------|-----------------------------|
|      |   |          |                      |               | Current Year                  | Previous Year               |
| 5    | Repairs and Maintenance:<br>(a) Sub-station<br>(b) Transmission Lines<br>(c) others (specify)   |          |                      |               | 11859207<br>3595185<br>108612 | 14234789<br>978994<br>18900 |
| 6    | Insurance   |          |                      |               | 0                             | 0                           |
| 8    | Lease Rent, if any  |          |                      |               | 0                             | 0                           |
| 9    | Quality Control Expenses  |          |                      |               | 0                             | 0                           |
| 10   | Research and Development  |          |                      |               | 0                             | 0                           |
| 11   | Royalty or Technical know-how fee   |          |                      |               | 0                             | 0                           |
| 12   | Depreciation or Amortization  |          |                      |               | 168914229                     | 174193866                   |
| 13   | Other Plant Overheads   |          |                      |               | 10112116                      | 9881115                     |
| 14   | Total Cost of Transmission/Distribution   |          |                      |               | 271882304                     | 256843998                   |
| 15   | Less: Credits, if any   |          |                      |               |                               |                             |
| 16   | Administrative Overheads  |          |                      |               | 9213331                       | 6845536                     |
| 17   | Selling Expenses  |          |                      |               |                               |                             |
| 18   | Interest and Financing Charges  |          |                      |               | 960589                        | 950457                      |
| 19   | Cost of Sales   |          |                      |               |                               |                             |
| 20   | Total cost of Transmission or<br>Distribution transferred to Proforma 'E'   |          |                      |               | 282056224                     | 264639991                   |
| 21   | If sold, sales realization or<br>Transmission Charges or Distribution<br>Charges<br>i) at Notified rates approved by<br>Regulatory Bodies)<br>(a) Base amount<br>(b) Incentive amount<br>(c) others (specify)<br>(ii) Sales at other than notified rates<br>(a) Base amount<br>(b) Incentive amount<br>(c) Others (specify)<br>(iii) Total (i) + (ii) |          |                      |               |                               |                             |
| 22   | Margin (21 -20)   |          |                      |               |                               |                             |
| 23   | Add: Export Benefits and Incentives,if any  |          |                      |               |                               |                             |
| 24   | Total Margin (21 + 22)  |          |                      |               |                               |                             |



**PROFORMA 'D'**

**Statement showing the cost of Transmission or Distribution**

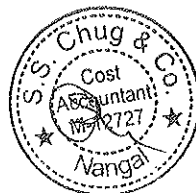
|   |  |
|---|--|
| Name of the Company                     | Punjab State Transmission Corporation Ltd. |
| Name and Address of the Generating Unit | P&M Division- Bathinda 656                 |
| For the Period/Year                     | 01.04.2022 - 31.03.2023                    |

**I Quantitative Information:**

| SNo. | Particulars  | Unit      | Current Year | Previous Year |
|------|--|-----------|--------------|---------------|
| A1   | Surge Impedence Loading (SIL) or Rated Voltage                   |           |              |               |
| 2    | Power received from generating units including purchased, if any | MU        |              |               |
| 3    | Loss in transmission or distribution                             | MU        |              |               |
| 4    | Self Consumption for employees and office                        | MU        |              |               |
| 4a   | Other adjustments, if any (specify)                              | MU        |              |               |
| 5    | Net Power Transmitted or Distributed                             | MU        |              |               |
| 6    | Length of Transmission or Distribution lines                     |           |              |               |
|      | a. 220KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
|      | a. 132KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
| B1   | Gross Fixed Assets at the end of the year/period                 | Rs. Lakhs |              |               |
| 2    | Net Fixed Assets at the end of the year/period                   | Rs. Lakhs |              |               |
| 3    | Date of Commissioning  |           |              |               |

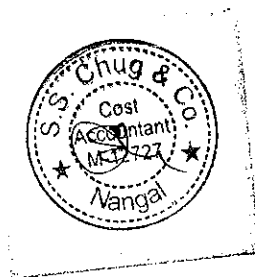
**II Cost Information**

| SNo. | Particulars                                      | Quantity | Rate Rs. Per Unit | Amount Rs. | Amount in Rs. |               |
|------|--|----------|-------------------|------------|---------------|---------------|
|      |  |          |                   |            | Current Year  | Previous Year |
| 1    | Cost of Power :                                  |          |                   |            |               |               |
|      | (a) Self generated transferred from Proforma 'C' |          |                   |            | 0             | 0             |
|      | (b) Purchased -                                  |          |                   |            |               |               |
|      | (i) Thermal                                      |          |                   |            | 0             | 0             |
|      | (ii) Hydro-electric                              |          |                   |            | 0             | 0             |
|      | (iii) Atomic, etc.                               |          |                   |            | 0             | 0             |
|      | (c) Sub-Total                                    |          |                   |            | 0             | 0             |
| 2    | Utilities, (specify details)                     |          |                   |            | 0             | 0             |
| 3    | Direct Employees Cost                            |          |                   |            | 126271857     | 111409277     |
| 4    | Consumable Stores and Spares                     |          |                   |            | 0             | 0             |



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| SNo. | Particulars   | Quantity | Rate Rs.<br>Per Unit | Amount<br>Rs. | Amount in Rs.                |                            |
|------|---|----------|----------------------|---------------|------------------------------|----------------------------|
|      |   |          |                      |               | Current Year                 | Previous Year              |
| 5    | Repairs and Maintenance:<br>(a) Sub-station<br>(b) Transmission Lines<br>(c) others (specify)   |          |                      |               | 17372322<br>538107<br>141614 | 6206476<br>599641<br>82269 |
| 6    | Insurance   |          |                      |               | 16533                        | 18921                      |
| 8    | Lease Rent, if any  |          |                      |               | 0                            | 0                          |
| 9    | Quality Control Expenses  |          |                      |               | 0                            | 0                          |
| 10   | Research and Development  |          |                      |               | 0                            | 0                          |
| 11   | Royalty or Technical know-how fee   |          |                      |               | 0                            | 0                          |
| 12   | Depreciation or Amortization  |          |                      |               | 223474834                    | 219223975                  |
| 13   | Other Plant Overheads   |          |                      |               | 13034722                     | 8734347                    |
| 14   | Total Cost of Transmission/Distribution   |          |                      |               | 380849989                    | 346274906                  |
| 15   | Less: Credits, if any   |          |                      |               |                              |                            |
| 16   | Administrative Overheads  |          |                      |               | 20024527                     | 17013918                   |
| 17   | Selling Expenses  |          |                      |               |                              |                            |
| 18   | Interest and Financing Charges  |          |                      |               | 2440                         | 708                        |
| 19   | Cost of Sales   |          |                      |               |                              |                            |
| 20   | Total cost of Transmission or<br>Distribution transferred to Proforma 'E'   |          |                      |               | 400876956                    | 363289532                  |
| 21   | If sold, sales realization or<br>Transmission Charges or Distribution<br>Charges<br>i) at Notified rates approved by<br>Regulatory Bodies)<br>(a) Base amount<br>(b) Incentive amount<br>(c) others (specify)<br>(ii) Sales at other than notified rates<br>(a) Base amount<br>(b) Incentive amount<br>(c) Others (specify)<br>(iii) Total (i) + (ii) |          |                      |               |                              |                            |
| 22   | Margin (21 -20)   |          |                      |               |                              |                            |
| 23   | Add: Export Benefits and Incentives,if any  |          |                      |               |                              |                            |
| 24   | Total Margin (21 + 22)  |          |                      |               |                              |                            |



**PROFORMA 'D'**

**Statement showing the cost of Transmission or Distribution**

|   |  |
|---|--|
| Name of the Company                     | Punjab State Transmission Corporation Ltd. |
| Name and Address of the Generating Unit | P&M Division Malout-673                    |
| For the Period/Year                     | 01.04.2022 - 31.03.2023                    |

**I Quantitative Information:**

| SNo. | Particulars  | Unit      | Current Year | Previous Year |
|------|--|-----------|--------------|---------------|
| A1   | Surge Impedence Loading (SIL) or Rated Voltage                   |           |              |               |
| 2    | Power received from generating units including purchased, if any | MU        |              |               |
| 3    | Loss in transmission or distribution                             | MU        |              |               |
| 4    | Self Consumption for employees and office                        | MU        |              |               |
| 4a   | Other adjustments, if any (specify)                              | MU        |              |               |
| 5    | Net Power Transmitted or Distributed                             | MU        |              |               |
| 6    | Length of Transmission or Distribution lines                     |           |              |               |
|      | a. 220KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
|      | a. 132KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
| B1   | Gross Fixed Assets at the end of the year/period                 | Rs. Lakhs |              |               |
| 2    | Net Fixed Assets at the end of the year/period                   | Rs. Lakhs |              |               |
| 3    | Date of Commissioning  |           |              |               |

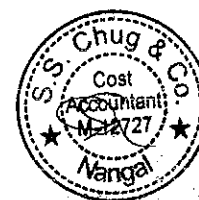
**II Cost Information**

| SNo. | Particulars   | Quantity | Rate Rs. | Amount | Amount in Rs. |          |
|------|---|----------|----------|--------|---------------|----------|
| 1    | Cost of Power :<br>Proforma 'C'<br>(b) Purchased -<br>(i) Thermal<br>(ii) Hydro-electric<br>(iii) Atomic, etc.<br>(c) Sub-Total |          |          |        |               |          |
| 2    | Utilities, (ULDC Charges)   |          |          |        | 0             | 0        |
| 3    | Direct Employees Cost   |          |          |        | 48783144      | 39101320 |
| 4    | Consumable Stores and Spares  |          |          |        | 0             | 0        |



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| SNo. | Particulars  | Quantity | Rate Rs. | Amount | Amount in Rs.                 |                               |
|------|--|----------|----------|--------|-------------------------------|-------------------------------|
|      |  |          |          |        | Current Year                  | Previous Year                 |
| 5    | Repairs and Maintenance:<br>(a) Sub-station<br><br>(b) Transmission Lines<br><br>(c) others (specify)  |          |          |        | 3234848<br><br>0<br><br>52979 | 1387626<br><br>0<br><br>43202 |
| 6    | Insurance  |          |          |        |                               |                               |
| 8    | Lease Rent, if any   |          |          |        |                               |                               |
| 9    | Quality Control Expenses   |          |          |        |                               |                               |
| 10   | Research and Development   |          |          |        |                               |                               |
| 11   | Royalty or Technical know-how fee  |          |          |        |                               |                               |
| 12   | Depreciation or Amortization   |          |          |        | 44722050                      | 44500791                      |
| 13   | Other Plant Overheads  |          |          |        | 2910464                       | 2728250                       |
| 14   | Total Cost of Transmission/Distribution  |          |          |        | 99703485                      | 87761189                      |
| 15   | Less: Credits, if any  |          |          |        |                               |                               |
| 16   | Administrative Overheads   |          |          |        | 7472063                       | 6130701                       |
| 17   | Selling Expenses   |          |          |        |                               |                               |
| 18   | Interest and Financing Charges   |          |          |        | 359                           | 354                           |
| 19   | Cost of Sales  |          |          |        |                               |                               |
| 20   | Total cost of Transmission or Distribution transferred to Proforma 'E'   |          |          |        | 107175907                     | 93892244                      |
| 21   | If sold, sales realization or Transmission Charges or Distribution Charges<br>i) at Notified rates approved by Regulatory Bodies<br>(a) Base amount<br>(b) Incentive amount<br>(c) others (specify)<br>ii) Sales at other than notified rates<br>(a) Base amount<br>(b) Incentive amount<br>(c) Others (specify)<br>(iii) Total (i) + (ii) |          |          |        |                               |                               |
| 22   | Margin (21 -20)  |          |          |        |                               |                               |
| 23   | Add: Export Benefits and Incentives,if any   |          |          |        |                               |                               |
| 24   | Total Margin (21 + 22)   |          |          |        |                               |                               |



## PROFORMA 'D'

### Statement showing the cost of Transmission or Distribution

|   |  |
|---|--|
| Name of the Company                     | Punjab State Transmission Corporation Ltd. |
| Name and Address of the Generating Unit | P&M Division- Kapurthala 604               |
| For the Period/Year                     | 01.04.2022 - 31.03.2023                    |

#### I Quantitative Information:

| SNo. | Particulars  | Unit      | Current Year | Previous Year |
|------|--|-----------|--------------|---------------|
| A1   | Surge Impedence Loading (SIL) or Rated Voltage                   |           |              |               |
| 2    | Power received from generating units including purchased, if any | MU        |              |               |
| 3    | Loss in transmission or distribution                             | MU        |              |               |
| 4    | Self Consumption for employees and office                        | MU        |              |               |
| 4a   | Other adjustments, if any (specify)                              | MU        |              |               |
| 5    | Net Power Transmitted or Distributed                             | MU        |              |               |
| 6    | Length of Transmission or Distribution lines                     |           |              |               |
|      | a. 220KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
|      | a. 132KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
| B1   | Gross Fixed Assets at the end of the year/period                 | Rs. Lakhs |              |               |
| 2    | Net Fixed Assets at the end of the year/period                   | Rs. Lakhs |              |               |
| 3    | Date of Commissioning  |           |              |               |

#### II Cost Information

| SNo. | Particulars                                      | Quantity | Rate Rs. Per Unit | Amount Rs. | Amount in Rs. |               |
|------|--|----------|-------------------|------------|---------------|---------------|
|      |  |          |                   |            | Current Year  | Previous Year |
| 1    | Cost of Power :                                  |          |                   |            |               |               |
|      | (a) Self generated transferred from Proforma 'C' |          |                   |            | 0             | 0             |
|      | (b) Purchased -                                  |          |                   |            |               |               |
|      | (i) Thermal                                      |          |                   |            | 0             | 0             |
|      | (ii) Hydro-electric                              |          |                   |            | 0             | 0             |
|      | (iii) Atomic, etc.                               |          |                   |            | 0             | 0             |
|      | (c) Sub-Total                                    |          |                   |            | 0             | 0             |
| 2    | Utilities, (specify details)                     |          |                   |            | 0             | 0             |
| 3    | Direct Employees Cost                            |          |                   |            | 30131821      | 25866225      |
| 4    | Consumable Stores and Spares                     |          |                   |            | 0             | 0             |



| SNo. | Particulars   | Quantity | Rate Rs.<br>Per Unit | Amount<br>Rs. | Amount in Rs.     |                   |
|------|---|----------|----------------------|---------------|-------------------|-------------------|
|      |   |          |                      |               | Current Year      | Previous Year     |
| 5    | Repairs and Maintenance:<br>(a) Sub-station<br>(b) Transmission Lines<br>(c) others (specify)   |          |                      |               | 3642571<br>0<br>0 | 1648380<br>0<br>0 |
| 6    | Insurance   |          |                      |               | 0                 | 0                 |
| 8    | Lease Rent, if any  |          |                      |               | 0                 | 0                 |
| 9    | Quality Control Expenses  |          |                      |               | 0                 | 0                 |
| 10   | Research and Development  |          |                      |               | 0                 | 0                 |
| 11   | Royalty or Technical know-how fee   |          |                      |               | 0                 | 0                 |
| 12   | Depreciation or Amortization  |          |                      |               | 49972801          | 47115570          |
| 13   | Other Plant Overheads   |          |                      |               | 3238409           | 3089433           |
| 14   | Total Cost of Transmission/Distribution   |          |                      |               | 86985602          | 77719608          |
| 15   | Less: Credits, if any   |          |                      |               |                   |                   |
| 16   | Administrative Overheads  |          |                      |               | 2941521           | 2273834           |
| 17   | Selling Expenses  |          |                      |               |                   |                   |
| 18   | Interest and Financing Charges  |          |                      |               | 1003              | 1003              |
| 19   | Cost of Sales   |          |                      |               |                   |                   |
| 20   | Total cost of Transmission or<br>Distribution transferred to Proforma 'E'   |          |                      |               | 89928126          | 79994445          |
| 21   | If sold, sales realization or<br>Transmission Charges or Distribution<br>Charges<br>i) at Notified rates approved by<br>Regulatory Bodies)<br>(a) Base amount<br>(b) Incentive amount<br>(c) others (specify)<br>ii) Sales at other than notified rates<br>(a) Base amount<br>(b) Incentive amount<br>(c) Others (specify)<br>iii) Total (i) + (ii) |          |                      |               |                   |                   |
| 22   | Margin (21 -20)   |          |                      |               |                   |                   |
| 23   | Add: Export Benefits and Incentives,if any  |          |                      |               |                   |                   |
| 24   | Total Margin (21 + 22)  |          |                      |               |                   |                   |





## PROFORMA 'D'

### Statement showing the cost of Transmission or Distribution

|   |  |
|---|--|
| Name of the Company                     | Punjab State Transmission Corporation Ltd. |
| Name and Address of the Generating Unit | P&M Division- Mahilpur 631                 |
| For the Period/Year                     | 01.04.2022 - 31.03.2023                    |

#### I Quantitative Information:

| SNo. | Particulars  | Unit      | Current Year | Previous Year |
|------|--|-----------|--------------|---------------|
| A1   | Surge Impedence Loading (SIL) or Rated Voltage                   |           |              |               |
| 2    | Power received from generating units including purchased, if any | MU        |              |               |
| 3    | Loss in transmission or distribution                             | MU        |              |               |
| 4    | Self Consumption for employees and office                        | MU        |              |               |
| 4a   | Other adjustments, if any (specify)                              | MU        |              |               |
| 5    | Net Power Transmitted or Distributed                             | MU        |              |               |
| 6    | Length of Transmission or Distribution lines                     |           |              |               |
|      | a. 220KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
|      | a. 132KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
| B1   | Gross Fixed Assets at the end of the year/period                 | Rs. Lakhs |              |               |
| 2    | Net Fixed Assets at the end of the year/period                   | Rs. Lakhs |              |               |
| 3    | Date of Commissioning  |           |              |               |

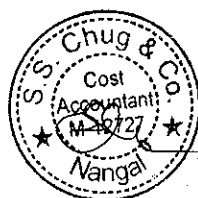
#### II Cost Information

| SNo. | Particulars                                      | Quantity | Rate Rs. Per Unit | Amount Rs. | Amount in Rs. |               |
|------|--|----------|-------------------|------------|---------------|---------------|
|      |  |          |                   |            | Current Year  | Previous Year |
| 1    | Cost of Power :                                  |          |                   |            |               |               |
|      | (a) Self generated transferred from Proforma 'C' |          |                   |            | 0             | 0             |
|      | (b) Purchased -                                  |          |                   |            |               |               |
|      | (i) Thermal                                      |          |                   |            | 0             | 0             |
|      | (ii) Hydro-electric                              |          |                   |            | 0             | 0             |
|      | (iii) Atomic, etc.                               |          |                   |            | 0             | 0             |
|      | (c) Sub-Total                                    |          |                   |            | 0             | 0             |
| 2    | Utilities, (specify details)                     |          |                   |            | 0             | 0             |
| 3    | Direct Employees Cost                            |          |                   |            | 75797108      | 53491371      |
| 4    | Consumable Stores and Spares                     |          |                   |            | 0             | 0             |



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| SNo. | Particulars   | Quantity | Rate Rs.<br>Per Unit | Amount<br>Rs. | Amount in Rs.          |                            |
|------|---|----------|----------------------|---------------|------------------------|----------------------------|
|      |   |          |                      |               | Current Year           | Previous Year              |
| 5    | Repairs and Maintenance:<br>(a) Sub-station<br>(b) Transmission Lines<br>(c) others (specify)   |          |                      |               | 4105784<br>213739<br>0 | 7769233<br>403392<br>16200 |
| 6    | Insurance   |          |                      |               | 16416                  | 9569                       |
| 8    | Lease Rent, if any  |          |                      |               | 0                      | 0                          |
| 9    | Quality Control Expenses  |          |                      |               | 0                      | 0                          |
| 10   | Research and Development  |          |                      |               | 0                      | 0                          |
| 11   | Royalty or Technical know-how fee   |          |                      |               | 0                      | 0                          |
| 12   | Depreciation or Amortization  |          |                      |               | 75445601               | 75175275                   |
| 13   | Other Plant Overheads   |          |                      |               | 5392022                | 4950511                    |
| 14   | Total Cost of Transmission/Distribution   |          |                      |               | 160970670              | 141815551                  |
| 15   | Less: Credits, if any   |          |                      |               |                        |                            |
| 16   | Administrative Overheads  |          |                      |               | 5131840                | 3595082                    |
| 17   | Selling Expenses  |          |                      |               |                        |                            |
| 18   | Interest and Financing Charges  |          |                      |               | 1829                   | 1298                       |
| 19   | Cost of Sales   |          |                      |               |                        |                            |
| 20   | Total cost of Transmission or<br>Distribution transferred to Proforma 'E'   |          |                      |               | 166104339              | 145411931                  |
| 21   | If sold, sales realization or<br>Transmission Charges or Distribution<br>Charges<br>i) at Notified rates approved by<br>Regulatory Bodies)<br>(a) Base amount<br>(b) Incentive amount<br>(c) others (specify)<br>ii) Sales at other than notified rates<br>(a) Base amount<br>(b) Incentive amount<br>(c) Others (specify)<br>iii) Total (i) + (ii) |          |                      |               |                        |                            |
| 22   | Margin (21 -20)   |          |                      |               |                        |                            |
| 23   | Add: Export Benefits and Incentives,if any  |          |                      |               |                        |                            |
| 24   | Total Margin (21 + 22)  |          |                      |               |                        |                            |



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**PROFORMA 'D'**

**Statement showing the cost of Transmission or Distribution**

|   |  |
|---|--|
| Name of the Company                     | Punjab State Transmission Corporation Ltd. |
| Name and Address of the Generating Unit | P&M Division- Jamsheer 662                 |
| For the Period/Year                     | 01.04.2022 - 31.03.2023                    |

**I Quantitative Information:**

| SNo. | Particulars  | Unit      | Current Year | Previous Year |
|------|--|-----------|--------------|---------------|
| A1   | Surge Impedence Loading (SIL) or Rated Voltage                   |           |              |               |
| 2    | Power received from generating units including purchased, if any | MU        |              |               |
| 3    | Loss in transmission or distribution                             | MU        |              |               |
| 4    | Self Consumption for employees and office                        | MU        |              |               |
| 4a   | Other adjustments, if any (specify)                              | MU        |              |               |
| 5    | Net Power Transmitted or Distributed                             | MU        |              |               |
| 6    | Length of Transmission or Distribution lines                     |           |              |               |
|      | a. 220KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
|      | a. 132KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
| B1   | Gross Fixed Assets at the end of the year/period                 | Rs. Lakhs |              |               |
| 2    | Net Fixed Assets at the end of the year/period                   | Rs. Lakhs |              |               |
| 3    | Date of Commissioning  |           |              |               |

**II Cost Information**

| SNo. | Particulars                                      | Quantity | Rate Rs. Per Unit | Amount Rs. | Amount in Rs. |               |
|------|--|----------|-------------------|------------|---------------|---------------|
|      |  |          |                   |            | Current Year  | Previous Year |
| 1    | Cost of Power :                                  |          |                   |            |               |               |
|      | (a) Self generated transferred from Proforma 'C' |          |                   |            | 0             | 0             |
|      | (b) Purchased -                                  |          |                   |            |               |               |
|      | (i) Thermal                                      |          |                   |            | 0             | 0             |
|      | (ii) Hydro-electric                              |          |                   |            | 0             | 0             |
|      | (iii) Atomic, etc.                               |          |                   |            | 0             | 0             |
|      | (c) Sub-Total                                    |          |                   |            | 0             | 0             |
| 2    | Utilities, (specify details)                     |          |                   |            | 0             | 0             |
| 3    | Direct Employees Cost                            |          |                   |            | 90306230      | 85633766      |
| 4    | Consumable Stores and Spares                     |          |                   |            | 0             | 0             |



| SNo. | Particulars  | Quantity | Rate Rs.<br>Per Unit | Amount Rs. | Amount in Rs.               |                        |
|------|--|----------|----------------------|------------|-----------------------------|------------------------|
|      |  |          |                      |            | Current Year                | Previous Year          |
| 5    | Repairs and Maintenance:<br>(a) Sub-station<br>(b) Transmission Lines<br>(c) others (specify)  |          |                      |            | 2134219<br>1095830<br>29474 | 3643120<br>465548<br>0 |
| 6    | Insurance  |          |                      |            | 21510                       | 15834                  |
| 8    | Lease Rent, if any   |          |                      |            | 0                           | 0                      |
| 9    | Quality Control Expenses   |          |                      |            | 0                           | 0                      |
| 10   | Research and Development   |          |                      |            | 0                           | 0                      |
| 11   | Royalty or Technical know-how fee  |          |                      |            | 0                           | 0                      |
| 12   | Depreciation or Amortization   |          |                      |            | 231835495                   | 231376685              |
| 13   | Other Plant Overheads  |          |                      |            | 3365651                     | 2144409                |
| 14   | Total Cost of Transmission/Distribution  |          |                      |            | 328788409                   | 323279362              |
| 15   | Less: Credits, if any  |          |                      |            |                             |                        |
| 16   | Administrative Overheads   |          |                      |            | 8384892                     | 7912250                |
| 17   | Selling Expenses   |          |                      |            |                             |                        |
| 18   | Interest and Financing Charges   |          |                      |            | 1717                        | 1922                   |
| 19   | Cost of Sales  |          |                      |            |                             |                        |
| 20   | Total cost of Transmission or<br>Distribution transferred to Proforma 'E'  |          |                      |            | 337175018                   | 331193534              |
| 21   | If sold, sales realization or<br>Transmission Charges or Distribution<br>Charges<br>i) at Notified rates approved by<br>Regulatory Bodies<br>(a) Base amount<br>(b) Incentive amount<br>(c) others (specify)<br>ii) Sales at other than notified rates<br>(a) Base amount<br>(b) Incentive amount<br>(c) Others (specify)<br>iii) Total (i) + (ii) |          |                      |            |                             |                        |
| 22   | Margin (21 -20)  |          |                      |            |                             |                        |
| 23   | Add: Export Benefits and Incentives,if any   |          |                      |            |                             |                        |
| 24   | Total Margin (21 + 22)   |          |                      |            |                             |                        |



## PROFORMA 'D'

### Statement showing the cost of Transmission or Distribution

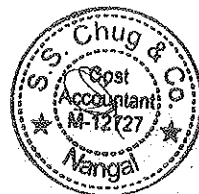
|   |  |
|---|--|
| Name of the Company                     | Punjab State Transmission Corporation Ltd. |
| Name and Address of the Generating Unit | P&M Division- Buttari 91-667               |
| For the Period/Year                     | 01.04.2022 - 31.03.2023                    |

#### I Quantitative Information:

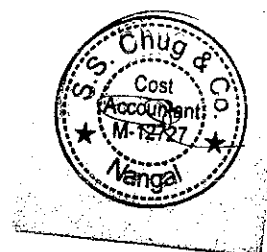
| SNo. | Particulars  | Unit      | Current Year | Previous Year |
|------|--|-----------|--------------|---------------|
| A1   | Surge Impedence Loading (SIL) or Rated Voltage                   |           |              |               |
| 2    | Power received from generating units including purchased, if any | MU        |              |               |
| 3    | Loss in transmission or distribution                             | MU        |              |               |
| 4    | Self Consumption for employees and office                        | MU        |              |               |
| 4a   | Other adjustments, if any (specify)                              | MU        |              |               |
| 5    | Net Power Transmitted or Distributed                             | MU        |              |               |
| 6    | Length of Transmission or Distribution lines                     |           |              |               |
|      | a. 220KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
|      | a. 132KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
| B1   | Gross Fixed Assets at the end of the year/period                 | Rs. Lakhs |              |               |
| 2    | Net Fixed Assets at the end of the year/period                   | Rs. Lakhs |              |               |
| 3    | Date of Commissioning  |           |              |               |

#### II Cost Information

| SNo. | Particulars                                      | Quantity | Rate Rs. Per Unit | Amount Rs. | Amount in Rs. |               |
|------|--|----------|-------------------|------------|---------------|---------------|
|      |  |          |                   |            | Current Year  | Previous Year |
| 1    | Cost of Power :                                  |          |                   |            |               |               |
|      | (a) Self generated transferred from Proforma 'C' |          |                   |            | 0             | 0             |
|      | (b) Purchased -                                  |          |                   |            |               |               |
|      | (i) Thermal                                      |          |                   |            | 0             | 0             |
|      | (ii) Hydro-electric                              |          |                   |            | 0             | 0             |
|      | (iii) Atomic, etc.                               |          |                   |            | 0             | 0             |
|      | (c) Sub-Total                                    |          |                   |            | 0             | 0             |
| 2    | Utilities, (specify details)                     |          |                   |            | 0             | 0             |
| 3    | Direct Employees Cost                            |          |                   |            | 44289995      | 34863943      |
| 4    | Consumable Stores and Spares                     |          |                   |            | 0             | 0             |



| SNo. | Particulars   | Quantity | Rate Rs.<br>Per Unit | Amount<br>Rs. | Amount in Rs.     |                       |
|------|---|----------|----------------------|---------------|-------------------|-----------------------|
|      |   |          |                      |               | Current Year      | Previous Year         |
| 5    | Repairs and Maintenance:<br>(a) Sub-station<br>(b) Transmission Lines<br>(c) others (specify)   |          |                      |               | 2774879<br>0<br>0 | 3879230<br>0<br>20683 |
| 6    | Insurance   |          |                      |               | 0                 | 0                     |
| 8    | Lease Rent, if any  |          |                      |               | 0                 | 0                     |
| 9    | Quality Control Expenses  |          |                      |               | 0                 | 0                     |
| 10   | Research and Development  |          |                      |               | 0                 | 0                     |
| 11   | Royalty or Technical know-how fee   |          |                      |               | 0                 | 0                     |
| 12   | Depreciation or Amortization  |          |                      |               | 24586654          | 22225319              |
| 13   | Other Plant Overheads   |          |                      |               | 4028759           | 2454063               |
| 14   | Total Cost of Transmission/Distribution   |          |                      |               | 75680287          | 63443238              |
| 15   | Less: Credits, if any   |          |                      |               |                   |                       |
| 16   | Administrative Overheads  |          |                      |               | 2630341           | 1977244               |
| 17   | Selling Expenses  |          |                      |               |                   |                       |
| 18   | Interest and Financing Charges  |          |                      |               | 1180              | 1251                  |
| 19   | Cost of Sales   |          |                      |               |                   |                       |
| 20   | Total cost of Transmission or<br>Distribution transferred to Proforma 'E'   |          |                      |               | 78311808          | 65421733              |
| 21   | If sold, sales realization or<br>Transmission Charges or Distribution<br>Charges<br>i) at Notified rates approved by<br>Regulatory Bodies)<br>(a) Base amount<br>(b) Incentive amount<br>(c) others (specify)<br>(ii) Sales at other than notified rates<br>(a) Base amount<br>(b) Incentive amount<br>(c) Others (specify)<br>(iii) Total (i) + (ii) |          |                      |               |                   |                       |
| 22   | Margin (21 -20)   |          |                      |               |                   |                       |
| 23   | Add: Export Benefits and Incentives,if any  |          |                      |               |                   |                       |
| 24   | Total Margin (21 + 22)  |          |                      |               |                   |                       |



## PROFORMA 'D'

### Statement showing the cost of Transmission or Distribution

|   |  |
|---|--|
| Name of the Company                     | Punjab State Transmission Corporation Ltd. |
| Name and Address of the Generating Unit | Grid MTC( P&M) Dasuya 98-669               |
| For the Period/Year                     | 01.04.2022 - 31.03.2023                    |

#### I Quantitative Information:

| SNo. | Particulars  | Unit      | Current Year | Previous Year |
|------|--|-----------|--------------|---------------|
| A1   | Surge Impedence Loading (SIL) or Rated Voltage                   |           |              |               |
| 2    | Power received from generating units including purchased, if any | MU        |              |               |
| 3    | Loss in transmission or distribution                             | MU        |              |               |
| 4    | Self Consumption for employees and office                        | MU        |              |               |
| 4a   | Other adjustments, if any (specify)                              | MU        |              |               |
| 5    | Net Power Transmitted or Distributed                             | MU        |              |               |
| 6    | Length of Transmission or Distribution lines                     |           |              |               |
|      | a. 220KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
|      | a. 132KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
| B1   | Gross Fixed Assets at the end of the year/period                 | Rs. Lakhs |              |               |
| 2    | Net Fixed Assets at the end of the year/period                   | Rs. Lakhs |              |               |
| 3    | Date of Commissioning  |           |              |               |

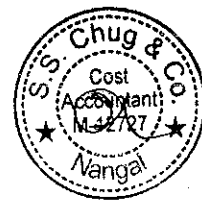
#### II Cost Information

| SNo. | Particulars                                      | Quantity | Rate Rs. Per Unit | Amount Rs. | Amount in Rs. |               |
|------|--|----------|-------------------|------------|---------------|---------------|
|      |  |          |                   |            | Current Year  | Previous Year |
| 1    | Cost of Power :                                  |          |                   |            |               |               |
|      | (a) Self generated transferred from Proforma 'C' |          |                   |            | 0             | 0             |
|      | (b) Purchased -                                  |          |                   |            |               |               |
|      | (i) Thermal                                      |          |                   |            | 0             | 0             |
|      | (ii) Hydro-electric                              |          |                   |            | 0             | 0             |
|      | (iii) Atomic, etc.                               |          |                   |            | 0             | 0             |
|      | (c) Sub-Total                                    |          |                   |            | 0             | 0             |
| 2    | Utilities, (specify details)                     |          |                   |            | 0             | 0             |
| 3    | Direct Employees Cost                            |          |                   |            | 51873298      | 39953957      |
| 4    | Consumable Stores and Spares                     |          |                   |            | 0             | 0             |



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| SNo. | Particulars   | Quantity | Rate Rs.<br>Per Unit | Amount<br>Rs. | Amount in Rs.     |                   |
|------|---|----------|----------------------|---------------|-------------------|-------------------|
|      |   |          |                      |               | Current Year      | Previous Year     |
| 5    | Repairs and Maintenance:<br>(a) Sub-station<br>(b) Transmission Lines<br>(c) others (specify)   |          |                      |               | 4091318<br>0<br>0 | 1270832<br>0<br>0 |
| 6    | Insurance   |          |                      |               | 0                 | 0                 |
| 8    | Lease Rent, if any  |          |                      |               | 0                 | 0                 |
| 9    | Quality Control Expenses  |          |                      |               | 0                 | 0                 |
| 10   | Research and Development  |          |                      |               | 0                 | 0                 |
| 11   | Royalty or Technical know-how fee   |          |                      |               | 0                 | 0                 |
| 12   | Depreciation or Amortization  |          |                      |               | 34191044          | 26187017          |
| 13   | Other Plant Overheads   |          |                      |               | 2822961           | 2347840           |
| 14   | Total Cost of Transmission/Distribution   |          |                      |               | 92978621          | 69759646          |
| 15   | Less: Credits, if any   |          |                      |               |                   |                   |
| 16   | Administrative Overheads  |          |                      |               | 3709452           | 2642727           |
| 17   | Selling Expenses  |          |                      |               |                   |                   |
| 18   | Interest and Financing Charges  |          |                      |               | 1652              | 1475              |
| 19   | Cost of Sales   |          |                      |               |                   |                   |
| 20   | Total cost of Transmission or<br>Distribution transferred to Proforma 'E'   |          |                      |               | 96689725          | 72403848          |
| 21   | If sold, sales realization or<br>Transmission Charges or Distribution<br>Charges<br>i) at Notified rates approved by<br>Regulatory Bodies)<br>(a) Base amount<br>(b) Incentive amount<br>(c) others (specify)<br>(ii) Sales at other than notified rates<br>(a) Base amount<br>(b) Incentive amount<br>(c) Others (specify)<br>(iii) Total (i) + (ii) |          |                      |               |                   |                   |
| 22   | Margin (21 -20)   |          |                      |               |                   |                   |
| 23   | Add: Export Benefits and Incentives,if any  |          |                      |               |                   |                   |
| 24   | Total Margin (21 + 22)  |          |                      |               |                   |                   |



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**PROFORMA 'D'**

**Statement showing the cost of Transmission or Distribution**

|   |  |
|---|--|
| Name of the Company                     | Punjab State Transmission Corporation Ltd. |
| Name and Address of the Generating Unit | P&M Civil Mtc Division Patiala 671         |
| For the Period/Year                     | 01.04.2022 - 31.03.2023                    |

**I Quantitative Information:**

| SNo. | Particulars  | Unit      | Current Year | Previous Year |
|------|--|-----------|--------------|---------------|
| A1   | Surge Impedence Loading (SIL) or Rated Voltage                   |           |              |               |
| 2    | Power received from generating units including purchased, if any | MU        |              |               |
| 3    | Loss in transmission or distribution                             | MU        |              |               |
| 4    | Self Consumption for employees and office                        | MU        |              |               |
| 4a   | Other adjustments, if any (specify)                              | MU        |              |               |
| 5    | Net Power Transmitted or Distributed                             | MU        |              |               |
| 6    | Length of Transmission or Distribution lines                     |           |              |               |
|      | a. 220KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
|      | a. 132KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
| B1   | Gross Fixed Assets at the end of the year/period                 | Rs. Lakhs |              |               |
| 2    | Net Fixed Assets at the end of the year/period                   | Rs. Lakhs |              |               |
| 3    | Date of Commissioning  |           |              |               |

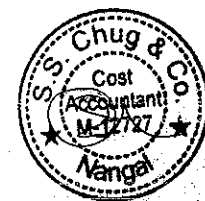
**II Cost Information**

| SNo. | Particulars   | Quantity | Rate Rs. | Amount | Amount in Rs. |         |
|------|---|----------|----------|--------|---------------|---------|
| 1    | Cost of Power :<br>Proforma 'C'<br>(b) Purchased -<br>(i) Thermal<br>(ii) Hydro-electric<br>(iii) Atomic, etc.<br>(c) Sub-Total |          |          |        |               |         |
| 2    | Utilities, (ULDC Charges)   |          |          |        | 0             | 0       |
| 3    | Direct Employees Cost   |          |          |        | 9742574       | 7229865 |
| 4    | Consumable Stores and Spares  |          |          |        | 0             | 0       |



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| SNo. | Particulars  | Quantity | Rate Rs. | Amount | Amount in Rs. |               |
|------|--|----------|----------|--------|---------------|---------------|
|      |  |          |          |        | Current Year  | Previous Year |
| 5    | Repairs and Maintenance:   |          |          |        |               |               |
|      | (a) Sub-station  |          |          |        | 20354634      | 7232104       |
|      | (b) Transmission Lines   |          |          |        | 14483423      | 8085593       |
|      | (c) others (specify)   |          |          |        | 5806074       | 5873090       |
| 6    | Insurance  |          |          |        |               |               |
| 8    | Lease Rent, if any   |          |          |        |               |               |
| 9    | Quality Control Expenses   |          |          |        |               |               |
| 10   | Research and Development   |          |          |        |               |               |
| 11   | Royalty or Technical know-how fee  |          |          |        |               |               |
| 12   | Depreciation or Amortization   |          |          |        | 0             | 0             |
| 13   | Other Plant Overheads  |          |          |        | 42710         | 13050         |
| 14   | Total Cost of Transmission/Distribution  |          |          |        | 50429415      | 28433702      |
| 15   | Less: Credits, if any  |          |          |        |               |               |
| 16   | Administrative Overheads   |          |          |        | 12198383      | 17897277      |
| 17   | Selling Expenses   |          |          |        |               |               |
| 18   | Interest and Financing Charges   |          |          |        | 2612          | 1416          |
| 19   | Cost of Sales  |          |          |        |               |               |
| 20   | Total cost of Transmission or Distribution transferred to Proforma 'E'   |          |          |        | 62630410      | 46332395      |
| 21   | If sold, sales realization or Transmission Charges or Distribution Charges<br>i) at Notified rates approved by Regulatory Bodies)<br>(a) Base amount<br>(b) Incentive amount<br>(c) others (specify)<br>(ii) Sales at other than notified rates<br>(a) Base amount<br>(b) Incentive amount<br>(c) Others (specify)<br>(iii) Total (i) + (ii) |          |          |        |               |               |
| 22   | Margin (21 -20)  |          |          |        |               |               |
| 23   | Add: Export Benefits and Incentives,if any   |          |          |        |               |               |
| 24   | Total Margin (21 + 22)   |          |          |        |               |               |



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**PROFORMA 'D'**

**Statement showing the cost of Transmission or Distribution**

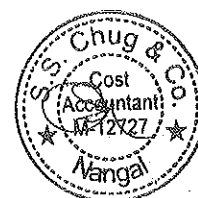
|   |  |
|---|--|
| Name of the Company                     | Punjab State Transmission Corporation Ltd. |
| Name and Address of the Generating Unit | P&M Civil Mtc division Jalandhar 672       |
| For the Period/Year                     | 01.04.2022 - 31.03.2023                    |

**I Quantitative Information:**

| SNo. | Particulars  | Unit      | Current Year | Previous Year |
|------|--|-----------|--------------|---------------|
| A1   | Surge Impedence Loading (SIL) or Rated Voltage                   |           |              |               |
| 2    | Power received from generating units including purchased, if any | MU        |              |               |
| 3    | Loss in transmission or distribution                             | MU        |              |               |
| 4    | Self Consumption for employees and office                        | MU        |              |               |
| 4a   | Other adjustments, if any (specify)                              | MU        |              |               |
| 5    | Net Power Transmitted or Distributed                             | MU        |              |               |
| 6    | Length of Transmission or Distribution lines                     |           |              |               |
|      | a. 220KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
|      | a. 132KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
| B1   | Gross Fixed Assets at the end of the year/period                 | Rs. Lakhs |              |               |
| 2    | Net Fixed Assets at the end of the year/period                   | Rs. Lakhs |              |               |
| 3    | Date of Commissioning  |           |              |               |

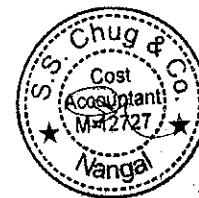
**II Cost Information**

| SNo. | Particulars   | Quantity | Rate Rs. | Amount | Amount in Rs. |          |
|------|---|----------|----------|--------|---------------|----------|
| 1    | Cost of Power :<br>Proforma 'C'<br>(b) Purchased -<br>(i) Thermal<br>(ii) Hydro-electric<br>(iii) Atomic, etc.<br>(c) Sub-Total |          |          |        |               |          |
| 2    | Utilities, (ULDC Charges)   |          |          |        | 0             | 0        |
| 3    | Direct Employees Cost   |          |          |        | 21072402      | 13516754 |
| 4    | Consumable Stores and Spares  |          |          |        | 0             | 0        |



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| SNo. | Particulars   | Quantity | Rate Rs. | Amount | Amount in Rs. |               |
|------|---|----------|----------|--------|---------------|---------------|
|      |   |          |          |        | Current Year  | Previous Year |
| 5    | Repairs and Maintenance:  |          |          |        |               |               |
|      | (a) Sub-station   |          |          |        | 4098216       | 2412492       |
|      | (b) Transmission Lines  |          |          |        | 7613704       | 3161444       |
|      | (c) others (specify)  |          |          |        | 3095570       | 3726497       |
| 6    | Insurance   |          |          |        |               |               |
| 8    | Lease Rent, if any  |          |          |        |               |               |
| 9    | Quality Control Expenses  |          |          |        |               |               |
| 10   | Research and Development  |          |          |        |               |               |
| 11   | Royalty or Technical know-how fee   |          |          |        |               |               |
| 12   | Depreciation or Amortization  |          |          |        | 0             | 0             |
| 13   | Other Plant Overheads   |          |          |        | 49600         | 25550         |
| 14   | Total Cost of Transmission/Distribution   |          |          |        | 35929492      | 22842737      |
| 15   | Less: Credits, if any   |          |          |        |               |               |
| 16   | Administrative Overheads  |          |          |        | 11337763      | 10657165      |
| 17   | Selling Expenses  |          |          |        |               |               |
| 18   | Interest and Financing Charges  |          |          |        | 1700          | 1673          |
| 19   | Cost of Sales   |          |          |        |               |               |
| 20   | Total cost of Transmission or Distribution transferred to Proforma 'E'  |          |          |        | 47268955      | 33501575      |
| 21   | If sold, sales realization or Transmission Charges or Distribution Charges<br>i) at Notified rates approved by Regulatory Bodies<br>(a) Base amount<br>(b) Incentive amount<br>(c) others (specify)<br>ii) Sales at other than notified rates<br>(a) Base amount<br>(b) Incentive amount<br>(c) Others (specify)<br>iii) Total (i) + (ii) |          |          |        |               |               |
| 22   | Margin (21 -20)   |          |          |        |               |               |
| 23   | Add: Export Benefits and Incentives,if any  |          |          |        |               |               |
| 24   | Total Margin (21 + 22)  |          |          |        |               |               |



**PROFORMA 'D'**

**Statement showing the cost of Transmission or Distribution**

|   |  |
|---|--|
| Name of the Company                     | Punjab State Transmission Corporation Ltd. |
| Name and Address of the Generating Unit | 400KV S.Stn. Nakodar 792                   |
| For the Period/Year                     | 01.04.2022 - 31.03.2023                    |

**I Quantitative Information:**

| SNo. | Particulars  | Unit      | Current Year | Previous Year |
|------|--|-----------|--------------|---------------|
| A1   | Surge Impedence Loading (SIL) or Rated Voltage                   | MU        |              |               |
| 2    | Power received from generating units including purchased, if any | MU        |              |               |
| 3    | Loss in transmission or distribution                             | MU        |              |               |
| 4    | Self Consumption for employees and office                        | MU        |              |               |
| 4a   | Other adjustments, if any (specify)                              | MU        |              |               |
| 5    | Net Power Transmitted or Distributed                             |           |              |               |
| 6    | Length of Transmission or Distribution lines                     |           |              |               |
|      | a. 220KV   | ckt Kms   |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   |           |              |               |
|      | a. 132KV   | ckt Kms   |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | Rs. Lakhs |              |               |
| B1   | Gross Fixed Assets at the end of the year/period                 | Rs. Lakhs |              |               |
| 2    | Net Fixed Assets at the end of the year/period                   | Rs. Lakhs |              |               |
| 3    | Date of Commissioning  |           |              |               |

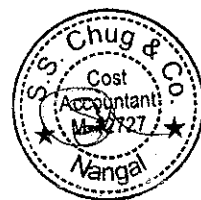
**II Cost Information**

| SNo. | Particulars   | Quantity | Rate Rs. Per | Amount | Amount in Rs. |          |
|------|---|----------|--------------|--------|---------------|----------|
| 1    | Cost of Power :<br>Proforma 'C'<br>(b) Purchased -<br>(i) Thermal<br>(ii) Hydro-electric<br>(iii) Atomic, etc.<br>(c) Sub-Total |          |              |        |               |          |
| 2    | Utilities, (ULDC Charges)   |          |              |        | 0             | 0        |
| 3    | Direct Employees Cost   |          |              |        | 26386351      | 19951669 |
| 4    | Consumable Stores and Spares  |          |              |        | 0             | 0        |



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| SNo. | Particulars   | Quantity | Rate Rs. Per | Amount | Amount in Rs. |               |
|------|---|----------|--------------|--------|---------------|---------------|
|      |   |          |              |        | Current Year  | Previous Year |
| 5    | Repairs and Maintenance:  |          |              |        |               |               |
|      | (a) Sub-station   | 74.141   | excluded     |        | 2707767       | 158552        |
|      | (b) Transmission Lines  |          |              |        | 423614        | 45027         |
|      | (c) others (specify)  |          |              |        | 0             | 0             |
| 6    | Insurance   |          |              |        |               |               |
| 8    | Lease Rent, if any  |          |              |        |               |               |
| 9    | Quality Control Expenses  |          |              |        |               |               |
| 10   | Research and Development  |          |              |        |               |               |
| 11   | Royalty or Technical know-how fee   |          |              |        |               |               |
| 12   | Depreciation or Amortization  |          |              |        | 98745260      | 98719780      |
| 13   | Other Plant Overheads   |          |              |        | 4228357       | 3790312       |
| 14   | Total Cost of Transmission/Distribution   |          |              |        | 132491349     | 122665340     |
| 15   | Less: Credits, if any   |          |              |        |               |               |
| 16   | Administrative Overheads  |          |              |        | 4895650       | 2981799       |
| 17   | Selling Expenses  |          |              |        |               |               |
| 18   | Interest and Financing Charges  |          |              |        | 1773069       | 1761465       |
| 19   | Cost of Sales   |          |              |        |               |               |
| 20   | Total cost of Transmission or Distribution transferred to Proforma 'E'  |          |              |        | 139160068     | 127408604     |
| 21   | If sold, sales realization or Transmission Charges or Distribution Charges<br>i) at Notified rates approved by Regulatory Bodies<br>(a) Base amount<br>(b) Incentive amount<br>(c) others (specify)<br>ii) Sales at other than notified rates<br>(a) Base amount<br>(b) Incentive amount<br>(c) Others (specify)<br>iii) Total (i) + (ii) |          |              |        |               |               |
| 22   | Margin (21 -20)   |          |              |        |               |               |
| 23   | Add: Export Benefits and Incentives,if any  |          |              |        |               |               |
| 24   | Total Margin (21 + 22)  |          |              |        |               |               |



2/2

## PROFORMA 'D'

### Statement showing the cost of Transmission or Distribution

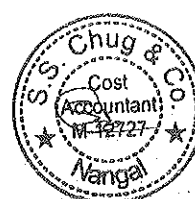
|   |  |
|---|--|
| Name of the Company                     | Punjab State Transmission Corporation Ltd. |
| Name and Address of the Generating Unit | Protection Division, Ludhiana 91-622       |
| For the Period/Year                     | 01.04.2022 - 31.03.2023                    |

#### I Quantitative Information:

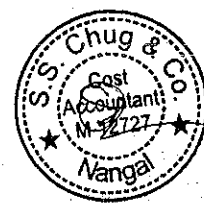
| SNo. | Particulars  | Unit      | Current Year | Previous Year |
|------|--|-----------|--------------|---------------|
| A1   | Surge Impedance Loading (SIL) or Rated Voltage                   |           |              |               |
| 2    | Power received from generating units including purchased, if any | MU        |              |               |
| 3    | Loss in transmission or distribution                             | MU        |              |               |
| 4    | Self Consumption for employees and office                        | MU        |              |               |
| 4a   | Other adjustments, if any (specify)                              | MU        |              |               |
| 5    | Net Power Transmitted or Distributed                             | MU        |              |               |
| 6    | Length of Transmission or Distribution lines                     |           |              |               |
|      | a. 220KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
|      | a. 132KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
| B1   | Gross Fixed Assets at the end of the year/period                 | Rs. Lakhs |              |               |
| 2    | Net Fixed Assets at the end of the year/period                   | Rs. Lakhs |              |               |
| 3    | Date of Commissioning  |           |              |               |

#### II Cost Information

| SNo. | Particulars                                      | Quantity | Rate Rs. Per Unit | Amount Rs. | Amount in Rs. |               |
|------|--|----------|-------------------|------------|---------------|---------------|
|      |  |          |                   |            | Current Year  | Previous Year |
| 1    | Cost of Power :                                  |          |                   |            |               |               |
|      | (a) Self generated transferred from Proforma 'C' |          |                   |            | 0             | 0             |
|      | (b) Purchased -                                  |          |                   |            |               |               |
|      | (i) Thermal                                      |          |                   |            | 0             | 0             |
|      | (ii) Hydro-electric                              |          |                   |            | 0             | 0             |
|      | (iii) Atomic, etc.                               |          |                   |            | 0             | 0             |
|      | (c) Sub-Total                                    |          |                   |            | 0             | 0             |
| 2    | Utilities, (specify details)                     |          |                   |            |               |               |
| 3    | Direct Employees Cost                            |          |                   |            | 0             | 0             |
| 4    | Consumable Stores and Spares                     |          |                   |            | 39032742      | 36847295      |
|      |  |          |                   |            | 0             | 0             |



| SNo. | Particulars  | Quantity | Rate Rs.<br>Per Unit | Amount<br>Rs. | Amount in Rs.      |                   |
|------|--|----------|----------------------|---------------|--------------------|-------------------|
|      |  |          |                      |               | Current Year       | Previous Year     |
| 5    | Repairs and Maintenance:<br>(a) Sub-station<br>(b) Transmission Lines<br>(c) others (specify)  |          |                      |               | 14870261<br>0<br>0 | 7306226<br>0<br>0 |
| 6    | Insurance  |          |                      |               | 0                  | 0                 |
| 8    | Lease Rent, if any   |          |                      |               | 0                  | 0                 |
| 9    | Quality Control Expenses   |          |                      |               | 0                  | 0                 |
| 10   | Research and Development   |          |                      |               | 0                  | 0                 |
| 11   | Royalty or Technical know-how fee  |          |                      |               | 0                  | 0                 |
| 12   | Depreciation or Amortization   |          |                      |               | 5950338            | 5688062           |
| 13   | Other Plant Overheads  |          |                      |               | 478780             | 502420            |
| 14   | Total Cost of Transmission/Distribution  |          |                      |               | 60332121           | 50344003          |
| 15   | Less: Credits, if any  |          |                      |               |                    |                   |
| 16   | Administrative Overheads   |          |                      |               | 7889032            | 6748731           |
| 17   | Selling Expenses   |          |                      |               |                    |                   |
| 18   | Interest and Financing Charges   |          |                      |               | 1475               | 1652              |
| 19   | Cost of Sales  |          |                      |               |                    |                   |
| 20   | Total cost of Transmission or<br>Distribution transferred to Proforma 'E'  |          |                      |               | 68222628           | 57094386          |
| 21   | If sold, sales realization or<br>Transmission Charges or Distribution<br>Charges<br>i) at Notified rates approved by<br>Regulatory Bodies<br>(a) Base amount<br>(b) Incentive amount<br>(c) others (specify)<br>(ii) Sales at other than notified rates<br>(a) Base amount<br>(b) Incentive amount<br>(c) Others (specify)<br>(iii) Total (i) + (ii) |          |                      |               |                    |                   |
| 22   | Margin (21 -20)  |          |                      |               |                    |                   |
| 23   | Add: Export Benefits and Incentives,if any   |          |                      |               |                    |                   |
| 24   | Total Margin (21 + 22)   |          |                      |               |                    |                   |





**PROFORMA 'D'**

**Statement showing the cost of Transmission or Distribution**

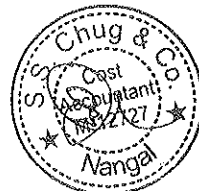
|   |  |
|---|--|
| Name of the Company                     | Punjab State Transmission Corporation Ltd. |
| Name and Address of the Generating Unit | P&M Division No 2 Gobindgarh-91-623        |
| For the Period/Year                     | 01.04.2022 - 31.03.2023                    |

**I Quantitative Information:**

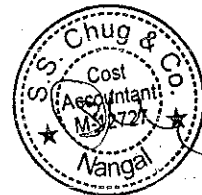
| SNo. | Particulars  | Unit      | Current Year | Previous Year |
|------|--|-----------|--------------|---------------|
| A1   | Surge Impedance Loading (SIL) or Rated Voltage                   |           |              |               |
| 2    | Power received from generating units including purchased, if any | MU        |              |               |
| 3    | Loss in transmission or distribution                             | MU        |              |               |
| 4    | Self Consumption for employees and office                        | MU        |              |               |
| 4a   | Other adjustments, if any (specify)                              | MU        |              |               |
| 5    | Net Power Transmitted or Distributed                             | MU        |              |               |
| 6    | Length of Transmission or Distribution lines                     |           |              |               |
|      | a. 220KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
|      | a. 132KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
| B1   | Gross Fixed Assets at the end of the year/period                 | Rs. Lakhs |              |               |
| 2    | Net Fixed Assets at the end of the year/period                   | Rs. Lakhs |              |               |
| 3    | Date of Commissioning  |           |              |               |

**II Cost Information**

| SNo. | Particulars                                      | Quantity | Rate Rs. Per Unit | Amount Rs. | Amount in Rs. |               |
|------|--|----------|-------------------|------------|---------------|---------------|
|      |  |          |                   |            | Current Year  | Previous Year |
| 1    | Cost of Power :                                  |          |                   |            |               |               |
|      | (a) Self generated transferred from Proforma 'C' |          |                   |            | 0             | 0             |
|      | (b) Purchased -                                  |          |                   |            |               |               |
|      | (i) Thermal                                      |          |                   |            | 0             | 0             |
|      | (ii) Hydro-electric                              |          |                   |            | 0             | 0             |
|      | (iii) Atomic, etc.                               |          |                   |            | 0             | 0             |
|      | (c) Sub-Total                                    |          |                   |            | 0             | 0             |
| 2    | Utilities, (specify details)                     |          |                   |            | 0             | 0             |
| 3    | Direct Employees Cost                            |          |                   |            | 65416173      | 56789157      |
| 4    | Consumable Stores and Spares                     |          |                   |            | 0             | 0             |



| SNo. | Particulars   | Quantity | Rate Rs.<br>Per Unit | Amount<br>Rs. | Amount in Rs.          |                         |
|------|---|----------|----------------------|---------------|------------------------|-------------------------|
|      |   |          |                      |               | Current Year           | Previous Year           |
| 5    | Repairs and Maintenance:<br>(a) Sub-station<br>(b) Transmission Lines<br>(c) others (specify)   |          |                      |               | 5041105<br>905740<br>0 | 4967177<br>1382960<br>0 |
| 6    | Insurance   |          |                      |               | 0                      | 13996                   |
| 8    | Lease Rent, if any  |          |                      |               | 0                      | 0                       |
| 9    | Quality Control Expenses  |          |                      |               | 0                      | 0                       |
| 10   | Research and Development  |          |                      |               | 0                      | 0                       |
| 11   | Royalty or Technical know-how fee   |          |                      |               | 0                      | 0                       |
| 12   | Depreciation or Amortization  |          |                      |               | 191855162              | 191044703               |
| 13   | Other Plant Overheads   |          |                      |               | 4179010                | 4189323                 |
| 14   | Total Cost of Transmission/Distribution   |          |                      |               | 267397190              | 258387316               |
| 15   | Less: Credits, if any   |          |                      |               |                        |                         |
| 16   | Administrative Overheads  |          |                      |               | 6792841                | 6397290                 |
| 17   | Selling Expenses  |          |                      |               |                        |                         |
| 18   | Interest and Financing Charges  |          |                      |               | 2714                   | 2183                    |
| 19   | Cost of Sales   |          |                      |               |                        |                         |
| 20   | Total cost of Transmission or<br>Distribution transferred to Proforma 'E'   |          |                      |               | 274192745              | 264786789               |
| 21   | If sold, sales realization or<br>Transmission Charges or Distribution<br>Charges<br>i) at Notified rates approved by<br>Regulatory Bodies)<br>(a) Base amount<br>(b) Incentive amount<br>(c) others (specify)<br>(ii) Sales at other than notified rates<br>(a) Base amount<br>(b) Incentive amount<br>(c) Others (specify)<br>(iii) Total (i) + (ii) |          |                      |               |                        |                         |
| 22   | Margin (21 -20)   |          |                      |               |                        |                         |
| 23   | Add: Export Benefits and Incentives,if any  |          |                      |               |                        |                         |
| 24   | Total Margin (21 + 22)  |          |                      |               |                        |                         |



**PROFORMA 'D'**

**Statement showing the cost of Transmission or Distribution**

|   |  |
|---|--|
| Name of the Company                     | Punjab State Transmission Corporation Ltd. |
| Name and Address of the Generating Unit | P&M Division Jagraon-91-624                |
| For the Period/Year                     | 01.04.2022 - 31.03.2023                    |

**I Quantitative Information:**

| SNo. | Particulars  | Unit      | Current Year | Previous Year |
|------|--|-----------|--------------|---------------|
| A1   | Surge Impedence Loading (SIL) or Rated Voltage                   |           |              |               |
| 2    | Power received from generating units including purchased, if any | MU        |              |               |
| 3    | Loss in transmission or distribution                             | MU        |              |               |
| 4    | Self Consumption for employees and office                        | MU        |              |               |
| 4a   | Other adjustments, if any (specify)                              | MU        |              |               |
| 5    | Net Power Transmitted or Distributed                             | MU        |              |               |
| 6    | Length of Transmission or Distribution lines                     |           |              |               |
|      | a. 220KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
|      | a. 132KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
| B1   | Gross Fixed Assets at the end of the year/period                 | Rs. Lakhs |              |               |
| 2    | Net Fixed Assets at the end of the year/period                   | Rs. Lakhs |              |               |
| 3    | Date of Commissioning  |           |              |               |

**II Cost Information**

| SNo. | Particulars                                      | Quantity | Rate Rs. Per Unit | Amount Rs. | Amount in Rs. |               |
|------|--|----------|-------------------|------------|---------------|---------------|
|      |  |          |                   |            | Current Year  | Previous Year |
| 1    | Cost of Power :                                  |          |                   |            |               |               |
|      | (a) Self generated transferred from Proforma 'C' |          |                   |            | 0             | 0             |
|      | (b) Purchased -                                  |          |                   |            |               |               |
|      | (i) Thermal                                      |          |                   |            | 0             | 0             |
|      | (ii) Hydro-electric                              |          |                   |            | 0             | 0             |
|      | (iii) Atomic, etc.                               |          |                   |            | 0             | 0             |
|      | (c) Sub-Total                                    |          |                   |            | 0             | 0             |
| 2    | Utilities, (specify details)                     |          |                   |            | 0             | 0             |
| 3    | Direct Employees Cost                            |          |                   |            | 29768351      | 30031964      |
| 4    | Consumable Stores and Spares                     |          |                   |            | 0             | 0             |



| SNo. | Particulars  | Quantity | Rate Rs.<br>Per Unit | Amount<br>Rs. | Amount in Rs.     |                   |
|------|--|----------|----------------------|---------------|-------------------|-------------------|
|      |  |          |                      |               | Current Year      | Previous Year     |
| 5    | Repairs and Maintenance:<br>(a) Sub-station<br>(b) Transmission Lines<br>(c) others (specify)  |          |                      |               | 5101540<br>0<br>0 | 4948414<br>0<br>0 |
| 6    | Insurance  |          |                      |               | 0                 | 0                 |
| 8    | Lease Rent, if any   |          |                      |               | 0                 | 0                 |
| 9    | Quality Control Expenses   |          |                      |               | 0                 | 0                 |
| 10   | Research and Development   |          |                      |               | 0                 | 0                 |
| 11   | Royalty or Technical know-how fee  |          |                      |               | 0                 | 0                 |
| 12   | Depreciation or Amortization   |          |                      |               | 75473722          | 75204108          |
| 13   | Other Plant Overheads  |          |                      |               | 4615754           | 3497329           |
| 14   | Total Cost of Transmission/Distribution  |          |                      |               | 114959367         | 113681815         |
| 15   | Less: Credits, if any  |          |                      |               |                   |                   |
| 16   | Administrative Overheads   |          |                      |               | 3516173           | 3191381           |
| 17   | Selling Expenses   |          |                      |               |                   |                   |
| 18   | Interest and Financing Charges   |          |                      |               | 0                 | 1008              |
| 19   | Cost of Sales  |          |                      |               |                   |                   |
| 20   | Total cost of Transmission or<br>Distribution transferred to Proforma 'E'  |          |                      |               | 118475540         | 116874204         |
| 21   | If sold, sales realization or<br>Transmission Charges or Distribution<br>Charges<br>i) at Notified rates approved by<br>Regulatory Bodies<br>(a) Base amount<br>(b) Incentive amount<br>(c) others (specify)<br>ii) Sales at other than notified rates<br>(a) Base amount<br>(b) Incentive amount<br>(c) Others (specify)<br>iii) Total (i) + (ii) |          |                      |               |                   |                   |
| 22   | Margin (21 -20)  |          |                      |               |                   |                   |
| 23   | Add: Export Benefits and Incentives,if any   |          |                      |               |                   |                   |
| 24   | Total Margin (21 + 22)   |          |                      |               |                   |                   |



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**PROFORMA 'D'**

**Statement showing the cost of Transmission or Distribution**

|   |  |
|---|--|
| Name of the Company                     | Punjab State Transmission Corporation Ltd. |
| Name and Address of the Generating Unit | P&M Division No 1 Gobindgarh-98-659        |
| For the Period/Year                     | 01.04.2022 - 31.03.2023                    |

**I Quantitative Information:**

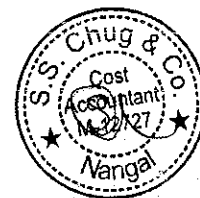
| SNo. | Particulars  | Unit      | Current Year | Previous Year |
|------|--|-----------|--------------|---------------|
| A1   | Surge Impedence Loading (SIL) or Rated Voltage                   |           |              |               |
| 2    | Power received from generating units including purchased, if any | MU        |              |               |
| 3    | Loss in transmission or distribution                             | MU        |              |               |
| 4    | Self Consumption for employees and office                        | MU        |              |               |
| 4a   | Other adjustments, if any (specify)                              | MU        |              |               |
| 5    | Net Power Transmitted or Distributed                             | MU        |              |               |
| 6    | Length of Transmission or Distribution lines                     |           |              |               |
|      | a. 220KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
|      | a. 132KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
| B1   | Gross Fixed Assets at the end of the year/period                 | Rs. Lakhs |              |               |
| 2    | Net Fixed Assets at the end of the year/period                   | Rs. Lakhs |              |               |
| 3    | Date of Commissioning  |           |              |               |

**II Cost Information**

| SNo. | Particulars                                      | Quantity | Rate Rs. Per Unit | Amount Rs. | Amount in Rs. |               |
|------|--|----------|-------------------|------------|---------------|---------------|
|      |  |          |                   |            | Current Year  | Previous Year |
| 1    | Cost of Power :                                  |          |                   |            |               |               |
|      | (a) Self generated transferred from Proforma 'C' |          |                   |            | 0             | 0             |
|      | (b) Purchased -                                  |          |                   |            |               |               |
|      | (i) Thermal                                      |          |                   |            | 0             | 0             |
|      | (ii) Hydro-electric                              |          |                   |            | 0             | 0             |
|      | (iii) Atomic, etc.                               |          |                   |            | 0             | 0             |
|      | (c) Sub-Total                                    |          |                   |            | 0             | 0             |
| 2    | Utilities, (specify details)                     |          |                   |            | 0             | 0             |
| 3    | Direct Employees Cost                            |          |                   |            | 44953429      | 36852675      |
| 4    | Consumable Stores and Spares                     |          |                   |            | 0             | 0             |



| SNo. | Particulars  | Quantity | Rate Rs.<br>Per Unit | Amount<br>Rs. | Amount in Rs.     |                        |
|------|--|----------|----------------------|---------------|-------------------|------------------------|
|      |  |          |                      |               | Current Year      | Previous Year          |
| 5    | Repairs and Maintenance:<br>(a) Sub-station<br>(b) Transmission Lines<br>(c) others (specify)  |          |                      |               | 9626369<br>0<br>0 | 14157723<br>0<br>95730 |
| 6    | Insurance  |          |                      |               | 0                 | 0                      |
| 8    | Lease Rent, if any   |          |                      |               | 0                 | 0                      |
| 9    | Quality Control Expenses   |          |                      |               | 0                 | 0                      |
| 10   | Research and Development   |          |                      |               | 0                 | 0                      |
| 11   | Royalty or Technical know-how fee  |          |                      |               | 0                 | 0                      |
| 12   | Depreciation or Amortization   |          |                      |               | 59494270          | 56350350               |
| 13   | Other Plant Overheads  |          |                      |               | 5621253           | 6225706                |
| 14   | Total Cost of Transmission/Distribution  |          |                      |               | 119695321         | 113682184              |
| 15   | Less: Credits, if any  |          |                      |               |                   |                        |
| 16   | Administrative Overheads   |          |                      |               | 5030783           | 4335638                |
| 17   | Selling Expenses   |          |                      |               |                   |                        |
| 18   | Interest and Financing Charges   |          |                      |               | 1543              | 1180                   |
| 19   | Cost of Sales  |          |                      |               |                   |                        |
| 20   | Total cost of Transmission or<br>Distribution transferred to Proforma 'E'  |          |                      |               | 124727647         | 118019002              |
| 21   | If sold, sales realization or<br>Transmission Charges or Distribution<br>Charges<br>i) at Notified rates approved by<br>Regulatory Bodies<br>(a) Base amount<br>(b) Incentive amount<br>(c) others (specify)<br>ii) Sales at other than notified rates<br>(a) Base amount<br>(b) Incentive amount<br>(c) Others (specify)<br>iii) Total (i) + (ii) |          |                      |               |                   |                        |
| 22   | Margin (21 -20)  |          |                      |               |                   |                        |
| 23   | Add: Export Benefits and Incentives,if any   |          |                      |               |                   |                        |
| 24   | Total Margin (21 + 22)   |          |                      |               |                   |                        |



**PROFORMA 'D'**

**Statement showing the cost of Transmission or Distribution**

|   |  |
|---|--|
| Name of the Company                     | Punjab State Transmission Corporation Ltd. |
| Name and Address of the Generating Unit | P&M Division, Dhandari Kalan- 98-660       |
| For the Period/Year                     | 01.04.2022 - 31.03.2023                    |

**I Quantitative Information:**

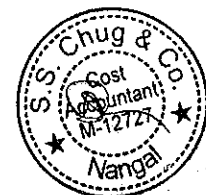
| SNo. | Particulars  | Unit      | Current Year | Previous Year |
|------|--|-----------|--------------|---------------|
| A1   | Surge Impedence Loading (SIL) or Rated Voltage                   |           |              |               |
| 2    | Power received from generating units including purchased, if any | MU        |              |               |
| 3    | Loss in transmission or distribution                             | MU        |              |               |
| 4    | Self Consumption for employees and office                        | MU        |              |               |
| 4a   | Other adjustments, if any (specify)                              | MU        |              |               |
| 5    | Net Power Transmitted or Distributed                             | MU        |              |               |
| 6    | Length of Transmission or Distribution lines                     |           |              |               |
|      | a. 220KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
|      | a. 132KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
| B1   | Gross Fixed Assets at the end of the year/period                 | Rs. Lakhs |              |               |
| 2    | Net Fixed Assets at the end of the year/period                   | Rs. Lakhs |              |               |
| 3    | Date of Commissioning  |           |              |               |

**II Cost Information**

| SNo. | Particulars                                      | Quantity | Rate Rs. Per Unit | Amount Rs. | Amount in Rs. |               |
|------|--|----------|-------------------|------------|---------------|---------------|
|      |  |          |                   |            | Current Year  | Previous Year |
| 1    | Cost of Power :                                  |          |                   |            |               |               |
|      | (a) Self generated transferred from Proforma 'C' |          |                   |            | 0             | 0             |
|      | (b) Purchased -                                  |          |                   |            |               |               |
|      | (i) Thermal                                      |          |                   |            | 0             | 0             |
|      | (ii) Hydro-electric                              |          |                   |            | 0             | 0             |
|      | (iii) Atomic, etc.                               |          |                   |            | 0             | 0             |
|      | (c) Sub-Total                                    |          |                   |            | 0             | 0             |
| 2    | Utilities, (specify details)                     |          |                   |            | 0             | 0             |
| 3    | Direct Employees Cost                            |          |                   |            | 53760570      | 43198437      |
| 4    | Consumable Stores and Spares                     |          |                   |            | 0             | 0             |



| SNo. | Particulars   | Quantity | Rate Rs.<br>Per Unit | Amount<br>Rs. | Amount in Rs.         |                   |
|------|---|----------|----------------------|---------------|-----------------------|-------------------|
|      |   |          |                      |               | Current Year          | Previous Year     |
| 5    | Repairs and Maintenance:<br>(a) Sub-station<br>(b) Transmission Lines<br>(c) others (specify)   |          |                      |               | 6359072<br>0<br>82800 | 7954267<br>0<br>0 |
| 6    | Insurance   |          |                      |               | 0                     | 0                 |
| 8    | Lease Rent, if any  |          |                      |               | 0                     | 0                 |
| 9    | Quality Control Expenses  |          |                      |               | 0                     | 0                 |
| 10   | Research and Development  |          |                      |               | 0                     | 0                 |
| 11   | Royalty or Technical know-how fee   |          |                      |               | 0                     | 0                 |
| 12   | Depreciation or Amortization  |          |                      |               | 66434340              | 68545509          |
| 13   | Other Plant Overheads   |          |                      |               | 5237445               | 4707073           |
| 14   | Total Cost of Transmission/Distribution   |          |                      |               | 131874227             | 124405286         |
| 15   | Less: Credits, if any   |          |                      |               |                       |                   |
| 16   | Administrative Overheads  |          |                      |               | 5061548               | 4424139           |
| 17   | Selling Expenses  |          |                      |               |                       |                   |
| 18   | Interest and Financing Charges  |          |                      |               | 1829                  | 1829              |
| 19   | Cost of Sales   |          |                      |               |                       |                   |
| 20   | Total cost of Transmission or<br>Distribution transferred to Proforma 'E'   |          |                      |               | 136937604             | 128831254         |
| 21   | If sold, sales realization or<br>Transmission Charges or Distribution<br>Charges<br>i) at Notified rates approved by<br>Regulatory Bodies)<br>(a) Base amount<br>(b) Incentive amount<br>(c) others (specify)<br>(ii) Sales at other than notified rates<br>(a) Base amount<br>(b) Incentive amount<br>(c) Others (specify)<br>(iii) Total (i) + (ii) |          |                      |               |                       |                   |
| 22   | Margin (21 -20)   |          |                      |               |                       |                   |
| 23   | Add: Export Benefits and Incentives,if any  |          |                      |               |                       |                   |
| 24   | Total Margin (21 + 22)  |          |                      |               |                       |                   |





**PROFORMA 'D'**

**Statement showing the cost of Transmission or Distribution**

|   |  |
|---|--|
| Name of the Company                     | Punjab State Transmission Corporation Ltd. |
| Name and Address of the Generating Unit | P&M Division, Iafto Kalan-98-661           |
| For the Period/Year                     | 01.04.2022 - 31.03.2023                    |

**I Quantitative Information:**

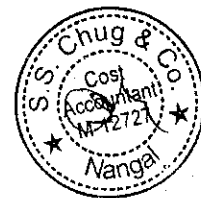
| SNo. | Particulars  | Unit      | Current Year | Previous Year |
|------|--|-----------|--------------|---------------|
| A1   | Surge Impedence Loading (SIL) or Rated Voltage                   |           |              |               |
| 2    | Power received from generating units including purchased, if any | MU        |              |               |
| 3    | Loss in transmission or distribution                             | MU        |              |               |
| 4    | Self Consumption for employees and office                        | MU        |              |               |
| 4a   | Other adjustments, if any (specify)                              | MU        |              |               |
| 5    | Net Power Transmitted or Distributed                             | MU        |              |               |
| 6    | Length of Transmission or Distribution lines                     |           |              |               |
|      | a. 220KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
|      | a. 132KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
| B1   | Gross Fixed Assets at the end of the year/period                 | Rs. Lakhs |              |               |
| 2    | Net Fixed Assets at the end of the year/period                   | Rs. Lakhs |              |               |
| 3    | Date of Commissioning  |           |              |               |

**II Cost Information**

| SNo. | Particulars                                      | Quantity | Rate Rs. Per Unit | Amount Rs. | Amount in Rs. |               |
|------|--|----------|-------------------|------------|---------------|---------------|
|      |  |          |                   |            | Current Year  | Previous Year |
| 1    | Cost of Power :                                  |          |                   |            |               |               |
|      | (a) Self generated transferred from Proforma 'C' |          |                   |            | 0             | 0             |
|      | (b) Purchased -                                  |          |                   |            |               |               |
|      | (i) Thermal                                      |          |                   |            | 0             | 0             |
|      | (ii) Hydro-electric                              |          |                   |            | 0             | 0             |
|      | (iii) Atomic, etc.                               |          |                   |            | 0             | 0             |
|      | (c) Sub-Total                                    |          |                   |            | 0             | 0             |
| 2    | Utilities, (specify details)                     |          |                   |            | 0             | 0             |
| 3    | Direct Employees Cost                            |          |                   |            | 83310261      | 88785731      |
| 4    | Consumable Stores and Spares                     |          |                   |            | 0             | 0             |



| SNo. | Particulars   | Quantity | Rate Rs.<br>Per Unit | Amount<br>Rs. | Amount in Rs.                |                          |
|------|---|----------|----------------------|---------------|------------------------------|--------------------------|
|      |   |          |                      |               | Current Year                 | Previous Year            |
| 5    | Repairs and Maintenance:<br>(a) Sub-station<br>(b) Transmission Lines<br>(c) others (specify)   |          |                      |               | 13010320<br>1170566<br>84960 | 10589880<br>4237651<br>0 |
| 6    | Insurance   |          |                      |               | 34727                        | 7331                     |
| 8    | Lease Rent, if any  |          |                      |               | 0                            | 0                        |
| 9    | Quality Control Expenses  |          |                      |               | 0                            | 0                        |
| 10   | Research and Development  |          |                      |               | 0                            | 0                        |
| 11   | Royalty or Technical know-how fee   |          |                      |               | 0                            | 0                        |
| 12   | Depreciation or Amortization  |          |                      |               | 177176055                    | 149373831                |
| 13   | Other Plant Overheads   |          |                      |               | 7317903                      | 6761571                  |
| 14   | Total Cost of Transmission/Distribution   |          |                      |               | 282104792                    | 259755995                |
| 15   | Less: Credits, if any   |          |                      |               |                              |                          |
| 16   | Administrative Overheads  |          |                      |               | 14277711                     | 8210326                  |
| 17   | Selling Expenses  |          |                      |               |                              |                          |
| 18   | Interest and Financing Charges  |          |                      |               | 1829                         | 1829                     |
| 19   | Cost of Sales   |          |                      |               |                              |                          |
| 20   | Total cost of Transmission or<br>Distribution transferred to Proforma 'E'   |          |                      |               | 296384332                    | 267968150                |
| 21   | If sold, sales realization or<br>Transmission Charges or Distribution<br>Charges<br>i) at Notified rates approved by<br>Regulatory Bodies)<br>(a) Base amount<br>(b) Incentive amount<br>(c) others (specify)<br>(ii) Sales at other than notified rates<br>(a) Base amount<br>(b) Incentive amount<br>(c) Others (specify)<br>(iii) Total (i) + (ii) |          |                      |               |                              |                          |
| 22   | Margin (21 -20)   |          |                      |               |                              |                          |
| 23   | Add: Export Benefits and Incentives,if any  |          |                      |               |                              |                          |
| 24   | Total Margin (21 + 22)  |          |                      |               |                              |                          |



**PROFORMA 'D'**

**Statement showing the cost of Transmission or Distribution**

|   |  |
|---|--|
| Name of the Company                     | Punjab State Transmission Corporation Ltd. |
| Name and Address of the Generating Unit | 400KV S.Stn. Makhu - 791                   |
| For the Period/Year                     | 01.04.2022 - 31.03.2023                    |

**I Quantitative Information:**

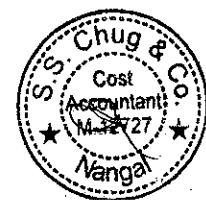
| SNo. | Particulars  | Unit      | Current Year | Previous Year |
|------|--|-----------|--------------|---------------|
| A1   | Surge Impedence Loading (SIL) or Rated Voltage                   |           |              |               |
| 2    | Power received from generating units including purchased, if any | MU        |              |               |
| 3    | Loss in transmission or distribution                             | MU        |              |               |
| 4    | Self Consumption for employees and office                        | MU        |              |               |
| 4a   | Other adjustments, if any (specify)                              | MU        |              |               |
| 5    | Net Power Transmitted or Distributed                             | MU        |              |               |
| 6    | Length of Transmission or Distribution lines                     |           |              |               |
|      | a. 220KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
|      | a. 132KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
| B1   | Gross Fixed Assets at the end of the year/period                 | Rs. Lakhs |              |               |
| 2    | Net Fixed Assets at the end of the year/period                   | Rs. Lakhs |              |               |
| 3    | Date of Commissioning  |           |              |               |

**II Cost Information**

| SNo. | Particulars   | Quantity | Rate Rs. | Amount | Amount in Rs. |          |
|------|---|----------|----------|--------|---------------|----------|
| 1    | Cost of Power :<br>Proforma 'C'<br>(b) Purchased -<br>(i) Thermal<br>(ii) Hydro-electric<br>(iii) Atomic, etc.<br>(c) Sub-Total |          |          |        |               |          |
| 2    | Utilities, (specify details)  |          |          |        | 0             | 0        |
| 3    | Direct Employees Cost   |          |          |        | 26482252      | 16469168 |
| 4    | Consumable Stores and Spares  |          |          |        | 0             | 0        |



| SNo. | Particulars  | Quantity        | Rate Rs. | Amount | Amount in Rs.                      |                                  |
|------|--|-----------------|----------|--------|------------------------------------|----------------------------------|
|      |  |                 |          |        | Current Year                       | Previous Year                    |
| 5    | Repairs and Maintenance:<br>(a) Sub-station<br><br>(b) Transmission Lines<br><br>(c) others (specify)  | 74.141 excluded |          |        | 2333834<br><br>1272916<br><br>4000 | -8338173<br><br>1272035<br><br>0 |
| 6    | Insurance  |                 |          |        | 0                                  | 0                                |
| 8    | Lease Rent, if any   |                 |          |        | 0                                  | 0                                |
| 9    | Quality Control Expenses   |                 |          |        | 0                                  | 0                                |
| 10   | Research and Development   |                 |          |        | 0                                  | 0                                |
| 11   | Royalty or Technical know-how fee  |                 |          |        | 0                                  | 0                                |
| 12   | Depreciation or Amortization   |                 |          |        | 109787986                          | 98968858                         |
| 13   | Other Plant Overheads  |                 |          |        | 4410180                            | 3766755                          |
| 14   | Total Cost of Transmission/Distribution  |                 |          |        | 144291168                          | 112138643                        |
| 15   | Less: Credits, if any  |                 |          |        |                                    |                                  |
| 16   | Administrative Overheads   |                 |          |        | 3308357                            | 2860214                          |
| 17   | Selling Expenses   |                 |          |        |                                    |                                  |
| 18   | Interest and Financing Charges   |                 |          |        | 1336857                            | 1327669                          |
| 19   | Cost of Sales  |                 |          |        |                                    |                                  |
| 20   | Total cost of Transmission or Distribution transferred to Proforma 'E'   |                 |          |        | 148936382                          | 116326526                        |
| 21   | If sold, sales realization or Transmission Charges or Distribution Charges<br>i) at Notified rates approved by Regulatory Bodies)<br>(a) Base amount<br>(b) Incentive amount<br>(c) others (specify)<br>(ii) Sales at other than notified rates<br>(a) Base amount<br>(b) Incentive amount<br>(c) Others (specify)<br>(iii) Total (i) + (ii) |                 |          |        |                                    |                                  |
| 22   | Margin (21 -20)  |                 |          |        |                                    |                                  |
| 23   | Add: Export Benefits and Incentives,if any   |                 |          |        |                                    |                                  |
| 24   | Total Margin (21 + 22)   |                 |          |        |                                    |                                  |



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**PROFORMA 'D'**

**Statement showing the cost of Transmission or Distribution**

|   |  |
|---|--|
| Name of the Company                     | Punjab State Transmission Corporation Ltd. |
| Name and Address of the Generating Unit | P&M Division- Mohali 636                   |
| For the Period/Year                     | 01.04.2022 - 31.03.2023                    |

**I Quantitative Information:**

| SNo. | Particulars  | Unit      | Current Year | Previous Year |
|------|--|-----------|--------------|---------------|
| A1   | Surge Impedence Loading (SIL) or Rated Voltage                   |           |              |               |
| 2    | Power received from generating units including purchased, if any | MU        |              |               |
| 3    | Loss in transmission or distribution                             | MU        |              |               |
| 4    | Self Consumption for employees and office                        | MU        |              |               |
| 4a   | Other adjustments, if any (specify)                              | MU        |              |               |
| 5    | Net Power Transmitted or Distributed                             | MU        |              |               |
| 6    | Length of Transmission or Distribution lines                     |           |              |               |
|      | a. 220KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
|      | a. 132KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
| B1   | Gross Fixed Assets at the end of the year/period                 | Rs. Lakhs |              |               |
| 2    | Net Fixed Assets at the end of the year/period                   | Rs. Lakhs |              |               |
| 3    | Date of Commissioning  |           |              |               |

**II Cost Information**

| SNo. | Particulars                                      | Quantity | Rate Rs. Per Unit | Amount Rs. | Amount in Rs. |               |
|------|--|----------|-------------------|------------|---------------|---------------|
|      |  |          |                   |            | Current Year  | Previous Year |
| 1    | Cost of Power :                                  |          |                   |            |               |               |
|      | (a) Self generated transferred from Proforma 'C' |          |                   |            | 0             | 0             |
|      | (b) Purchased -                                  |          |                   |            |               |               |
|      | (i) Thermal                                      |          |                   |            | 0             | 0             |
|      | (ii) Hydro-electric                              |          |                   |            | 0             | 0             |
|      | (iii) Atomic, etc.                               |          |                   |            | 0             | 0             |
|      | (c) Sub-Total                                    |          |                   |            |               |               |
| 2    | Utilities, (specify details)                     |          |                   |            | 0             | 0             |
| 3    | Direct Employees Cost                            |          |                   |            | 85843717      | 65216788      |
| 4    | Consumable Stores and Spares                     |          |                   |            | 0             | 0             |



| SNo. | Particulars   | Quantity | Rate Rs.<br>Per Unit | Amount Rs. | Amount in Rs.          |                        |
|------|---|----------|----------------------|------------|------------------------|------------------------|
|      |   |          |                      |            | Current Year           | Previous Year          |
| 5    | Repairs and Maintenance:<br>(a) Sub-station<br>(b) Transmission Lines<br>(c) others (specify)   |          |                      |            | 7829528<br>0<br>118651 | 8035918<br>0<br>102777 |
| 6    | Insurance   |          |                      |            | 34913                  | 11725                  |
| 8    | Lease Rent, if any  |          |                      |            | 0                      | 0                      |
| 9    | Quality Control Expenses  |          |                      |            | 0                      | 0                      |
| 10   | Research and Development  |          |                      |            | 0                      | 0                      |
| 11   | Royalty or Technical know-how fee   |          |                      |            | 0                      | 0                      |
| 12   | Depreciation or Amortization  |          |                      |            | 81223998               | 79528420               |
| 13   | Other Plant Overheads   |          |                      |            | 9908880                | 14120442               |
| 14   | Total Cost of Transmission/Distribution   |          |                      |            | 184959687              | 167016070              |
| 15   | Less: Credits, if any   |          |                      |            |                        |                        |
| 16   | Administrative Overheads  |          |                      |            | 16405785               | 11698563               |
| 17   | Selling Expenses  |          |                      |            |                        |                        |
| 18   | Interest and Financing Charges  |          |                      |            | 2852                   | 2361                   |
| 19   | Cost of Sales   |          |                      |            |                        |                        |
| 20   | Total cost of Transmission or<br>Distribution transferred to Proforma 'E'   |          |                      |            | 201368324              | 178716994              |
| 21   | If sold, sales realization or<br>Transmission Charges or Distribution<br>Charges<br>i) at Notified rates approved by<br>Regulatory Bodies)<br>(a) Base amount<br>(b) Incentive amount<br>(c) others (specify)<br>(ii) Sales at other than notified rates<br>(a) Base amount<br>(b) Incentive amount<br>(c) Others (specify)<br>(iii) Total (i) + (ii) |          |                      |            |                        |                        |
| 22   | Margin (21 -20)   |          |                      |            |                        |                        |
| 23   | Add: Export Benefits and Incentives,if any  |          |                      |            |                        |                        |
| 24   | Total Margin (21 + 22)  |          |                      |            |                        |                        |



**PROFORMA 'D'**

**Statement showing the cost of Transmission or Distribution**

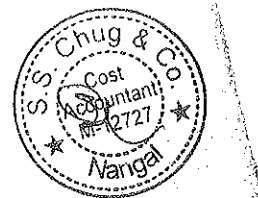
|   |  |
|---|--|
| Name of the Company                     | Punjab State Transmission Corporation Ltd. |
| Name and Address of the Generating Unit | P&M Division- Ablowal 642                  |
| For the Period/Year                     | 01.04.2022 - 31.03.2023                    |

**I Quantitative Information:**

| SNo. | Particulars  | Unit      | Current Year | Previous Year |
|------|--|-----------|--------------|---------------|
| A1   | Surge Impedance Loading (SIL) or Rated Voltage                   |           |              |               |
| 2    | Power received from generating units including purchased, if any | MU        |              |               |
| 3    | Loss in transmission or distribution                             | MU        |              |               |
| 4    | Self Consumption for employees and office                        | MU        |              |               |
| 4a   | Other adjustments, if any (specify)                              | MU        |              |               |
| 5    | Net Power Transmitted or Distributed                             | MU        |              |               |
| 6    | Length of Transmission or Distribution lines                     |           |              |               |
|      | a. 220KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
|      | a. 132KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
| B1   | Gross Fixed Assets at the end of the year/period                 | Rs. Lakhs |              |               |
| 2    | Net Fixed Assets at the end of the year/period                   | Rs. Lakhs |              |               |
| 3    | Date of Commissioning  |           |              |               |

**II Cost Information**

| SNo. | Particulars                                      | Quantity | Rate Rs. Per Unit | Amount Rs. | Amount in Rs. |               |
|------|--|----------|-------------------|------------|---------------|---------------|
|      |  |          |                   |            | Current Year  | Previous Year |
| 1    | Cost of Power :                                  |          |                   |            |               |               |
|      | (a) Self generated transferred from Proforma 'C' |          |                   |            | 0             | 0             |
|      | (b) Purchased -                                  |          |                   |            |               |               |
|      | (i) Thermal                                      |          |                   |            | 0             | 0             |
|      | (ii) Hydro-electric                              |          |                   |            | 0             | 0             |
|      | (iii) Atomic, etc.                               |          |                   |            | 0             | 0             |
|      | (c) Sub-Total                                    |          |                   |            |               |               |
| 2    | Utilities, (specify details)                     |          |                   |            | 0             | 0             |
| 3    | Direct Employees Cost                            |          |                   |            | 96769579      | 91242669      |
| 4    | Consumable Stores and Spares                     |          |                   |            | 0             | 0             |



| SNo. | Particulars   | Quantity | Rate Rs.<br>Per Unit | Amount<br>Rs. | Amount in Rs.         |                       |
|------|---|----------|----------------------|---------------|-----------------------|-----------------------|
|      |   |          |                      |               | Current Year          | Previous Year         |
| 5    | Repairs and Maintenance:<br>(a) Sub-station<br>(b) Transmission Lines<br>(c) others (specify)   |          |                      |               | 7037320<br>0<br>40403 | 5251953<br>0<br>26460 |
| 6    | Insurance   |          |                      |               | 10204                 | 9735                  |
| 8    | Lease Rent, if any  |          |                      |               | 0                     | 0                     |
| 9    | Quality Control Expenses  |          |                      |               | 0                     | 0                     |
| 10   | Research and Development  |          |                      |               | 0                     | 0                     |
| 11   | Royalty or Technical know-how fee   |          |                      |               | 0                     | 0                     |
| 12   | Depreciation or Amortization  |          |                      |               | 61650110              | 60764140              |
| 13   | Other Plant Overheads   |          |                      |               | 8939692               | 9013839               |
| 14   | Total Cost of Transmission/Distribution   |          |                      |               | 174447308             | 166308796             |
| 15   | Less: Credits, if any   |          |                      |               |                       |                       |
| 16   | Administrative Overheads  |          |                      |               | 10961771              | 10244000              |
| 17   | Selling Expenses  |          |                      |               |                       |                       |
| 18   | Interest and Financing Charges  |          |                      |               | 1831                  | 2828                  |
| 19   | Cost of Sales   |          |                      |               |                       |                       |
| 20   | Total cost of Transmission or<br>Distribution transferred to Proforma 'E'   |          |                      |               | 185410910             | 176555624             |
| 21   | If sold, sales realization or<br>Transmission Charges or Distribution<br>Charges<br>i) at Notified rates approved by<br>Regulatory Bodies)<br>(a) Base amount<br>(b) Incentive amount<br>(c) others (specify)<br>ii) Sales at other than notified rates<br>(a) Base amount<br>(b) Incentive amount<br>(c) Others (specify)<br>iii) Total (i) + (ii) |          |                      |               |                       |                       |
| 22   | Margin (21 -20)   |          |                      |               |                       |                       |
| 23   | Add: Export Benefits and Incentives,if any  |          |                      |               |                       |                       |
| 24   | Total Margin (21 + 22)  |          |                      |               |                       |                       |





## PROFORMA 'D'

### Statement showing the cost of Transmission or Distribution

|   |  |
|---|--|
| Name of the Company                     | Punjab State Transmission Corporation Ltd. |
| Name and Address of the Generating Unit | P&M Division- Patran 657                   |
| For the Period/Year                     | 01.04.2022 - 31.03.2023                    |

#### I Quantitative Information:

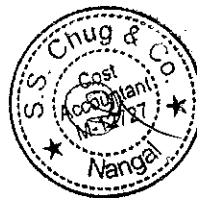
| SNo. | Particulars  | Unit      | Current Year | Previous Year |
|------|--|-----------|--------------|---------------|
| A1   | Surge Impedence Loading (SIL) or Rated Voltage                   |           |              |               |
| 2    | Power received from generating units including purchased, if any | MU        |              |               |
| 3    | Loss in transmission or distribution                             | MU        |              |               |
| 4    | Self Consumption for employees and office                        | MU        |              |               |
| 4a   | Other adjustments, if any (specify)                              | MU        |              |               |
| 5    | Net Power Transmitted or Distributed                             | MU        |              |               |
| 6    | Length of Transmission or Distribution lines                     |           |              |               |
|      | a. 220KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
|      | a. 132KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
| B1   | Gross Fixed Assets at the end of the year/period                 | Rs. Lakhs |              |               |
| 2    | Net Fixed Assets at the end of the year/period                   | Rs. Lakhs |              |               |
| 3    | Date of Commissioning  |           |              |               |

#### II Cost Information

| SNo. | Particulars                                      | Quantity | Rate Rs. Per Unit | Amount Rs. | Amount in Rs. |               |
|------|--|----------|-------------------|------------|---------------|---------------|
|      |  |          |                   |            | Current Year  | Previous Year |
| 1    | Cost of Power :                                  |          |                   |            |               |               |
|      | (a) Self generated transferred from Proforma 'C' |          |                   |            | 0             | 0             |
|      | (b) Purchased -                                  |          |                   |            |               |               |
|      | (i) Thermal                                      |          |                   |            | 0             | 0             |
|      | (ii) Hydro-electric                              |          |                   |            | 0             | 0             |
|      | (iii) Atomic, etc.                               |          |                   |            | 0             | 0             |
|      | (c) Sub-Total                                    |          |                   |            | 0             | 0             |
| 2    | Utilities, (specify details)                     |          |                   |            | 0             | 0             |
| 3    | Direct Employees Cost                            |          |                   |            | 72589057      | 48042598      |
| 4    | Consumable Stores and Spares                     |          |                   |            | 0             | 0             |



| SNo. | Particulars   | Quantity | Rate Rs.<br>Per Unit | Amount<br>Rs. | Amount in Rs.      |                   |
|------|---|----------|----------------------|---------------|--------------------|-------------------|
|      |   |          |                      |               | Current Year       | Previous Year     |
| 5    | Repairs and Maintenance:<br>(a) Sub-station<br>(b) Transmission Lines<br>(c) others (specify)   |          |                      |               | 11667274<br>0<br>0 | 7605447<br>0<br>0 |
| 6    | Insurance   |          |                      |               | 0                  | 0                 |
| 8    | Lease Rent, if any  |          |                      |               | 0                  | 0                 |
| 9    | Quality Control Expenses  |          |                      |               | 0                  | 0                 |
| 10   | Research and Development  |          |                      |               | 0                  | 0                 |
| 11   | Royalty or Technical know-how fee   |          |                      |               | 0                  | 0                 |
| 12   | Depreciation or Amortization  |          |                      |               | 73377427           | 72984458          |
| 13   | Other Plant Overheads   |          |                      |               | 5361697            | 5442740           |
| 14   | Total Cost of Transmission/Distribution   |          |                      |               | 162995455          | 134075243         |
| 15   | Less: Credits, if any   |          |                      |               |                    |                   |
| 16   | Administrative Overheads  |          |                      |               | 11573731           | 8781892           |
| 17   | Selling Expenses  |          |                      |               |                    |                   |
| 18   | Interest and Financing Charges  |          |                      |               | 791                | 1357              |
| 19   | Cost of Sales   |          |                      |               |                    |                   |
| 20   | Total cost of Transmission or<br>Distribution transferred to Proforma 'E'   |          |                      |               | 174569977          | 142858492         |
| 21   | If sold, sales realization or<br>Transmission Charges or Distribution<br>Charges<br>i) at Notified rates approved by<br>Regulatory Bodies)<br>(a) Base amount<br>(b) Incentive amount<br>(c) others (specify)<br>ii) Sales at other than notified rates<br>(a) Base amount<br>(b) Incentive amount<br>(c) Others (specify)<br>iii) Total (i) + (ii) |          |                      |               |                    |                   |
| 22   | Margin (21 -20)   |          |                      |               |                    |                   |
| 23   | Add: Export Benefits and Incentives,if any  |          |                      |               |                    |                   |
| 24   | Total Margin (21 + 22)  |          |                      |               |                    |                   |



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**PROFORMA 'D'**

**Statement showing the cost of Transmission or Distribution**

|   |  |
|---|--|
| Name of the Company                     | Punjab State Transmission Corporation Ltd. |
| Name and Address of the Generating Unit | P&M Division Ropar 658                     |
| For the Period/Year                     | 01.04.2022 - 31.03.2023                    |

**I Quantitative Information:**

| SNo. | Particulars  | Unit      | Current Year | Previous Year |
|------|--|-----------|--------------|---------------|
| A1   | Surge Impedance Loading (SIL) or Rated Voltage                   |           |              |               |
| 2    | Power received from generating units including purchased, if any | MU        |              |               |
| 3    | Loss in transmission or distribution                             | MU        |              |               |
| 4    | Self Consumption for employees and office                        | MU        |              |               |
| 4a   | Other adjustments, if any (specify)                              | MU        |              |               |
| 5    | Net Power Transmitted or Distributed                             | MU        |              |               |
| 6    | Length of Transmission or Distribution lines                     |           |              |               |
|      | a. 220KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
|      | a. 132KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
| B1   | Gross Fixed Assets at the end of the year/period                 | Rs. Lakhs |              |               |
| 2    | Net Fixed Assets at the end of the year/period                   | Rs. Lakhs |              |               |
| 3    | Date of Commissioning  |           |              |               |

**II Cost Information**

| SNo. | Particulars                                      | Quantity | Rate Rs. Per Unit | Amount Rs. | Amount in Rs. |               |
|------|--|----------|-------------------|------------|---------------|---------------|
|      |  |          |                   |            | Current Year  | Previous Year |
| 1    | Cost of Power :                                  |          |                   |            |               |               |
|      | (a) Self generated transferred from Proforma 'C' |          |                   |            | 0             | 0             |
|      | (b) Purchased -                                  |          |                   |            |               |               |
|      | (i) Thermal                                      |          |                   |            | 0             | 0             |
|      | (ii) Hydro-electric                              |          |                   |            | 0             | 0             |
|      | (iii) Atomic, etc.                               |          |                   |            | 0             | 0             |
|      | (c) Sub-Total                                    |          |                   |            | 0             | 0             |
| 2    | Utilities, (specify details)                     |          |                   |            | 0             | 0             |
| 3    | Direct Employees Cost                            |          |                   |            | 70246540      | 52695789      |
| 4    | Consumable Stores and Spares                     |          |                   |            | 0             | 0             |



| SNo. | Particulars   | Quantity | Rate Rs.<br>Per Unit | Amount<br>Rs. | Amount in Rs.             |                            |
|------|---|----------|----------------------|---------------|---------------------------|----------------------------|
|      |   |          |                      |               | Current Year              | Previous Year              |
| 5    | Repairs and Maintenance:<br>(a) Sub-station<br>(b) Transmission Lines<br>(c) others (specify)   |          |                      |               | 1954596<br>310597<br>6954 | 2331399<br>256366<br>10302 |
| 6    | Insurance   |          |                      |               | 12300                     | 11390                      |
| 8    | Lease Rent, if any  |          |                      |               | 0                         | 0                          |
| 9    | Quality Control Expenses  |          |                      |               | 0                         | 0                          |
| 10   | Research and Development  |          |                      |               | 0                         | 0                          |
| 11   | Royalty or Technical know-how fee   |          |                      |               | 0                         | 0                          |
| 12   | Depreciation or Amortization  |          |                      |               | 145149342                 | 152388763                  |
| 13   | Other Plant Overheads   |          |                      |               | 3109579                   | 2827093                    |
| 14   | Total Cost of Transmission/Distribution   |          |                      |               | 220789908                 | 210521102                  |
| 15   | Less: Credits, if any   |          |                      |               |                           |                            |
| 16   | Administrative Overheads  |          |                      |               | 8999673                   | 6970366                    |
| 17   | Selling Expenses  |          |                      |               |                           |                            |
| 18   | Interest and Financing Charges  |          |                      |               | 2732                      | 1180                       |
| 19   | Cost of Sales   |          |                      |               |                           |                            |
| 20   | Total cost of Transmission or<br>Distribution transferred to Proforma 'E'   |          |                      |               | 229792313                 | 217492648                  |
| 21   | If sold, sales realization or<br>Transmission Charges or Distribution<br>Charges<br>i) at Notified rates approved by<br>Regulatory Bodies)<br>(a) Base amount<br>(b) Incentive amount<br>(c) others (specify)<br>(ii) Sales at other than notified rates<br>(a) Base amount<br>(b) Incentive amount<br>(c) Others (specify)<br>(iii) Total (i) + (ii) |          |                      |               |                           |                            |
| 22   | Margin (21 -20)   |          |                      |               |                           |                            |
| 23   | Add: Export Benefits and Incentives,if any  |          |                      |               |                           |                            |
| 24   | Total Margin (21 + 22)  |          |                      |               |                           |                            |



PROFORMA 'D'

Statement showing the cost of Transmission or Distribution

|   |  |
|---|--|
| Name of the Company                     | Punjab State Transmission Corporation Ltd. |
| Name and Address of the Generating Unit | P&M Division- Malerkotla 98-670            |
| For the Period/Year                     | 01.04.2022 - 31.03.2023                    |

I Quantitative Information:

| SNo. | Particulars  | Unit      | Current Year | Previous Year |
|------|--|-----------|--------------|---------------|
| A1   | Surge Impedence Loading (SIL) or Rated Voltage                   |           |              |               |
| 2    | Power received from generating units including purchased, if any | MU        |              |               |
| 3    | Loss in transmission or distribution                             | MU        |              |               |
| 4    | Self Consumption for employees and office                        | MU        |              |               |
| 4a   | Other adjustments, if any (specify)                              | MU        |              |               |
| 5    | Net Power Transmitted or Distributed                             | MU        |              |               |
| 6    | Length of Transmission or Distribution lines                     |           |              |               |
|      | a. 220KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
|      | a. 132KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
| B1   | Gross Fixed Assets at the end of the year/period                 | Rs. Lakhs |              |               |
| 2    | Net Fixed Assets at the end of the year/period                   | Rs. Lakhs |              |               |
| 3    | Date of Commissioning  |           |              |               |

II Cost Information

| SNo. | Particulars                                      | Quantity | Rate Rs. Per Unit | Amount Rs. | Amount in Rs. |               |
|------|--|----------|-------------------|------------|---------------|---------------|
|      |  |          |                   |            | Current Year  | Previous Year |
| 1    | Cost of Power :                                  |          |                   |            |               |               |
|      | (a) Self generated transferred from Proforma 'C' |          |                   |            | 0             | 0             |
|      | (b) Purchased -                                  |          |                   |            |               |               |
|      | (i) Thermal                                      |          |                   |            | 0             | 0             |
|      | (ii) Hydro-electric                              |          |                   |            | 0             | 0             |
|      | (iii) Atomic, etc.                               |          |                   |            | 0             | 0             |
|      | (c) Sub-Total                                    |          |                   |            | 0             | 0             |
| 2    | Utilities, (specify details)                     |          |                   |            | 0             | 0             |
| 3    | Direct Employees Cost                            |          |                   |            | 54798393      | 60109377      |
| 4    | Consumable Stores and Spares                     |          |                   |            | 0             | 0             |



W/S

| SNo. | Particulars   | Quantity | Rate Rs.<br>Per Unit | Amount Rs. | Amount in Rs.         |                       |
|------|---|----------|----------------------|------------|-----------------------|-----------------------|
|      |   |          |                      |            | Current Year          | Previous Year         |
| 5    | Repairs and Maintenance:<br>(a) Sub-station<br>(b) Transmission Lines<br>(c) others (specify)   |          |                      |            | 6805599<br>0<br>87085 | 5913308<br>0<br>68852 |
| 6    | Insurance   |          |                      |            | 0                     | 0                     |
| 8    | Lease Rent, if any  |          |                      |            | 0                     | 0                     |
| 9    | Quality Control Expenses  |          |                      |            | 0                     | 0                     |
| 10   | Research and Development  |          |                      |            | 0                     | 0                     |
| 11   | Royalty or Technical know-how fee   |          |                      |            | 0                     | 0                     |
| 12   | Depreciation or Amortization  |          |                      |            | 65242963              | 60254808              |
| 13   | Other Plant Overheads   |          |                      |            | 6617524               | 6505393               |
| 14   | Total Cost of Transmission/Distribution   |          |                      |            | 133551564             | 132851738             |
| 15   | Less: Credits, if any   |          |                      |            |                       |                       |
| 16   | Administrative Overheads  |          |                      |            | 11430909              | 10634544              |
| 17   | Selling Expenses  |          |                      |            |                       |                       |
| 18   | Interest and Financing Charges  |          |                      |            | 1180                  | 1003                  |
| 19   | Cost of Sales   |          |                      |            |                       |                       |
| 20   | Total cost of Transmission or<br>Distribution transferred to Proforma 'E'   |          |                      |            | 144983653             | 143487285             |
| 21   | If sold, sales realization or<br>Transmission Charges or Distribution<br>Charges<br>i) at Notified rates approved by<br>Regulatory Bodies)<br>(a) Base amount<br>(b) Incentive amount<br>(c) others (specify)<br>(ii) Sales at other than notified rates<br>(a) Base amount<br>(b) Incentive amount<br>(c) Others (specify)<br>(iii) Total (i) + (ii) |          |                      |            |                       |                       |
| 22   | Margin (21 -20)   |          |                      |            |                       |                       |
| 23   | Add: Export Benefits and Incentives,if any  |          |                      |            |                       |                       |
| 24   | Total Margin (21 + 22)  |          |                      |            |                       |                       |



## PROFORMA 'D'

### Statement showing the cost of Transmission or Distribution

|   |  |
|---|--|
| Name of the Company                     | Punjab State Transmission Corporation Ltd. |
| Name and Address of the Generating Unit | 400KV S.Stn. (Bhalwan) Dhuri - 790         |
| For the Period/Year                     | 01.04.2022 - 31.03.2023                    |

#### I Quantitative Information:

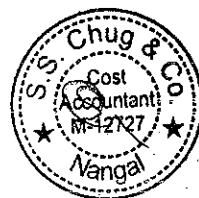
| SNo. | Particulars  | Unit      | Current Year | Previous Year |
|------|--|-----------|--------------|---------------|
| A1   | Surge Impedence Loading (SIL) or Rated Voltage                   |           |              |               |
| 2    | Power received from generating units including purchased, if any | MU        |              |               |
| 3    | Loss in transmission or distribution                             | MU        |              |               |
| 4    | Self Consumption for employees and office                        | MU        |              |               |
| 4a   | Other adjustments, if any (specify)                              | MU        |              |               |
| 5    | Net Power Transmitted or Distributed                             | MU        |              |               |
| 6    | Length of Transmission or Distribution lines                     |           |              |               |
|      | a. 220KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
|      | a. 132KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
| B1   | Gross Fixed Assets at the end of the year/period                 | Rs. Lakhs |              |               |
| 2    | Net Fixed Assets at the end of the year/period                   | Rs. Lakhs |              |               |
| 3    | Date of Commissioning  |           |              |               |

#### II Cost Information

| SNo. | Particulars   | Quantity | Rate Rs. Per Unit | Amount Rs. | Amount in Rs. |               |
|------|---|----------|-------------------|------------|---------------|---------------|
|      |   |          |                   |            | Current Year  | Previous Year |
| 1    | Cost of Power :<br>(a) Self generated transferred from Proforma 'C'<br>(b) Purchased -<br>(i) Thermal<br>(ii) Hydro-electric<br>(iii) Atomic, etc.<br>(c) Sub-Total |          |                   |            |               |               |
| 2    | Utilities, (specify details)  |          |                   |            | 0             | 0             |
| 3    | Direct Employees Cost   |          |                   |            | 24192406      | 21244519      |
| 4    | Consumable Stores and Spares  |          |                   |            | 0             | 0             |



| SNo. | Particulars   | Quantity | Rate Rs.<br>Per Unit | Amount<br>Rs. | Amount in Rs.              |                           |
|------|---|----------|----------------------|---------------|----------------------------|---------------------------|
|      |   |          |                      |               | Current Year               | Previous Year             |
| 5    | Repairs and Maintenance:<br>(a) Sub-station<br>(b) Transmission Lines<br>(c) others (specify)   |          |                      |               | 1423836<br>688966<br>22532 | 637152<br>-108737<br>8375 |
| 6    | Insurance   |          |                      |               | 0                          | 0                         |
| 8    | Lease Rent, if any  |          |                      |               | 0                          | 0                         |
| 9    | Quality Control Expenses  |          |                      |               | 0                          | 0                         |
| 10   | Research and Development  |          |                      |               | 0                          | 0                         |
| 11   | Royalty or Technical know-how fee   |          |                      |               | 0                          | 0                         |
| 12   | Depreciation or Amortization  |          |                      |               | 210219246                  | 210179986                 |
| 13   | Other Plant Overheads   |          |                      |               | 5706903                    | 4651058                   |
| 14   | Total Cost of Transmission/Distribution   |          |                      |               | 242253889                  | 236612353                 |
| 15   | Less: Credits, if any   |          |                      |               |                            |                           |
| 16   | Administrative Overheads  |          |                      |               | 3374644                    | 3067606                   |
| 17   | Selling Expenses  |          |                      |               |                            |                           |
| 18   | Interest and Financing Charges  |          |                      |               | 2151759                    | 2130200                   |
| 19   | Cost of Sales   |          |                      |               |                            |                           |
| 20   | Total cost of Transmission or<br>Distribution transferred to Proforma 'E'   |          |                      |               | 247780292                  | 241810159                 |
| 21   | If sold, sales realization or<br>Transmission Charges or Distribution<br>Charges<br>i) at Notified rates approved by<br>Regulatory Bodies)<br>(a) Base amount<br>(b) Incentive amount<br>(c) others (specify)<br>ii) Sales at other than notified rates<br>(a) Base amount<br>(b) Incentive amount<br>(c) Others (specify)<br>iii) Total (i) + (ii) |          |                      |               |                            |                           |
| 22   | Margin (21 -20)   |          |                      |               |                            |                           |
| 23   | Add: Export Benefits and Incentives,if any  |          |                      |               |                            |                           |
| 24   | Total Margin (21 + 22)  |          |                      |               |                            |                           |





**PROFORMA 'D'**

**Statement showing the cost of Transmission or Distribution**

|   |  |
|---|--|
| Name of the Company                     | Punjab State Transmission Corporation Ltd. |
| Name and Address of the Generating Unit | 400KV S.Stn. Rajpura 793                   |
| For the Period/Year                     | 01.04.2022 - 31.03.2023                    |

**I Quantitative Information:**

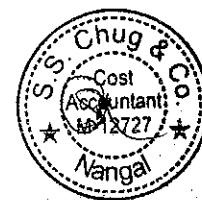
| SNo. | Particulars  | Unit      | Current Year | Previous Year |
|------|--|-----------|--------------|---------------|
| A1   | Surge Impedence Loading (SIL) or Rated Voltage                   |           |              |               |
| 2    | Power received from generating units including purchased, if any | MU        |              |               |
| 3    | Loss in transmission or distribution                             | MU        |              |               |
| 4    | Self Consumption for employees and office                        | MU        |              |               |
| 4a   | Other adjustments, if any (specify)                              | MU        |              |               |
| 5    | Net Power Transmitted or Distributed                             | MU        |              |               |
| 6    | Length of Transmission or Distribution lines                     |           |              |               |
|      | a. 220KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
|      | a. 132KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
| B1   | Gross Fixed Assets at the end of the year/period                 | Rs. Lakhs |              |               |
| 2    | Net Fixed Assets at the end of the year/period                   | Rs. Lakhs |              |               |
| 3    | Date of Commissioning  |           |              |               |

**II Cost Information**

| SNo. | Particulars                                      | Quantity | Rate Rs.<br>Per Unit | Amount<br>Rs. | Amount in Rs. |               |
|------|--|----------|----------------------|---------------|---------------|---------------|
|      |  |          |                      |               | Current Year  | Previous Year |
| 1    | Cost of Power :                                  |          |                      |               |               |               |
|      | (a) Self generated transferred from Proforma 'C' |          |                      |               |               |               |
|      | (b) Purchased -                                  |          |                      |               |               |               |
|      | (i) Thermal                                      |          |                      |               |               |               |
|      | (ii) Hydro-electric                              |          |                      |               |               |               |
|      | (iii) Atomic, etc.                               |          |                      |               |               |               |
|      | (c) Sub-Total                                    |          |                      |               |               |               |
| 2    | Utilities, (specify details)                     |          |                      |               | 0             | 0             |
| 3    | Direct Employees Cost                            |          |                      |               | 25698946      | 30930729      |
| 4    | Consumable Stores and Spares                     |          |                      |               | 0             | 0             |



| SNo. | Particulars   | Quantity | Rate Rs.<br>Per Unit | Amount<br>Rs. | Amount in Rs.             |                           |
|------|---|----------|----------------------|---------------|---------------------------|---------------------------|
|      |   |          |                      |               | Current Year              | Previous Year             |
| 5    | Repairs and Maintenance:<br>(a) Sub-station<br>(b) Transmission Lines<br>(c) others (specify)   |          |                      |               | 539006<br>436513<br>22794 | 404052<br>152058<br>29824 |
| 6    | Insurance   |          |                      |               | 0                         | 0                         |
| 8    | Lease Rent, if any  |          |                      |               | 0                         | 0                         |
| 9    | Quality Control Expenses  |          |                      |               | 0                         | 0                         |
| 10   | Research and Development  |          |                      |               | 0                         | 0                         |
| 11   | Royalty or Technical know-how fee   |          |                      |               | 0                         | 0                         |
| 12   | Depreciation or Amortization  |          |                      |               | 129305445                 | 114648854                 |
| 13   | Other Plant Overheads   |          |                      |               | 4510968                   | 3439423                   |
| 14   | Total Cost of Transmission/Distribution   |          |                      |               | 160513672                 | 149604940                 |
| 15   | Less: Credits, if any   |          |                      |               |                           |                           |
| 16   | Administrative Overheads  |          |                      |               | 8751465                   | 8532226                   |
| 17   | Selling Expenses  |          |                      |               |                           |                           |
| 18   | Interest and Financing Charges  |          |                      |               | 2005917                   | 1983992                   |
| 19   | Cost of Sales   |          |                      |               |                           |                           |
| 20   | Total cost of Transmission or<br>Distribution transferred to Proforma 'E'   |          |                      |               | 171271054                 | 160121158                 |
| 21   | If sold, sales realization or<br>Transmission Charges or Distribution<br>Charges<br>i) at Notified rates approved by<br>Regulatory Bodies)<br>(a) Base amount<br>(b) Incentive amount<br>(c) others (specify)<br>ii) Sales at other than notified rates<br>(a) Base amount<br>(b) Incentive amount<br>(c) Others (specify)<br>iii) Total (i) + (ii) |          |                      |               |                           |                           |
| 22   | Margin (21 -20)   |          |                      |               |                           |                           |
| 23   | Add: Export Benefits and Incentives,if any  |          |                      |               |                           |                           |
| 24   | Total Margin (21 + 22)  |          |                      |               |                           |                           |



**PROFORMA 'D'**

**Statement showing the cost of Transmission or Distribution**

|                         |  |
|-------------------------|--|
| Name of the Company     | Punjab State Transmission Corporation Ltd. |
| Name and Address of the | Sr Xen S and D Patiala 780                 |
| For the Period/Year     | 01.04.2022 - 31.03.2023                    |

**I Quantitative Information:**

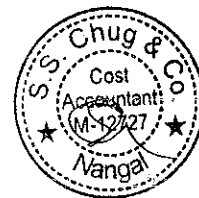
| SNo. | Particulars  | Unit      | Current Year | Previous Year |
|------|--|-----------|--------------|---------------|
| A1   | Surge Impedence Loading (SIL) or Rated Voltage                 |           |              |               |
| 2    | Power received from generating units including purchased, if a | MU        |              |               |
| 3    | Loss in transmission or distribution                           | MU        |              |               |
| 4    | Self Consumption for employees and office                      | MU        |              |               |
| 4a   | Other adjustments, if any (specify)                            | MU        |              |               |
| 5    | Net Power Transmitted or Distributed                           | MU        |              |               |
| 6    | Length of Transmission or Distribution lines                   |           |              |               |
|      | a. 220KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
|      | a. 132KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
| B1   | Gross Fixed Assets at the end of the year/period               | Rs. Lakhs |              |               |
| 2    | Net Fixed Assets at the end of the year/period                 | Rs. Lakhs |              |               |
| 3    | Date of Commissioning  |           |              |               |

**II Cost Information**

| SNo. | Particulars   | Quantity | Rate Rs. Per Unit | Amount | Amount in Rs. |          |
|------|---|----------|-------------------|--------|---------------|----------|
| 1    | Cost of Power :<br>Proforma 'C'<br>(b) Purchased -<br>(i) Thermal  <br>(ii) Hydro-electric<br>(iii) Atomic, etc.<br>(c) Sub-Total |          |                   |        |               |          |
| 2    | Utilities, (ULDC Charges)   |          |                   |        | 0             | 0        |
| 3    | Direct Employees Cost   |          |                   |        | 28737484      | 23834825 |
| 4    | Consumable Stores and Spares  |          |                   |        | 0             | 0        |



| SNo. | Particulars  | Quantity | Rate Rs. Per Unit | Amount | Amount in Rs. |               |
|------|--|----------|-------------------|--------|---------------|---------------|
|      |  |          |                   |        | Current Year  | Previous Year |
| 5    | Repairs and Maintenance:<br>(a) Sub-station<br><br>(b) Transmission Lines<br><br>(c) others (specify)  |          |                   |        | 0             | 0             |
| 6    | Insurance  |          |                   |        | 0             | 0             |
| 8    | Lease Rent, if any   |          |                   |        |               |               |
| 9    | Quality Control Expenses   |          |                   |        |               |               |
| 10   | Research and Development   |          |                   |        |               |               |
| 11   | Royalty or Technical know-how fee  |          |                   |        |               |               |
| 12   | Depreciation or Amortization   |          |                   |        | 1235239       | 1393206       |
| 13   | Other Plant Overheads  |          |                   |        | 650274        | 517987        |
| 14   | Total Cost of Transmission/Distribution  |          |                   |        | 30622997      | 25746018      |
| 15   | Less: Credits, if any  |          |                   |        |               |               |
| 16   | Administrative Overheads   |          |                   |        | 4434422       | 4173295       |
| 17   | Selling Expenses   |          |                   |        |               |               |
| 18   | Interest and Financing Charges   |          |                   |        | 1298          | 3011          |
| 19   | Cost of Sales  |          |                   |        |               |               |
| 20   | Total cost of Transmission or Distribution transferred to Proforma 'E'   |          |                   |        | 35058717      | 29922324      |
| 21   | If sold, sales realization or Transmission Charges or Distribution Charges<br>i) at Notified rates approved by Regulatory Bodies<br>(a) Base amount<br>(b) Incentive amount<br>(c) others (specify)<br>ii) Sales at other than notified rates<br>(a) Base amount<br>(b) Incentive amount<br>(c) Others (specify)<br>(iii) Total (i) + (ii) |          |                   |        |               |               |
| 22   | Margin (21 -20)  |          |                   |        | 0             | 0             |
| 23   | Add: Export Benefits and Incentives,if any   |          |                   |        | 0             | 0             |
| 24   | Total Margin (21 + 22)   |          |                   |        | 0             | 0             |



**PROFORMA 'D'**

**Statement showing the cost of Transmission or Distribution**

|   |  |
|---|--|
| Name of the Company                     | Punjab State Transmission Corporation Ltd. |
| Name and Address of the Generating Unit | AO Cash Patiala 800                        |
| For the Period/Year                     | 01.04.2022 - 31.03.2023                    |

**I Quantitative Information:**

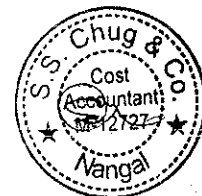
| SNo. | Particulars  | Unit      | Current Year | Previous Year |
|------|--|-----------|--------------|---------------|
| A1   | Surge Impedence Loading (SIL) or Rated Voltage                   |           |              |               |
| 2    | Power received from generating units including purchased, if any | MU        |              |               |
| 3    | Loss in transmission or distribution                             | MU        |              |               |
| 4    | Self Consumption for employees and office                        | MU        |              |               |
| 4a   | Other adjustments, if any (specify)                              | MU        |              |               |
| 5    | Net Power Transmitted or Distributed                             | MU        |              |               |
| 6    | Length of Transmission or Distribution lines                     |           |              |               |
|      | a. 220KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
|      | a. 132KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
| B1   | Gross Fixed Assets at the end of the year/period                 | Rs. Lakhs |              |               |
| 2    | Net Fixed Assets at the end of the year/period                   | Rs. Lakhs |              |               |
| 3    | Date of Commissioning  |           |              |               |

**II Cost Information**

| SNo. | Particulars                  | Quantity | Rate Rs. | Amount | Amount in Rs. |   |
|------|------------------------------|----------|----------|--------|---------------|---|
| 1    | Cost of Power :              |          |          |        |               |   |
|      | Proforma 'C'                 |          |          |        |               |   |
|      | (b) Purchased -              |          |          |        | 0             | 0 |
|      | (i) Thermal                  |          |          |        | 0             | 0 |
|      | (ii) Hydro-electric          |          |          |        | 0             | 0 |
|      | (iii) Atomic, etc.           |          |          |        | 0             | 0 |
|      | (c) Sub-Total                |          |          |        |               |   |
| 2    | Utilities, (specify details) |          |          |        | 0             | 0 |
| 3    | Direct Employees Cost        |          |          |        | 0             | 0 |
| 4    | Consumable Stores and Spares |          |          |        | 0             | 0 |



| SNo. | Particulars  | Quantity | Rate Rs. | Amount | Amount in Rs. |               |
|------|--|----------|----------|--------|---------------|---------------|
|      |  |          |          |        | Current Year  | Previous Year |
| 5    | Repairs and Maintenance:<br>(a) Sub-station<br><br>(b) Transmission Lines<br><br>(c) others (specify)  |          |          |        | 0<br>0<br>0   | 0<br>0<br>0   |
| 6    | Insurance  |          |          |        | 0             | 0             |
| 8    | Lease Rent, if any   |          |          |        | 0             | 0             |
| 9    | Quality Control Expenses   |          |          |        | 0             | 0             |
| 10   | Research and Development   |          |          |        | 0             | 0             |
| 11   | Royalty or Technical know-how fee  |          |          |        | 0             | 0             |
| 12   | Depreciation or Amortization   |          |          |        | 0             | 0             |
| 13   | Other Plant Overheads  |          |          |        | 0             | 0             |
| 14   | Total Cost of Transmission/Distribution  |          |          |        | 0             | 0             |
| 15   | Less: Credits, if any  |          |          |        |               |               |
| 16   | Administrative Overheads   |          |          |        | 382592327     | 314724508     |
| 17   | Selling Expenses   |          |          |        |               |               |
| 18   | Interest and Financing Charges   |          |          |        | 541532        | 9408          |
| 19   | Cost of Sales  |          |          |        |               |               |
| 20   | Total cost of Transmission or Distribution transferred to Proforma 'E'   |          |          |        | 383133859     | 314733916     |
| 21   | If sold, sales realization or Transmission Charges or Distribution Charges<br>i) at Notified rates approved by Regulatory Bodies)<br>(a) Base amount<br>(b) Incentive amount<br>(c) others (specify)<br>(ii) Sales at other than notified rates<br>(a) Base amount<br>(b) Incentive amount<br>(c) Others (specify)<br>(iii) Total (i) + (ii) |          |          |        |               |               |
| 22   | Margin (21 -20)  |          |          |        |               |               |
| 23   | Add: Export Benefits and Incentives,if any   |          |          |        |               |               |
| 24   | Total Margin (21 + 22)   |          |          |        |               |               |



**PROFORMA 'D'**

**Statement showing the cost of Transmission or Distribution**

|   |  |
|---|--|
| Name of the Company                     | Punjab State Transmission Corporation Ltd. |
| Name and Address of the Generating Unit | AO Banking Patiala 802                     |
| For the Period/Year                     | 01.04.2022 - 31.03.2023                    |

**I Quantitative Information:**

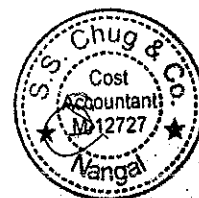
| SNo. | Particulars  | Unit      | Current Year | Previous Year |
|------|--|-----------|--------------|---------------|
| A1   | Surge Impedence Loading (SIL) or Rated Voltage                   |           |              |               |
| 2    | Power received from generating units including purchased, if any | MU        |              |               |
| 3    | Loss in transmission or distribution                             | MU        |              |               |
| 4    | Self Consumption for employees and office                        | MU        |              |               |
| 4a   | Other adjustments, if any (specify)                              | MU        |              |               |
| 5    | Net Power Transmitted or Distributed                             | MU        |              |               |
| 6    | Length of Transmission or Distribution lines                     |           |              |               |
|      | a. 220KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
|      | a. 132KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
| B1   | Gross Fixed Assets at the end of the year/period                 | Rs. Lakhs |              |               |
| 2    | Net Fixed Assets at the end of the year/period                   | Rs. Lakhs |              |               |
| 3    | Date of Commissioning  |           |              |               |

**II Cost Information**

| SNo. | Particulars                  | Quantity | Rate Rs. | Amount | Amount in Rs. |   |
|------|------------------------------|----------|----------|--------|---------------|---|
| 1    | Cost of Power :              |          |          |        |               |   |
|      | Proforma 'C'                 |          |          |        |               |   |
|      | (b) Purchased -              |          |          |        |               |   |
|      | (i) Thermal                  |          |          |        | 0             | 0 |
|      | (ii) Hydro-electric          |          |          |        | 0             | 0 |
|      | (iii) Atomic, etc.           |          |          |        | 0             | 0 |
|      | (c) Sub-Total                |          |          |        | 0             | 0 |
| 2    | Utilities, (specify details) |          |          |        | 0             | 0 |
| 3    | Direct Employees Cost        |          |          |        | 0             | 0 |
| 4    | Consumable Stores and Spares |          |          |        | 0             | 0 |



| SNo. | Particulars  | Quantity | Rate Rs. | Amount | Amount in Rs. |               |
|------|--|----------|----------|--------|---------------|---------------|
|      |  |          |          |        | Current Year  | Previous Year |
| 5    | Repairs and Maintenance:   |          |          |        |               |               |
|      | (a) Sub-station  |          |          |        | 0             | 0             |
|      | (b) Transmission Lines   |          |          |        | 0             | 0             |
|      | (c) others (specify)   |          |          |        | 0             | 0             |
| 6    | Insurance  |          |          |        | 0             | 0             |
| 8    | Lease Rent, if any   |          |          |        | 0             | 0             |
| 9    | Quality Control Expenses   |          |          |        | 0             | 0             |
| 10   | Research and Development   |          |          |        | 0             | 0             |
| 11   | Royalty or Technical know-how fee  |          |          |        | 0             | 0             |
| 12   | Depreciation or Amortization   |          |          |        | 0             | 0             |
| 13   | Other Plant Overheads  |          |          |        | 0             | 0             |
| 14   | Total Cost of Transmission/Distribution  |          |          |        | 0             | 0             |
| 15   | Less: Credits, if any  |          |          |        |               |               |
| 16   | Administrative Overheads   |          |          |        | 0             | 0             |
| 17   | Selling Expenses   |          |          |        |               |               |
| 18   | Interest and Financing Charges   |          |          |        | 3449639519    | 3686066171    |
| 19   | Cost of Sales  |          |          |        |               |               |
| 20   | Total cost of Transmission or Distribution transferred to Proforma 'E'   |          |          |        | 3449639519    | 3686066171    |
| 21   | If sold, sales realization or Transmission Charges or Distribution Charges<br>i) at Notified rates approved by Regulatory Bodies)<br>(a) Base amount<br>(b) Incentive amount<br>(c) others (specify)<br>ii) Sales at other than notified rates<br>(a) Base amount<br>(b) Incentive amount<br>(c) Others (specify)<br>iii) Total (i) + (ii) |          |          |        |               |               |
| 22   | Margin (21 -20)  |          |          |        |               |               |
| 23   | Add: Export Benefits and Incentives,if any   |          |          |        |               |               |
| 24   | Total Margin (21 + 22)   |          |          |        |               |               |





**PROFORMA 'D'**

**Statement showing the cost of Transmission or Distribution**

|   |  |
|---|--|
| Name of the Company                     | Punjab State Transmission Corporation Ltd. |
| Name and Address of the Generating Unit | AO CPC Patiala 803                         |
| For the Period/Year                     | 01.04.2022 - 31.03.2023                    |

**I Quantitative Information:**

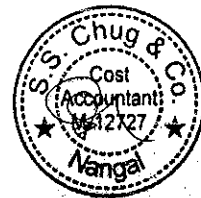
| SNo. | Particulars  | Unit      | Current Year | Previous Year |
|------|--|-----------|--------------|---------------|
| A1   | Surge Impedence Loading (SIL) or Rated Voltage                   |           |              |               |
| 2    | Power received from generating units including purchased, if any | MU        |              |               |
| 3    | Loss in transmission or distribution                             | MU        |              |               |
| 4    | Self Consumption for employees and office                        | MU        |              |               |
| 4a   | Other adjustments, if any (specify)                              | MU        |              |               |
| 5    | Net Power Transmitted or Distributed                             | MU        |              |               |
| 6    | Length of Transmission or Distribution lines                     |           |              |               |
|      | a. 220KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
|      | a. 132KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
| B1   | Gross Fixed Assets at the end of the year/period                 | Rs. Lakhs |              |               |
| 2    | Net Fixed Assets at the end of the year/period                   | Rs. Lakhs |              |               |
| 3    | Date of Commissioning  |           |              |               |

**II Cost Information**

| SNo. | Particulars                  | Quantity | Rate Rs. | Amount | Amount in Rs. |   |
|------|------------------------------|----------|----------|--------|---------------|---|
|      |                              |          |          |        |               |   |
| 1    | Cost of Power :              |          |          |        |               |   |
|      | Proforma 'C'                 |          |          |        |               |   |
|      | (b) Purchased -              |          |          |        |               |   |
|      | (i) Thermal                  |          |          |        | 0             | 0 |
|      | (ii) Hydro-electric          |          |          |        | 0             | 0 |
|      | (iii) Atomic, etc.           |          |          |        | 0             | 0 |
|      | (c) Sub-Total                |          |          |        | 0             | 0 |
| 2    | Utilities, (specify details) |          |          |        | 0             | 0 |
| 3    | Direct Employees Cost        |          |          |        | 0             | 0 |
| 4    | Consumable Stores and Spares |          |          |        | 0             | 0 |



| SNo. | Particulars  | Quantity | Rate Rs. | Amount | Amount in Rs. |               |
|------|--|----------|----------|--------|---------------|---------------|
|      |  |          |          |        | Current Year  | Previous Year |
| 5    | Repairs and Maintenance:   |          |          |        |               |               |
|      | (a) Sub-station  |          |          |        | 0             | 0             |
|      | (b) Transmission Lines   |          |          |        | 0             | 0             |
|      | (c) others (specify)   |          |          |        | 0             | 0             |
| 6    | Insurance  |          |          |        | 0             | 0             |
| 8    | Lease Rent, if any   |          |          |        | 0             | 0             |
| 9    | Quality Control Expenses   |          |          |        | 0             | 0             |
| 10   | Research and Development   |          |          |        | 0             | 0             |
| 11   | Royalty or Technical know-how fee  |          |          |        | 0             | 0             |
| 12   | Depreciation or Amortization   |          |          |        | 0             | 0             |
| 13   | Other Plant Overheads  |          |          |        | 0             | 0             |
| 14   | Total Cost of Transmission/Distribution  |          |          |        | 0             | 0             |
| 15   | Less: Credits, if any  |          |          |        |               |               |
| 16   | Administrative Overheads   |          |          |        | 0             | 0             |
| 17   | Selling Expenses   |          |          |        |               |               |
| 18   | Interest and Financing Charges   |          |          |        | 7370          | 6636          |
| 19   | Cost of Sales  |          |          |        |               |               |
| 20   | Total cost of Transmission or Distribution transferred to Proforma 'E'   |          |          |        | 7370          | 6636          |
| 21   | If sold, sales realization or Transmission Charges or Distribution Charges<br>i) at Notified rates approved by Regulatory Bodies)<br>(a) Base amount<br>(b) Incentive amount<br>(c) others (specify)<br>ii) Sales at other than notified rates<br>(a) Base amount<br>(b) Incentive amount<br>(c) Others (specify)<br>iii) Total (i) + (ii) |          |          |        |               |               |
| 22   | Margin (21 -20)  |          |          |        |               |               |
| 23   | Add: Export Benefits and Incentives,if any   |          |          |        |               |               |
| 24   | Total Margin (21 + 22)   |          |          |        |               |               |



**PROFORMA 'D'**

**Statement showing the cost of Transmission or Distribution**

|   |  |
|---|--|
| Name of the Company                     | Punjab State Transmission Corporation Ltd. |
| Name and Address of the Generating Unit | AO A&R Patiala 808                         |
| For the Period/Year                     | 01.04.2022 - 31.03.2023                    |

**I Quantitative Information:**

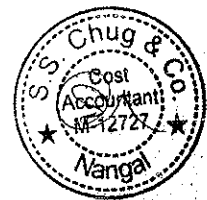
| SNo. | Particulars  | Unit      | Current Year | Previous Year |
|------|--|-----------|--------------|---------------|
| A1   | Surge Impedance Loading (SIL) or Rated Voltage                   |           |              |               |
| 2    | Power received from generating units including purchased, if any | MU        |              |               |
| 3    | Loss in transmission or distribution                             | MU        |              |               |
| 4    | Self Consumption for employees and office                        | MU        |              |               |
| 4a   | Other adjustments, if any (specify)                              | MU        |              |               |
| 5    | Net Power Transmitted or Distributed                             | MU        |              |               |
| 6    | Length of Transmission or Distribution lines                     |           |              |               |
|      | a. 220KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
|      | a. 132KV   |           |              |               |
|      | i) D/C   | ckt Kms   |              |               |
|      | ii) S/C  | ckt Kms   |              |               |
|      | iii) Total   | ckt Kms   |              |               |
| B1   | Gross Fixed Assets at the end of the year/period                 | Rs. Lakhs |              |               |
| 2    | Net Fixed Assets at the end of the year/period                   | Rs. Lakhs |              |               |
| 3    | Date of Commissioning  |           |              |               |

**II Cost Information**

| SNo. | Particulars                  | Quantity | Rate Rs. | Amount | Amount in Rs. |   |
|------|------------------------------|----------|----------|--------|---------------|---|
| 1    | Cost of Power :              |          |          |        |               |   |
|      | Proforma 'C'                 |          |          |        |               |   |
|      | (b) Purchased -              |          |          |        |               |   |
|      | (i) Thermal                  |          |          |        | 0             | 0 |
|      | (ii) Hydro-electric          |          |          |        | 0             | 0 |
|      | (iii) Atomic, etc.           |          |          |        | 0             | 0 |
|      | (c) Sub-Total                |          |          |        | 0             | 0 |
| 2    | Utilities, (specify details) |          |          |        | 0             | 0 |
| 3    | Direct Employees Cost        |          |          |        | 0             | 0 |
| 4    | Consumable Stores and Spares |          |          |        | 0             | 0 |



| SNo. | Particulars  | Quantity | Rate Rs. | Amount | Amount in Rs. |               |
|------|--|----------|----------|--------|---------------|---------------|
|      |  |          |          |        | Current Year  | Previous Year |
| 5    | Repairs and Maintenance:<br>(a) Sub-station<br><br>(b) Transmission Lines<br><br>(c) others (specify)  |          |          |        | 0<br>0<br>0   | 0<br>0<br>0   |
| 6    | Insurance  |          |          |        | 0             | 0             |
| 8    | Lease Rent, if any   |          |          |        | 0             | 0             |
| 9    | Quality Control Expenses   |          |          |        | 0             | 0             |
| 10   | Research and Development   |          |          |        | 0             | 0             |
| 11   | Royalty or Technical know-how fee  |          |          |        | 0             | 0             |
| 12   | Depreciation or Amortization   |          |          |        | 0             | 0             |
| 13   | Other Plant Overheads  |          |          |        | 0             | 0             |
| 14   | Total Cost of Transmission/Distribution  |          |          |        | 0             | 0             |
| 15   | Less: Credits, if any  |          |          |        |               |               |
| 16   | Administrative Overheads   |          |          |        | 5265644344    | 3456537698    |
| 17   | Selling Expenses   |          |          |        |               |               |
| 18   | Interest and Financing Charges   |          |          |        | 0             | 0             |
| 19   | Cost of Sales  |          |          |        |               |               |
| 20   | Total cost of Transmission or Distribution transferred to Proforma 'E'   |          |          |        | 5265644344    | 3456537698    |
| 21   | If sold, sales realization or Transmission Charges or Distribution Charges<br>i) at Notified rates approved by Regulatory Bodies)<br>(a) Base amount<br>(b) Incentive amount<br>(c) others (specify)<br>ii) Sales at other than notified rates<br>(a) Base amount<br>(b) Incentive amount<br>(c) Others (specify)<br>iii) Total (i) + (ii) |          |          |        |               |               |
| 22   | Margin (21 -20)  |          |          |        |               |               |
| 23   | Add: Export Benefits and Incentives,if any   |          |          |        |               |               |
| 24   | Total Margin (21 + 22)   |          |          |        |               |               |





**PSERC Directive Sr. No. 5.2 (Loading Status of PSTCL Transmission lines and Sub-Stations)**

**2<sup>nd</sup> Quarter (ending September-2023)**

**2<sup>nd</sup> Quarter (ending Sep-2023)**

| Sr No.   | P&M Circle | Name of transmission line                | % loading as compared with the standard design parameters of conductors i.e., 45°C Ambient temperature and 75°C Conductor temperature. | Remarks of P&M Organization                                     | Proposal /remedial action by planning  |
|--|------------|--|--|---|--|
| <b>A) Loading status of PSTCL Transmission Lines</b> |            |  |  |   |  |
| 1.   | Amritsar   | 220kV Sarna-Tibber                       | 603 A at 34°C Ambient temperature (107.68%)  | Due to breakdown of 220kV Sarna-W/G Ckt-4                       | -  |
|  |            | 220kV Sarna-Wadala Granthian Ckt-I & II  | 590 A at 34°C Ambient temperature (105.36%)  | Due to breakdown of 220kV Sarna-W/G Ckt-4                       | -  |
|  |            | 220kV Wadala Granthian-Fatehgarh Churian | 640A at 35°C Ambient temperature (114.29%)   | Due to excess AP supply   | Loading will reduce with rearrangement of 220kV circuits in Civil lines, Khassa, Chogawan region and linking Naraingarh to Chogawan/Civil Lines, already planned in MYT 2023-26.<br><b>Expected date of completion: Nov. 2025.</b> |
|  |            | 220kV Verpal-Patti                       | 630 A at 32°C Ambient temperature (112.5%)   | Temporary due to Tripping of 220kV Verpal-Rashiana              | Will be resolved after shifting of S/C Patti-Verpal line from 220 kV Verpal to 400 kV Amritsar<br><b>Expected date of completion: January 2024</b>   |
|  |            | 220kV Balachak-Khassa Ckt-I&II           | 590 A at 41°C Ambient temperature (105.36%)  | Due to break down of 220 kv Sarna-Wadala Granthian ckt no 1 & 4 | Will be resolved after providing second connectivity to Naraingarh, already planned in MYT 2023-   |

|    |          |   |   |   |   |
|----|----------|---|---|---|---|
|    |          |   |   |   | 26.<br>Expected date of completion: Nov. 2025.  |
|    |          | 132kV Power Colony-Civil Lines                          | 413 A at 32°C Ambient temperature (108.4%)  | Regular load  | Under study.  |
| 2. | Bathinda | 220kV Mansa-Sunam                                       | 579 A at 31°C Ambient temperature (103%)    | Permanent loading   | Will be resolved after LILO of 220 kV Sunam – Mansa at 400 kV Patran, already planned.<br>Expected date of completion: Jan. 2024.   |
|    |          | 220kV Mukatsar-KatorewalaCkt(From 400kV Mukatsar Sahib) | 587 A at 35°C Ambient temperature (105%)    |   | Loading will reduce after advent of 220 kV Bhalaiana, already planned in the MYT 2023 – 26.<br>Expected date of completion: Dec. 2025.<br>Also, 220 kV Abohar-Maloutline will reduce the loading.<br>Expected date of completion of 2 <sup>nd</sup> circuit: Dec. 2024. |
|    |          | 132kV GNDTP-IGC Bathinda                                | 396 A at 40°C Ambient temperature (104%)    | Permanent loading   | Proposal for upgradation of 132kV IGC Bathinda to 220kV level is under study.   |
| 3. | Ludhiana | 220KV Sahnewal- PGCIL ckt-1                             | 685 A at 32°C Ambient temperature (108.56%) | Existing Load(Due to 66kV Load shifting from 220kV Dhandari to 220kV Sahnewal   | Loading will reduce with advent of 400kV Dhanansu.<br>Expected by Jan. 2024.  |
|    |          | 220KV Sahnewal- PGCIL ckt-2                             | 673 A at 32°C Ambient temperature (106.66%) |   |   |
|    |          | 132KV Ferozeshah - Kotkaror                             | 342 A at 31°C Ambient temperature (106.88%) | Temporary. As Sukhbir Agro Plant was under Shutdown Condition, Actual Load with Sukhbir Agro plant on is = 282A(88%) dt.04.08.2023 at 13:00,32. | Under study.  |
| 4. | Patiala  | 400kV Rajpura– 220kV Lalru Ckt-1                        | 611A at 36°C Ambient temperature (108.21%)  | Paddy Load  | Will be resolved after implementation of 220 kV D/C between 400 kV Panchkula and 220  |

|  |  |   |                |  |
|--|--|---|----------------|--|
|  | 400kV Rajpura–<br>220kV Lalru Ckt-2              | 611 A at<br>36°C<br>Ambient<br>temperature<br>(108.39%) | Paddy Load     | kV Dera Bassi, already<br>planned in MYT 2023-<br>26.<br><b>Expected date of<br/>completion: Dec.<br/>2024.</b>  |
|  | 220kV Ablowal-<br>Fagganmajra 1                  | 567 A at<br>36°C<br>Ambient<br>temperature<br>(108.39%) | Paddy Load     | Due to<br>ongoingrearrangement<br>work of transmission<br>lines in Patiala circle.<br><b>Expected date of<br/>completion: Mar.<br/>2024.</b>   |
|  | 220kV Ablowal-<br>Fagganmajra 2                  | 567 A at<br>36°C<br>Ambient<br>temperature<br>(108.39%) | Paddy Load     |  |
|  | 220kV Rajpura-<br>Rajpura ckt 1 (Fagan<br>Majra) | 641 A at<br>37°C<br>Ambient<br>temperature<br>(108.39%) |                | This circuit has been<br>terminated at 220kV<br>Bahadurgarh as part of<br>rearrangement of<br>transmission lines in<br>Patiala circle to control<br>the overloadings in<br>Patiala region.   |
|  | 220kV Ganguwal-<br>Majra                         | 564 A at<br>37°C<br>Ambient<br>temperature<br>(108.39%) | Temporary load | Temporary loading  |
|  | 220 kV Derabassi-<br>lalru                       | 599 A at<br>33°C<br>Ambient<br>temperature<br>(107.32%) | Paddy Load     | Loading will reduce<br>after LILO of 220 KV<br>Mohali-1-Lalru line at<br>220 KV Mohali-2,<br>already planned.<br><b>Expected date of<br/>completion: Dec.<br/>2024.</b><br>Also, the advent of<br>220kV Mubarikpur<br>will relieve the<br>situation.<br><b>ExpectedbySept.<br/>2025.</b> |
|  | 220kV Patran-<br>banvala Ckt-1                   | 632 A at<br>35°C<br>Ambient<br>temperature<br>(105.54%) | Paddy Load     | Proposal for HTLS<br>augmentation<br>has been approved by<br>the Technical<br>Committee of PSTCL<br>in November 2023.<br><b>Expectedto be<br/>completed by Paddy<br/>2025.</b>   |
|  | 220kV Patran-<br>banvala Ckt-2                   | 632 A at<br>35°C<br>Ambient<br>temperature<br>(105.54%) | Paddy Load     |  |
|  | 220kV Patran-<br>Sunam                           | 650 A at<br>32°C<br>Ambient<br>temperature              | Paddy Load     | Will be resolved after<br>LILO of 220kV<br>Mansa-Sunam at<br>400kV S/S Patran.   |



|    |           |                       |   |                                   |  |
|----|-----------|-----------------------|---|-----------------------------------|--|
|    |           |                       | (115.18%)                                   |                                   | <b>Expected date of completion: Jan. 2024.</b>   |
|    |           | 220kV Sunam-Bhalwan-1 | 575 A at 28°C Ambient temperature (106.43%) | Paddy Load                        | Loading will reduce after LILO of 220kV Mansa-Sunam at 400kV S/S Patran. <b>Expected date of completion: Jan. 2024.</b>  |
|    |           | 220kV Sunam-Bhalwan-2 | 568 A at 28°C Ambient temperature (106.43%) | Paddy Load                        |  |
|    |           | 220kV Sunam-mansaCkt  | 566A at 34°C Ambient temperature (101.79%)  | Paddy Load                        | This 220kV Sunam-Mansa line will be LILOed at 400kV S/S Patran.  |
| 5. | Jalandhar | 132kV Hamirpur-Chohal | 386 A at 35°C Ambient temperature (101.31%) | As per instructions of PC Patiala | Will be resolved upon shifting of some of 132 kV load onto 220 kV Hoshiarpur, already planned in the MYT 2023-26. <b>Expected to be completed by Paddy 2024.</b> |

**Capacitor Banks:**

As per the consultancy report of March 2022 issued by CPRI on behalf of NRPC, the assessment of capacitors requirement for Punjab is recommended as 941.3 MVAR. In this respect, the list of sub-stations/locations has been provided by the CPRI.

It has however, been gathered that most of the requisite capacitor banks have already been installed at the respective sub-stations. The operative condition of installed capacitor banks is being separately ascertained. The defective capacitor banks shall be replaced upon receipt of supply, as LOA dated 01.11.2023 has already been placed for the procurement of various ratings of Capacitor Banks (11 KV and 66KV) with the total capacity of 700 MVAR approx. Other than replacement of defective banks, new banks shall also be installed as per requirement.

**Bus-Reactors:**

PSTCL has commissioned 1 no. 125MVAR, 400kV Bus reactor at 400kV S/S Dhuri and 1 no. each of 25MVAR, 220kV Bus Reactor at 400kV S/S Dhuri and Nakodar.

### **Directive No - 5.5: Preventive maintenance of Transmission lines.**

#### **1) 132 KV Verka-Jandiala Line:-**

132KV Verka-Jandiala line tripped on 21.06.22 from 09.18 till 22.7.22 at 12.55 total duration was 743.37. Due to bad weather discs flashed of RYB phase of Tower No:-5. The Span of Tower No 5 & 6 crosses the railway line. After taking block of railway line disc string was changed by AO/TL Verka and line energized. After complete paper work done by PSTCL Civil line Division, Railway block for replacement of damaged disc insulators of 132KV Verka-Jandiala Line availed on 21.07.2022 and 22.07.2022 in form of two blocks each of 1.5hrs and work was completed. Total estimate for replacement of damaged disc insulators of 132KV Verka-Jandiala Line was 1770000/- as per letter No-63 dated 14.07.2022 from Sr. Divisional Electrical Engineer/G N.Rly Firozpur, then by demand draft payment was made and block availed. The delay in work was only due to strict procedures of Railways for grant of blocks, the process of grants of block took almost one month due to which restoration time is on higher side.

#### **2) 132 KV Malout-Abohar Line:-**

The reason for the increased outage time of 132 kV Malot Abohar line in the second quarter of the year 2022-23 is that during this period other faulty lines were being cleared by team TL Sri Muktsar Sahib. It is worth mentioning here that the commission of this line took place in the year 1977 and this line is on H Pole and charged on No Load from 05.09.2020, because conductor of this line about 2 KM has been dismantled by TLSC organization from 220 KV Abohar At present, this line is charged from 132 KV sub-station Malout to protect the conductor from theft and to maintain the ROW. As this line is idle, no supply is affected at any sub-station. Therefore, other lines are cleared by the concerned TL team on a priority basis, then this line is cleared, due to which the outage time of this line increases.

**3) 132 KV Mana Singh Wala-Ferozepur:-**

The Line tripped at 20.35 hrs on dt 08.08.2022 and due to poor visibility in night, It was not possible to patrol the line. So line was patrolled in the morning and charged thereafter.

**4) 220 KV Moga (Singh Wala)-Bajakhana:-**

This Line couldn't be patrolled due to engagement of complete TL team in tripping of other 400 KV&132KV circuits during this period as under:-

- Multiple Trippings occurred on daily basis on 400 KV Makhu-Muktsar ckt-1&2 and 400 KV Makhu-Amritsar cktl & 2.
- Tripping of 132 KV Moga-Interlink ckt2 due to line conductor Breakdown of Y-Phase at tower no-9
- Tripping of 132 KV Moga (Singhawala)-Dhalleke ckt. due to line conductor Breakdown at tower no-43 & string flashed at tower no. 47 and also per instructions from higher officers, and to keep the evacuation of 400 KV Lines from generating stations, two fault per day of 400 KV lines attended on daily basis.

**5) 132 KV Ghulal-Jamalpur:-**

On dated 20.12.2022, due to extreme foggy weather tripping of many lines occurred & priority was given to restoration of lines where supply was being effected and stations were running on single source. Supply of 220KV Amioh- Malerkotla, 220KV Bassi Pathana-G1, 220KV G1-Rajpura ckt-1 was restored first by attending faults & patrolling of lines. Due to almost zero visibility it was difficult to patrol 132KV Ghulal-Jamalpur ckt-1 & 2 on the night of 20.12.2022. Next morning i.e 21.12.2022 132KV Ghulal-Jamalpur ckt-1 & 2 was patrolled and charged in the evening of 21.12.2022 after replacing flashed disc insulators B& Y- Phase on tower no.-359 During this tenure supply was not affected at 220 KV S/S Ghulal.

The above delay in attending the breakdown was due to priority given to attending the breakdown of important circuits/ single source supply sub-station and further it is ensured to the commission that the efforts will be made to bring down the restoration the time of faults on transmission lines.

Remedial steps being taken to reduce restoration times of lines:-

A. PSTCL has already taken many steps to reduce the restoration time of lines. PSTCL has started Live Line/Hotline maintenance of Transmission Lines to increase the reliability of lines. It has also installed ERS (Emergency Restoration System) in place of twisted/collapsed transmission line towers, which has also helped to restore the transmission line to make it available for evacuation of power immediately. Process has already been initiated to install composite polymer insulators in a phased manner on the balance 400 KV lines related with the evacuation of power from TSPL as a preventive measure to avoid frequent trippings/breakdown during the months of December/January due to fog and pollution. Washing of porcelain insulators of critical 400 KV lines connected with the evacuation of power from NPL and TSPL is also being carried out.

B. Restoration of transmission lines sometimes suffers due to vacancies at the level of JE/LM/ALM due to promotion/retirement of staff/repatriation to PSPCL (on deputation). Nevertheless, PSTCL has recruited the staff to maintain the system and has again planned to recruit more staff to reduce the time of restoration.

The calculation of transmission system availability is calculated according to CERC tariff regulation 2019 which is attached herewith.

A task force was constituted for studying the maintenance practises used in other organizations, the report of committee is attached herewith.

Annexure-C.11

| Detail of Tripping / Breakdown of Transmission Lines for The Quarter Ending 09/2023 under R&M Organization |                                     |          |       |          |       |                   |   |                     |   |  |         |
|--|-------------------------------------|----------|-------|----------|-------|-------------------|---|---------------------|---|--|---------|
| SR. No   | Name of the Line                    | From     |       | To       |       | Duration<br>HH:MM | Relay Indication                                  |                     | Cause of Tripping / Breakdown   | Tripping/Analysis/ Remedial Measures Taken       | Remarks |
|  |                                     | Date     | Time  | Date     | Time  |                   | This End  | That End            |   |  |         |
| 1  | 132KV Harkima Gate-Saketri Bugh     | 3.7.23   | 20:38 | 3.7.23   | 23:10 | 2:32              | B Phase O/C Highset                               | Breaker Not Tripped | Due to heavy wind storm and rain. Line energised after instructions of PC Patiala   | Supply affected 0.37Hrs 132kv Saketri Bugh       |         |
| 2  | 132kv Verpal-Hakimgate CKL1         | 3.7.23   | 20:31 | 3.7.23   | 22:21 | 1:50              | o/c B phase high set 86                           | Breaker Not Tripped | Due to heavy wind storm and rain. Lines energised after instructions of PC Patiala  | Supply not affected                              |         |
| 3  | 132KV Batale-Pakharpura             | 4.7.23   | 10:33 | 4.7.23   | 10:59 | 0:26              | L-1 Pickup L-3 Pickup E/F Pickup Distance Trip-21 | DPR RYB Zone-1 86   | Due to bad weather. Line energised after instructions of PC Patiala   | Supply not affected                              |         |
| 4  | 132KV Verka-Kathunangal             | 4.7.23   | 11:05 | 4.7.23   | 11:15 | 0:10              | DPR RYB Phase 86                                  | Breaker Not Tripped | Due to bad weather. Line energised after instructions of PC Patiala   | Supply not affected                              |         |
| 5  | 132KV Tarn Taran-Buarsi             | 5.7.23   | 20:25 | 5.7.23   | 20:46 | 0:21              | DPR Y phase Zone-1                                | Breaker Not Tripped | Due to some transient fault. Line energised after instructions of PC Patiala.   | Supply not affected                              |         |
| 6  | 132KV Batale-Pakharpura             | 07.07.23 | 19:24 | 7.7.23   | 19:59 | 0:35              | L3 Pickup Fault Current 6.3 KA and Distance 3.2KM | Breaker Not Tripped | Due to some transient fault. Line energised after instructions of PC Patiala  | Supply not affected                              |         |
| 7  | 132KV Tarn Taran-Buarsi             | 07.07.23 | 5:28  | 07.07.23 | 5:43  | 0:15              | L2 E/F Zone-2 86                                  | Breaker Not Tripped | Due to some transient fault. Line energised after instructions of PC Patiala. Follow up patrolling done and Y phase disc string also changed of Tower no 69 on dated 11.7.23 near village. Rhabbe Rajpattan | Supply not affected                              |         |
| 8  | 132KV Patli-Sultampur               | 09.07.23 | 13:07 | 10.07.23 | 15:12 | 2:05              | EF Master Trip 86                                 | *****               | Broken Earth Wire Between Tower No 91 to 100 Set Right By AOTL Verka.   | Supply not affected                              |         |
| 9  | 132KV Batale-Pakharpura             | 12.07.23 | 4:29  | 12.07.23 | 5:09  | 0:40              | DPL L1 L2 Pickup Zone-2 Fault Distance 23KM       | Breaker Not Tripped | 132KV Verka-Pakharpura line patrolled by AOTL Verka on same day but no any physical abnormality seen during patrolling  | Supply affected 132kv Sub-station Pakharpur      |         |
| 10   | 132KV Verka-Pakharpura              | 12.07.23 | 4:27  | 12.07.23 | 13:47 | 9:20              | DPR Y phase Zone-1                                | Breaker Not Tripped | Due to some transient fault   | Supply not affected                              |         |
| 11   | 132KV Mamoon-Kangra                 | 14.07.23 | 16:54 | 14.07.23 | 19:40 | 2:46              | YB Phase Zone-1                                   | Breaker Not Tripped | Tree fall on line which was set right by AOTL kangra with NDRF team near Jassar HP  | Supply not affected                              |         |
| 12   | 132KV Patli-Bhikhwind               | 23.07.23 | 13:40 | 23.07.23 | 14:20 | 0:40              | Backup Red Phase 67R DPR Zone-1                   | Breaker Not Tripped | Due to some transient fault. Line energised after instructions of PC Patiala  | Supply not affected                              |         |
| 13   | 132KV Mall Mandi-Verpal             | 23.07.23 | 18:15 | 24.07.23 | 0:45  | 0:30              | o/c B phase high set General trip                 | Breaker Not Tripped | NON Fatal accident occurred near Tower No. 38/8 to 38/9 of 132kv Verpal-Mandi Mandi Line  | Supply affected 132kv GT Road & 132kv Mall Mandi |         |
| 14   | 132KV Sakatri-Bugh-GT Road U/G Line | 23.07.23 | 18:15 | 23.07.23 | 19:03 | 0:50              | o/c B phase high set                              | Breaker Not Tripped |   |  |         |
| 15   | 132KV Harkima Gate-Saketri Bugh     | 23.07.23 | 18:15 | 23.07.23 | 18:47 | 0:32              | B Phase O/C                                       | Breaker Not Tripped |   |  |         |
| 16   | 132KV Mall Mandi-GT Road            | 23.07.23 | 18:15 | 23.07.23 | 18:4  | 0:25              | DPR RYB Zone-1                                    | Breaker Not Tripped |   |  |         |
| 17   | 132KV Verka-Mali Mandi              | 23.07.23 | 18:56 | 23.07.23 | 19:10 | 0:14              | Dir O/C/E/F 67N 96A Master Trip                   | Breaker Not Tripped | Due to some transient fault. Line energised after instructions of PC Patiala  | Supply not affected                              |         |
| 18   | 132KV Tarn Taran-Buarsi             | 24.7.23  | 15:50 | 24.7.23  | 16:04 | 0:14              | Dir ZF Master Trip 86                             | Breaker Not Tripped | Due to some transient fault. Line energised after instructions of PC Patiala  | Supply not affected                              |         |
| 19   | 132KV Mamoon-Kangra                 | 28.7.23  | 15:48 | 28.7.23  | 18:10 | 2:22              | B phase Zone-1                                    | Breaker Not Tripped | Due to some transient fault. Line energised after instructions of PC Patiala  | Supply not affected                              |         |

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| Sr. No. | Name of the Line                  | From Base | Time  | CS Date  | Duration | Order Reference                                | Tripping / Breakdown Cause of Tripping / Breakdown | Tripping / Analysis / Remedial Measures Taken  | Supply Affected or Not                     | Remarks |
|---------|-----------------------------------|-----------|-------|----------|----------|--|--|--|--|---------|
| 20      | 132KV Vengal-Hakima Gate Ckt-2    | 02.08.23  | 18:16 | 02.08.23 | 02:09    | 0 Phase High set                               | 0 Phase Phase Breaker Not Tripped                  | Due to some transient fault at 132KV Vengal-Hakima Gate Ckt-2 energised after instructions of PC Patola  | Supply not affected                        |         |
| 21      | 132KV Sakari Daga-GT Road Amarak  | 02.08.23  | 18:16 | 02.08.23 | 09:10    | Dir. 3PF                                       | Breaker Not Tripped                                | Due to some transient fault energised after instructions of PC Patola  | Supply not affected                        |         |
| 22      | 132KV Tam-Taran-Buani             | 03.08.23  | 23:50 | 04.08.23 | 00:17    | Backup Relay Not Phase Highest 86              | Breaker Not Tripped                                | Due to some transient fault energised after instructions of PC Patola  | Supply not affected                        |         |
| 23      | 132KV Kangra-Jaginder Nagar Ckt-1 | 11.08.23  | 3:56  | 11.08.23 | 4:39     | V Phase Zone-1                                 | *****  | Due to heavy wind storm & rain, Line energised after instructions of PC Patola   | Supply not affected                        |         |
| 24      | 132KV Kangra-Jaginder Nagar Ckt-2 | 11.08.23  | 3:56  | 11.08.23 | 4:39     | V Phase Zone-1                                 | *****  | Due to heavy wind storm & rain, Line energised after instructions of PC Patola   | Supply not affected                        |         |
| 25      | 132KV Kangra-Manamori Ckt-1       | 11.08.23  | 6:47  | 11.08.23 | 7:06     | Blue Phase Zone-1 86                           | Blue Phase Zone-1 86                               | Due to lightning on tower no. 216 energised after instructions of PC Patola  | Supply not affected                        |         |
| 26      | 132KV Patankot-Kangra             | 11.08.23  | 6:47  | 11.08.23 | 7:06     | Blue Phase Zone-1 86                           | Blue Phase Zone-1 86                               | Due to lightning on tower no. 216 energised after instructions of PC Patola  | Supply not affected                        |         |
| 27      | 132KV Patankot-Bhildhvnd          | 12.08.23  | 8:32  | 12.08.23 | 16:05    | Dir. O/C E/F 67N                               | 86A 86phase  | Due to Y Phase Wavetrap jumper has been broken from gantry at 132KV Bhildhvnd.   | Supply Affected 0.2Mhrs at 132KV Bhildhvnd |         |
| 28      | 132KV Verma-Hakima Gate Ckt-1     | 16.08.23  | 12:18 | 16.08.23 | 16:01    | Red Phase O/C Highest                          | Breaker Not Tripped                                | Due to some transient fault & Ckt. 1 relay at 132KV Verma-Hakima Gate Ckt-1 energised after instructions of PC Patola  | Supply not affected                        |         |
| 29      | 132KV Verma-Narainpur Ckt-1       | 16.08.23  | 13:16 | 16.08.23 | 13:40    | Gen Trip                                       | Breaker Not Tripped                                | Due to some transient fault energised after instructions of PC Patola  | Supply not affected                        |         |
| 30      | 132KV Shastri Bagh-GT Road Amarak | 16.08.23  | 13:18 | 16.08.23 | 15:45    | 67N E/F 86B 504.18 502AX                       | Breaker Not Tripped                                | Due to some transient fault energised after instructions of PC Patola  | Supply affected 13.2Mv Sakari Bagh 0.26hrs |         |
| 31      | 132KV Wadhwa Gwalbhan-SHOP Ckt-1  | 17.08.23  | 14:19 | 17.08.23 | 14:47    | 08R Bover TN                                   | *****  | Due to tripping of 8PF No.2  | Supply not affected                        |         |
| 32      | 132KV Kangra-Jaginder Nagar Ckt-2 | 18.08.23  | 12:48 | 18.08.23 | 13:17    | 67N 86 PF                                      | *****  | Due to some transient fault energised after instructions of PC Patola  | Supply not affected                        |         |
| 33      | 132KV Tam-Taran-Buani             | 24.08.23  | 5:45  | 24.08.23 | 6:04     | Dir. Red Phase Highest DPR LT Distance 21.63km | *****  | Due to some transient fault energised after instructions of PC Patola  | Supply not affected                        |         |
| 34      | 132KV Padmakot-Kangra             | 27.08.23  | 7:23  | 27.08.23 | 12:55    | B Phase Zone-1 86                              | B Phase Zone-1 86                                  | Due to 11KV Condenser snipped and came in range of 132KV Line Condenser between Tower No- 456 and 457  | Supply not affected                        |         |
| 35      | 132KV Patankot-Sultanpur          | 26.08.23  | 18:38 | 27.08.23 | 14:01    | Red Phase Highest                              | *****  | Line controlled by AOTL verda. No. any physical abnormality seen during patroling. Line energised after clearance given by JE AOTL verda & instructions of PC patola | Supply not affected                        |         |
| 36      | 132KV Mail Mandi-Vorpal           | 28.08.23  | 6:50  | 28.08.23 | 9:40     | DPR A/C Zone-1                                 | *****  | Line controlled by AOTL verda. No. any physical abnormality seen during patroling. Line energised after clearance given by JE AOTL verda & instructions of PC patola | Supply not affected                        |         |

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| Sr. No | Name of the Line                   | From Date |       | To Date  |       | Duration |  | Relay Indication This End                          | Cause of Tripping / Breakdown   | Threat End   | Tripping Analysis/ Remedial Measures Taken                                | Remarks |
|--------|------------------------------------|-----------|-------|----------|-------|----------|--|--|---|--|---|---------|
|        |                                    | Time      | Date  | Time     | Date  | HH:MM    | HH:MM                                      |  |   |  |   |         |
| 37     | 132kV Santarano-Batal              | 28.08.23  | 6:04  | 28.08.23 | 16:54 | 10:50    | DPB Red Phase Zone-1                       | Breaker Not Tripped                                | During heavy wind storm between span 30 & 31 a temporary structure of Private person flew in air and touched with the supply 132kv line. This cause damaged of 1No string and also conductor worned out | Line patrolled by AOTL Verka. No any physical abnormality seen during patrolling. Line energised after clearance given by JE AOTL Verka & instructions of PC patiala     | Supply Not Affected   |         |
| 38     | 132kV Verpal-Mall Mandi Line       | 03.09.23  | 18:22 | 03.09.23 | 22:30 | 4:08     | B phase O/C High set Master trip 86        | DPB Fault Location: 3-511KM Fault in Zone-1        | Due to some transient fault in line line. patrolled by AOTL Verka on same day No any physical abnormality seen during patrolling  | Due to some transient fault in line line. patrolled by AOTL Verka on same day No any physical abnormality seen during patrolling   | Supply affected 0.15Hrs 132kv GT Road amritsar & 0.12Hrs 132kv Mall Mandi |         |
| 39     | 132kV Sarsat Bagh-CT Road DG Line  | 03.09.23  | 18:22 | 03.09.23 | 18:37 | 0:15     | E/F 50B. 302x                              | Breaker not tripped                                | Due to tripping of 132kv Verpal-Mall Mandi Line   | The back up relay setting are modified by protection ASK at 132kv Sarsatbagh   |   |         |
| 40     | 132kV Wadhwa Granthian-SHOP Ckt-2  | 15.09.23  | 5:57  | 15.09.23 | 12:26 | 6:29     | DPB Razna TN                               | Breaker not tripped                                | Line patrolled by AOTL Verka no any physical abnormality seen during patrolling   | Due to some transient fault in line line patrolled by AOTL Basala on same day No any physical abnormality seen during patrolling.  | Supply Not affected   |         |
| 41     | 132kV Kancha-Isander Nagan Ckt-1   | 15.09.23  | 13:32 | 15.09.23 | 14:45 | 1:13     | Red Phase Zone-2 67N Earth Fault 86        | Breaker not tripped                                | Due to bad weather  | Due to bad weather. Line energised after instructions of PC patiala  | Supply Not affected   |         |
| 42     | 132kV Kancha-Isander Nagan Ckt-2   | 15.09.23  | 13:32 | 15.09.23 | 14:45 | 1:13     | Red Phase Zone-2 67N Earth Fault 86        | Breaker not tripped                                | Due to bad weather  | Due to bad weather. Line energised after instructions of PC patiala  | Supply Not affected   |         |
| 43     | 132kV Patli-Bhikhiwind             | 19.09.23  | 9:58  | 19.09.23 | 10:40 | 0:42     | 67N EF 86                                  | Breaker not tripped                                | Due to tripping of 220kv Patli-Rashiana Line  | Due to some transient fault in line. Line energised after instructions of PC patiala   | Supply 0.42Hrs affected   |         |
| 44     | 132kV TamTaran-Verpal              | 19.09.23  | 3:35  | 19.09.23 | 4:25  | 0:50     | Earth Fault IDWT 86                        | Breaker not tripped                                | Due to some transient fault in line line.   | Due to some transient fault in line. Line energised after instructions of PC patiala   | Supply Not affected   |         |
| 45     | 132kV TamTaran-Batal               | 19.09.23  | 3:35  | 19.09.23 | 4:24  | 0:49     | Backup Earth Fault DPRL-2 EF 86            | Breaker not tripped                                | Due to some transient fault in line line.   |  |   |         |
| 46     | 132kV Verpal-Hakimgate ekt1        | 22.09.23  | 9:05  | 22.09.23 | 11:30 | 2:25     | YB Phase general Trip o/c High Set trip 86 | DPB YB Phase Master trip 86                        | Due to some transient fault in line line.   | Due to some transient fault in line line patrolled by AOTL Basala on same day No any physical abnormality seen during patrolling.  | Supply Not affected   |         |
| 47     | 132kV Verka Mall Mandi             | 24.09.23  | 11:57 | 24.09.23 | 16:05 | 4:08     | DPB AC Phase zone -2 86                    | Breaker not tripped                                | Due to some transient fault in line line.   | Due to some transient fault in line line patrolled by AOTL Verka on same day No any physical abnormality seen during patrolling  | Supply Not affected   |         |
| 48     | 132kV Verpal-Hakimgate ekt1        | 24.09.23  | 19:50 | 24.09.23 | 22:05 | 2:15     | DPB BN Master trip 86                      | DPB Master Trip 86                                 | Due to some transient fault in line line.   | Due to some transient fault in line line patrolled by AOTL Basala on same day No any physical abnormality seen during patrolling   | Supply affected 0.50Hrs 132kv Hakimgate                                   |         |
| 49     | 132kV Verpal-Hakimgate ekt2        | 24.09.23  | 19:50 | 24.09.23 | 20:40 | 0:50     | DPB BN Master trip 86                      | Breaker not tripped                                | Due to some transient fault in line line.   | Due to some transient fault in line line energised after instructions of PC patiala  |   |         |
| 50     | 220kV Patli-Alwar Ckt-2            | 03.07.23  | 20:49 | 03.07.23 | 21:52 | 1:03     | Blue Phase Zone-2 Current 3735KA           | Breaker not Tripped                                | Due to heavy wind storm and rain  | Due to heavy wind storm and rain Line energised after instructions of PC Patiala   | Supply not affected   |         |
| 51     | 220kV Alwar Ckt- Patli-1           | 03.07.23  | 20:49 | 03.07.23 | 21:52 | 1:03     | Main-1 O/C E/F 86                          | Breaker not Tripped                                | Due to heavy wind storm and rain  | Due to heavy wind storm and rain Line energised after instructions of PC Patiala   | Supply not affected   |         |
| 52     | 220kV Alwar-Makhu ekt1             | 03.07.23  | 20:51 | 03.07.23 | 22:05 | 1:14     | Main-1 Red Phase                           | DPB Master Trip 86                                 | During heavy wind storm B phase conductor broken from Tower no 43/23 to gantry  | Near 220kv Sub-station Rashiana B phase conductor broken between gantry and tower no 43/23 and due to this a net fall accident occurred with 2 nos lifelines of TL Verka | Supply not affected   |         |
| 53     | 220kV Rashiana-Verpal              | 04.07.23  | 10:50 | 10.07.23 | 16:51 | 6:01     | 15001 DPB Main 1 & 2 B phase Zone-1        | DPB Master Trip 86                                 | Due to heavy wind storm   | Due to heavy wind storm and rain. Line patrolled by AOTL Basala on same day but no any physical abnormality seen during patrolling                                       | Supply not affected   |         |
| 54     | 220kV Sarma-Wadhwa Granthian Ckt-4 | 04.07.23  | 10:49 | 04.07.23 | 16:38 | 5:49     | O/C R phase zone-1                         | Main-1 DPB Zone-1 Any trip A Main-2 R phase Zone-1 | Due to heavy wind storm   | Due to heavy wind storm and rain. Line patrolled by AOTL Basala on same day but no any physical abnormality seen during patrolling                                       | Supply not affected   |         |
| 55     | 220kV Sarma-Wadhwa Granthian Ckt-2 | 10.07.23  | 4:30  | 10.07.23 | 10:50 | 5:35     | Main-2 DPB o/c EF R phase Zone-1           | DPB R Zone-1                                       | Due to some transient fault   | Line patrolled by AOTL Basala on same day no any physical abnormality seen during patrolling   | Supply not affected   |         |

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| Sl. No | Name of the Line                 | From Date | To Date  | Time  | Duration (Hrs:Min) | Reason/Description  | That DMC                  | Cause of Tripping / Breakdown  | Supply affected or Not                                 | Remarks |
|--------|----------------------------------|-----------|----------|-------|--------------------|---|---------------------------|--|--|---------|
| 56     | 220KV Wadda-Sarna-40+4           | 23.07.23  | 27.7.23  | 15:49 | 95:38              | DPR Main-1 A/B/C Trip 1 Zone-1 DPR Main-2 Y Phase Zone-1    | EP Master Trip 86         | Y phase insulator string damaged at Tower no. 175, which is near railway crossing. To avoid this breakdown, permission from Railways was required which took too long for approval from DMR Northern Railway Controller. | Supply not affected                                    |         |
| 57     | 220KV Uphase-Wadda-Grandhan      | 25.07.23  | 25.07.23 | 16:15 | 0:35               | DPR 8/2/C66   | Breaker not tripped       | Due to some transient fault  | Supply affected 220KV Uphase 0.25 Hrs                  |         |
| 58     | 220KV Uchokley-Verpal            | 23.07.23  | 23.07.23 | 16:05 | 0:25               | 306   | Breaker not tripped       | Due to some transient fault  | Supply not affected                                    |         |
| 59     | 220KV Verpal-Wadda-Grandhan      | 23.07.23  | 23.07.23 | 16:12 | 0:37               | Main-1 Zone-1 Y Phase 85                                    | Breaker not tripped       | Due to some transient fault  | Supply not affected                                    |         |
| 60     | 220KV Mangla-Chat Line           | 31.07.23  | 31.07.23 | 12:35 | 0:45               | DPR phase zone-1  | DPR Zone-1 Master Trip 86 | Due to some transient fault  | Supply not affected                                    |         |
| 61     | 220KV Khassa-Bala Chak Ckt-2     | 02.08.23  | 3.08.23  | 1:25  | 32:16              | DPR Main-1 R/B phase zone-1 DPR Main-2 R/B Phase zone-1     | ****                      | Due to R phase CT of 220KV Khassa-Balachak ckt-2 got damaged at 220KV substation Khassa  | Supply affected 0.18 Hrs 220KV Khassa & 220KV Choghwan |         |
| 62     | 220KV Khassa-Bala Chak Ckt-1     | 02.08.23  | 04.08.23 | 12:05 | 26:54              | DPR Main-1 R/B phase zone-1 DPR Main-2 R/B Phase zone-1     | ****                      |  |  |         |
| 63     | 220KV Choghwan-Chokley           | 02.08.23  | 02.08.23 | 23:27 | 0:18               | Dr. O.L.P/E/Hinest 86                                       | Breaker not tripped       |  |  |         |
| 64     | 220KV Chat Line-Khassa           | 02.08.23  | 02.08.23 | 21:15 | 1:06               | Main-2 Protection operated 86                               | Breaker not tripped       |  |  |         |
| 65     | 220KV Sarna-Wadda-Grandhan Ckt-1 | 21.08.23  | 23.08.23 | 2:16  | 101:48             | Main-1 DPR A/B/C 9/5 EP R/B                                 | 9/5 R/B phase High act    | Due to R phase conductor broken from endcone of Tower no 61.   | Supply not affected                                    |         |
| 66     | 220KV Verpal-Padi                | 27.08.23  | 27.08.23 | 22:47 | 0:57               | 6/7/86  | Breaker not tripped       | Due to some transient fault  | Supply not affected                                    |         |
| 67     | 220KV Sarna-RSD Ckt-3            | 30.8.23   | 30.8.23  | 9:49  | 3:52               | DPR AS R phase zone-1                                       | ****                      | At tower no 17 a hanging steel wire was found and which was set right by AOTL Mangra   | Supply not affected                                    |         |
| 68     | 220KV Sarna-RSD Ckt-1            | 05.9.23   | 05.09.23 | 7:39  | 2:13               | Main-1 DPR AN Zone-3 Main-2 DPR AN Zone-3/4/5/6/7/8/9       | Breaker not tripped       | Due to some fault in RSD yard end  | Supply not affected                                    |         |
| 69     | 220KV Sarna-RSD Ckt-2            | 05.9.23   | 05.09.23 | 7:39  | 2:12               | Main-1 BCR Phase Zone-2 Main-2 BCR Phase Zone-2             | Breaker not tripped       | Due to some fault in RSD yard end  | Supply not affected                                    |         |
| 70     | 220KV Wadda-Grandhan-Verpal      | 14.09.23  | 15.09.23 | 9:02  | 14:29              | Main-1 DPR B phase Zone-1 VA1 80T Main-2 DPR B phase Zone-1 | Breaker not tripped       | Due to some transient fault in line, protected by AOTL Bala on same day. No any physical abnormality seen during traveling.  | Supply Not affected                                    |         |
| 71     | 220KV Khassa-BalaChak Ckt-1      | 15.09.23  | 15.09.23 | 10:43 | 6:00               | Red Phase Earth Fault Zone-1                                | Breaker not tripped       | Due to some transient fault in line, protected by AOTL Verpa on same day. No any physical abnormality seen during traveling.   | Supply Not affected                                    |         |

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| Sr. No | Name of the Line               | From Date |       | To Date  |       | Duration<br>HH:MM | Relay Indication<br>This End                    | That End  | Cause of Tripping / Breakdown   | Tripping Analysis/ Remedial Measures Taken | Supply affected or Not | Remarks |
|--------|--------------------------------|-----------|-------|----------|-------|-------------------|---|---|---|--|------------------------|---------|
|        |                                | Time      | Date  | Time     | Date  |                   |   |   |   |  |                        |         |
| 72     | 220KV Verpal-Bunari            | 15.09.23  | 5:50  | 15.09.23 | 7:40  | 1:50              | Zone-1, Gen Trip Earth Fault 86                 | Breaker not tripped                                   | Due to some transient fault in line. Line energised after instructions of PC patiala  | Supply Not affected                        |                        |         |
| 73     | 220KV Verpal-Udhoke            | 17.09.23  | 10:53 | 17.09.23 | 20:08 | 9:12              | RY Phase general Trip Master Trip 86            | Main-2 DFR EF Zone-1 & 2 Master Trip 86               | Line energised by AOTL. Bataia no any physical abnormality seen during patrolling.  | Supply Not affected                        |                        |         |
| 74     | 220KV Patni-Rushiana           | 17.09.23  | 20:50 | 18.09.23 | 12:05 | 16:55             | DPR main 1&2 R phase zone-1 Trip                | Breaker not tripped                                   | Line patrolled by AOTL. Verka no any physical abnormality seen during patrolling.   | Supply Not affected                        |                        |         |
| 75     | 220KV Verpal-Patni             | 19.09.23  | 9:58  | 19.09.23 | 11:14 | 1:16              | Master Trip 86 Red Phase                        | Breaker not tripped                                   | Due to some transient fault in line. Line energised after instructions of PC patiala  | Supply Not affected                        |                        |         |
| 76     | 220KV Patni-Rushiana           | 19.09.23  | 9:58  | 19.09.23 | 20:30 | 10:32             | Backup protection 67N Dir o/c EF Master Trip 86 | DPR Main-1 & 2 Zone-1                                 | Line patrolled by AOTL. Verka No any physical abnormality seen during patrolling. Line energised after clearance certificate given by JE AOTL | Supply not affected                        |                        |         |
| 77     | 220KV Verpal-Wadala Grantshian | 20.09.23  | 17:24 | 20.09.23 | 17:55 | 0:31              | Zone-1 25.53KM Blue Phase Earth Fault           | Breaker not tripped                                   | Due to Blue Phase LA Damaged of Bus Bar No-2 at 220KV S/Sbn Udhoke  | Supply not affected                        |                        |         |
| 78     | 220KV Verpal-Udhoke            | 20.09.23  | 17:24 | 20.09.23 | 18:25 | 1:01              | Zone-1 Gen Trip 86                              | Main-2 DFR Microm P44 RYE Phase Zone-2 86 Master Trip | Due to some transient fault in line. Line energised after instructions of PC patiala  | Supply not affected                        |                        |         |

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| Sr. No | Name of the Line                            | From Date  | Time  | Date       | Time  | HH:MM:SS | Relay Information                                 |   | Cause of Tripping / Breakdown   | Tripping Analysis/ Remedial Measures Taken                         | Supply affected or Not   | Remarks  |
|--------|---|------------|-------|------------|-------|----------|---|---|---|--|--|--|
|        |   |            |       |            |       |          | Tripping  | Time Elapsed                              |   |  |  |  |
| 1      | 132 KV GNDTP Bahinda-OC Bahinda Line        | 12.07.2023 | 13:33 | 12.07.2023 | 14:05 | 0:12     | O/C R/Fs  | Not Tripped                               | Tripped on overhead due to tripping of 132 KV GNDTP-OC Bahinda Line from 220 KV S/S GNDTP Bahinda end.  | Bus Bar Protection operated at GNDTP Bahinda.                      | Yes affected for 25 mins   | NA   |
| 2      | 132 KV GNDTP Bahinda-Bahinda Line           | 26.07.2023 | 11:45 | 26.07.2023 | 12:56 | 1:09     | DPR & Master Operated Dist=16.1km, Z-3            | Not Tripped                               | No Fault Found  | Transient Fault  | Not affected   | NA   |
| 3      | 132 KV GNDTP Bahinda-N.F.L. CR-1            | 03.07.2023 | 10:11 | 03.07.2023 | 10:56 | 0:25     | No Relay Operated                                 | Not Tripped                               | 132 KV Bus Bar Protection Operated  | 132 KV Bus Bar Protection Scheme and Logic is being reviewed.      | Yes affected for 25 mins   | NA   |
| 4      | 132 KV GNDTP Bahinda-N.F.L. CR-1            | 13.07.2023 | 15:59 | 13.07.2023 | 13:24 | 0:21     | No Relay Operated                                 | Not Tripped                               | Due to 132KV Bus Bar Protection Operated  | Logic is being reviewed.   | Affected for 21 mins   | NA   |
| 5      | 132 KV GNDTP Bahinda-N.F.L. CR-2            | 17.07.2023 | 13:03 | 17.07.2023 | 13:35 | 0:32     | No Relay Operated                                 | Not Tripped                               | Due to 132KV Bus Bar Protection Operated  | Logic is being reviewed.   | Affected for 32 mins   | NA   |
| 6      | 132 KV GNDTP Bahinda-N.F.L. CR-2            | 12.07.2023 | 13:53 | 12.07.2023 | 16:59 | 3:06     | E/F Relay   | Not Tripped                               | No Fault found  | 132 KV Bus Bar Protection Scheme and Logic is being reviewed.      | Affected   | NA   |
| 7      | 132 KV GNDTP Bahinda-OC Bahinda Line        | 26.07.2023 | 16:50 | 26.07.2023 | 12:49 | 1:59     | DPR & Master Operated Dist=19.92km, Z-1, O/C Y-Ph | OPR Operated                              | No Fault Found  | Transient Fault  | Not affected   | Patrolling done, no visible cause of tripping found. |
| 8      | 132 KV GNDTP Bahinda-Bahinda ARES Cant.Line | 17.07.2023 | 13:03 | 17.07.2023 | 13:24 | 0:21     | No Relay Operated                                 | Not Tripped                               | Due to 132KV Bus Bar Protection Operated  | Logic is being reviewed.   | Affected for 21 mins   | NA   |
| 9      | 132 KV GNDTP Bahinda-Bahinda ARES Cant.Line | 26.07.2023 | 22:31 | 26.07.2023 | 22:55 | 0:24     | DPR & Master Operated Dist=7.8km, Z-1, O/C U-Ph   | Not Tripped                               | No Fault found  | Transient Fault  | Affected for 24 mins   | NA   |
| 10     | 132 KV GNDTP Bahinda-Bahinda Line           | 27.07.2023 | 19:20 | 27.07.2023 | 19:49 | 0:29     | O/C & E/F Relay Operated O/C E-Ph                 | E/F Ready                                 | No Fault Found  | Transient Fault  | Affected for 29 mins   | NA   |
| 11     | 132KV Muktesar-Katepura-1 Line              | 26.07.2023 | 12:15 | 26.07.2023 | 14:10 | 1:55     | DPR Operated, Phase=0.76km, Zone-1                | Breaker not reclosed                      | TL Team Muktesar patrolled the line and no visible fault found  | Line faulted by TL Team, but no fault found.                       | Supply affected for 01 hrs & 15 mins of 132KV S/S Bahinda          | Line patrolled & No fault found                      |
| 12     | 132KV Muktesar-Katepura-1 Line              | 02.07.2023 | 20:35 | 02.07.2023 | 22:50 | 2:15     | Yph, Z-1, 3.08KM                                  | Yph, Z-1, 23.76 KM                        | Try taken after clearance certificate given by TL   | Line Tripped due to storm & bad weather                            | not  | Line patrolled & No fault found                      |
| 13     | 132KV Muktesar-Katepura-1 Line              | 14.07.2023 | 21:25 | 14.07.2023 | 8:36  | 11:21    | Rph, Z-1, 3.40 KM                                 | Rph, Z-1, 24.77 KM                        | Try taken after clearance certificate given by TL   | Line Tripped due to rain & bad weather                             | not  | NA   |
| 14     | 132KV Muktesar-Katepura-1 Line              | 17.07.2023 | 4:23  | 17.07.2023 | 4:50  | 0:28     | Yph, Z-1, 10.67 KM                                | Yph, Z-1, 15.97 KM                        | Transient fault   | Line Tripped due to rain & bad weather                             | not  | NA   |
| 15     | 132 KV Farzapur-Sadli-Parlihot Line         | 14.07.2023 | 18:52 | 14.07.2023 | 19:06 | 0:16     | O/C/E/F Highest R Phase                           | DPR BN phase Zone-1 6.7 KM                | Transient fault   | Line Tripped due to rain & bad weather                             | All Supply of 132 KV Sub Station Parlihot for 15 minutes.          | NA   |
| 16     | 132 KV Farzapur-Sadli-Parlihot Line         | 18.07.2023 | 0:15  | 18.07.2023 | 0:45  | 0:30     | DPR operated, Zone 1, BN phase, Location 3.239 KM | Transient fault                           | Line Tripped due to bad weather   | Line Tripped due to bad weather                                    | All Supply of 132 KV Sub Station Parlihot for 30 minutes.          | NA   |
| 17     | 132KV Muktesar-Saramnaga Line               | 18.07.2023 | 8:34  | 18.07.2023 | 15:40 | 7:06     | YBph, Z-1, 7.43 KM                                | Conductor broken of Yph from 9:48 to 4:01 | Due to breakdown of conductor of Y-Phase from H-Pole 490 to 491   | Replace broken conductor of Yph from H-pole-490 to 491.            | 132kv saramnaga & 132kv katepura-2 S/S supply affected for 14 mins | NA   |
| 18     | 132KV Muktesar-Saramnaga Line               | 27.07.2023 | 15:05 | 27.07.2023 | 15:32 | 0:28     | Yph, Z-1, 11.13 KM                                | Transient Fault                           | As the string of line (Y/G, 1955), insulator strings are weak. Which gives temporary tripping. Remedial Measures: Replacement of old/weak string & insulators with polymer strings. | 132kv saramnaga & 132kv katepura-2 S/S supply affected for 30 mins | NA   |  |
| 19     | 132KV Muktesar-Saramnaga Line               | 22.07.2023 | 21:57 | 22.07.2023 | 22:13 | 0:16     | Yph, E/F, Z-2, 11.975 KM                          | Breaker not trip                          | As the string of line (Y/G, 1955), insulator strings are weak. Which gives temporary tripping. Remedial Measures: Replacement of old/weak string & insulators with polymer strings. | 132kv saramnaga & 132kv katepura-2 S/S supply affected for 16 mins | NA   |  |

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| Sr. No | Name of the Line                            | From Date  | Time  | To Date    | Time  | Duration HH:MM | Relay Indication This End   | That End   | Cause of Tripping / Breakdown  | Tripping Analysis/ Remedial Measures Taken  | Supply affected or Not  | Remarks  |
|--------|---|------------|-------|------------|-------|----------------|---|--|--|---|---|--|
| 20     | 132 KV Kottapara-01-Moga Line               | 20.07.2023 | 18:07 | 20.07.2023 | 18:40 | 0:33           | DPR optd. Relay R-Phase Zone-1, Distance- 23.47 Kms                 | DPR optd. O/C R-Phase Zone-1, Distance- 23.47 Kms  | TRANSIENT FAULT<br>Line charged with concerned PC Ph, SSE 132kv (SP-1 & ADTL MKS | Line Tripped due to bad weather   | no  | NA   |
| 21     | 132 KV Kottapara-01-Moga Line               | 26.07.2023 | 19:08 | 26.07.2023 | 19:34 | 0:26           | DPR optd. Relay R Phase Zone-1, Distance- 21.56 Kms                 | DPR optd. O/C R-Phase Zone-1, Distance- 20.433 Kms | TRANSIENT FAULT  | Line Tripped due to bad weather   | no  | NA   |
| 22     | 132 KV Kottapara-01-Moga Line               | 27.07.2023 | 3:48  | 27.07.2023 | 4:34  | 0:46           | DPR optd. O/C R-Phase Zone-1, Distance- 20.20 Kms                   | DPR optd. O/C R-Phase Zone-1, Distance- 12.080 Kms | TRANSIENT FAULT<br>Line charged with concerned PC Ph & ADTL MKS                  | Line Tripped due to bad weather   | no  | NA   |
| 23     | 132 KV Kottapara-01-Moga Line               | 27.07.2023 | 20:54 | 27.07.2023 | 21:29 | 0:35           | DPR optd. O/C R-Phase Zone-1, Distance- 17.20 Kms                   | DPR optd. O/C R-Phase Zone-1, Distance- 24.936km   | TRANSIENT FAULT<br>Line charged with concerned PC Ph                             | Line Tripped due to bad weather   | no  | NA   |
| 24     | 132 KV Saranaga-Kottapara-02-Panigrahi Line | 27.07.2023 | 4:42  | 27.07.2023 | 4:52  | 0:10           | O/C B-Ph-Z-1 Distance 19.70 Km, IR=59.15 A, IY=119.5 A, IB=2.612 KA | .....  | Transient Fault  | As the ageing of line (VOC, 1955), Insulator strings are weak. Which gives temporary tripping. Remedial Measure: Replacement of oldage/weak string insulators with polymer strings. | Supply effected of Kottapara-2 Grid for 00:10 minutes                                     | NA   |
| 25     | 132 KV Saranaga-Kottapara-02-Panigrahi Line | 28.07.2023 | 4:02  | 28.07.2023 | 4:12  | 0:10           | O/C Y-Ph-Z-1 Distance 22.44 Km, IR=115.5 A, IY=2.508 KA, IB=53.94A  | .....  | Transient Fault  | As the ageing of line (VOC, 1955), Insulator strings are weak. Which gives temporary tripping. Remedial Measure: Replacement of oldage/weak string insulators with polymer strings. | Supply effected of Kottapara-2 Grid for 00:14 minutes                                     | NA   |
| 26     | 132 KV Saranaga-Kottapara-02-Panigrahi Line | 10.07.2023 | 1:27  | 10.07.2023 | 1:41  | 0:14           | O/C R-Ph-Z-1 Distance 8.407 Km, IR=3.761 KA, IY=79.74 A, IB=157.5 A | .....  | Transient Fault  | As the ageing of line (VOC, 1955), Insulator strings are weak. Which gives temporary tripping. Remedial Measure: Replacement of oldage/weak string insulators with polymer strings. | Supply effected of Kottapara-2 Panigrahi grid for 00:14 minutes                           | NA   |
| 27     | 132 KV Saranaga-Kottapara-02-Panigrahi Line | 29.07.2023 | 3:36  | 29.07.2023 | 8:44  | 5:08           | O/C R-Ph-Z-1 Distance 6.098 Km, IR=4.058 KA, IY=56.03 A, IB=125.7 A | .....  | Transient Fault  | As the ageing of line (VOC, 1955), Insulator strings are weak. Which gives temporary tripping. Remedial Measure: Replacement of oldage/weak string insulators with polymer strings. | Supply effected of Kottapara-2 Grid for 00:10 minutes                                     | Flashed strings replaced at T.No. 354 & 359 under 132KV Kottapara-02, Panigrahi Section. |
| 28     | 132 KV Saranaga-Kottapara-02-Panigrahi Line | 08.07.2023 | 5:57  | 08.07.2023 | 11:30 | 5:33           | O/C R-Ph-Z-1 Distance 7.219 Km, IR=3.838 KA, IY=61.89 A, IB=127.3 A | .....  | Transient Fault  | As the ageing of line (VOC, 1955), Insulator strings are weak. Which gives temporary tripping. Remedial Measure: Replacement of oldage/weak string insulators with polymer strings. | Supply effected Kottapara-2 grid for 00:26 minutes. Supply restore from panigrahi at 0:23 | Line patrolled & No fault found  |
| 29     | 132 KV Saranaga-Kottapara-02-Panigrahi Line | 6.07.2023  | 22:08 | 6.07.2023  | 22:16 | 0:10           | O/C B-Ph-Z-1 Distance 19.74 Km, IR=53.38 A, IY=129.5 A, IB=2.538 KA | .....  | Transient Fault  | As the ageing of line (VOC, 1955), Insulator strings are weak. Which gives temporary tripping. Remedial Measure: Replacement of oldage/weak string insulators with polymer strings. | Supply effected Kottapara-2 grid for 00:10 minutes.                                       | NA   |
| 30     | 132 KV Saranaga-Kottapara-02-Panigrahi Line | 31.07.2023 | 14:48 | 31.07.2023 | 14:56 | 0:10           | O/C Y-Ph-Z-1 Distance 19.31 Km, IR=127.8 A, IY=2130 KA, IB=82.22 A  | .....  | Transient Fault  | As the ageing of line (VOC, 1955), Insulator strings are weak. Which gives temporary tripping. Remedial Measure: Replacement of oldage/weak string insulators with polymer strings. | Supply effected of Kottapara-2 Grid for 00:10 minutes                                     | NA   |
| 31     | 132KV Bhuktar-Malout Line                   | 10.07.2023 | 1:50  | 10.07.2023 | 11:05 | 9:15           | SpH E/F, Z-1, 0.799 KM  | SpH E/F, Z-1, 0.799 KM                             | The taken after clearance certificate given by TL<br>No fault found              | As the ageing of line & on H-Pole, Insulator strings are weak. Which gives temporary tripping   | not   | Line patrolled & No fault found  |
| 32     | 132KV Bhuktar-Malout Line                   | 12.07.2023 | 13:53 | 12.07.2023 | 14:03 | 0:10           | SpH O/C   | Breaker not trip                                   | Transient Fault  | Line tripped due to over loading  | 132 KV SS Malout supply affected for 10 mins  | NA   |

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| Sr. No | Name of the Line                | From Date  | To Date    | Time  | Duration (HH:MM) | Phase                 | Request/Insulation This End | That End              | Cause of Tripping / Breakdown  | Tripping, Analysis/ Remedial Measures Taken   | Supply affected: Not   | Remarks                                  |
|--------|---------------------------------|------------|------------|-------|------------------|-----------------------|-----------------------------|-----------------------|--|---|--|--|
| 33     | 132KV Nukkar-Malout Line        | 28-07-2023 | 28-07-2023 | 0:27  | 0:48             | Yph E/F Z-1, 6.055 KM | Yph E/F Z-1, 21.56 KM       | Yph E/F Z-1, 21.56 KM | Try taken after clearance certificate given by TL. No fault found  | As the ageing of line & on H-Pole, insulator strings are weak. Which gives temporary tripping.  | not  | NA                                       |
| 34     | 132KV Nukkar-Malout Line        | 01-07-2023 | 01-07-2023 | 13:58 | 1:25             | Rph E/F Z-1, 29.75 KM | Rph E/F Z-1, 0.548 KM       | Rph E/F Z-1, 0.548 KM | Earth wire broken from H-pole. 3 to 5.   | As the ageing of line, conductor is weak. Remedial Measure. Earthwire replacement is required.  | not  | Earth wire below from H-pole-300 to 306. |
| 35     | 132KV Nukkar-Malout Line        | 24-07-2023 | 24-07-2023 | 8:01  | 2:49             | Rph E/F Z-1, 1.134 KM | E/F                         | E/F                   | Try taken after clearance certificate given by TL. No fault found  | As the ageing of line & on H-Pole, insulator strings are weak. Which gives temporary tripping.  | not  | NA                                       |
| 36     | 132KV Mukkar-Malout Line        | 09-07-2023 | 09-07-2023 | 19:41 | 21:43            | Rph E/F Z-1, 4.073 KM | Rph E/F Z-1, 24.09 KM       | Rph E/F Z-1, 24.09 KM | Try taken after clearance certificate given by TL. No fault found  | As the ageing of line & on H-Pole, insulator strings are weak. Which gives temporary tripping.  | not  | Line controlled & No fault found         |
| 37     | 132KV Mukkar-Malout Line        | 26-07-2023 | 26-07-2023 | 6:37  | 6:59             | Yph E/F Z-1, 16.70 KM | Yph E/F Z-1, 12.14 KM       | Yph E/F Z-1, 12.14 KM | Transient Fault  | As the ageing of line & on H-Pole, insulator strings are weak. Which gives temporary tripping.  | not  | NA                                       |
| 38     | 132 KV Moga-Pangrain Kalan Line | 03-07-2023 | 03-07-2023 | 3:16  | 1:22             | DPRYN-9-Z-1 8.589 KM  | CB Not installed            | CB Not installed      | No visible fault found in ABE/TL, Sri Muktar Sahib. Line charged on No load after clearance from ABE/TL, Sri Muktar Sahib & approval of PC, Patiala. | As the ageing of line (VOC: 1955), insulator strings are weak. Which gives temporary tripping. Remedial Measure: Replacement of oldage/weak string insulators with polymer strings. | All supply of 132 KV S/S Pangrain Kalan is affected for 39 Minutes. (Supply restored from 132 KV S/S Sraingra on 18:55 hrs.) | Line controlled & No fault found         |
| 39     | 132 KV Moga-Pangrain Kalan Line | 06-07-2023 | 06-07-2023 | 02:23 | 02:54            | DPRYN-9-Z-1 15.87 KM  | CB Not installed            | CB Not installed      | Transient Fault. After inspection of substation at sub-stations. Line charged with approval of ABE/TL, Sri Muktar Sahib & SSE.                       | As the ageing of line (VOC: 1955), insulator strings are weak. Which gives temporary tripping. Remedial Measure: Replacement of oldage/weak string insulators with polymer strings. | NA   | NA                                       |
| 40     | 132 KV Moga-Pangrain Kalan Line | 24-07-2023 | 24-07-2023 | 04:39 | 08:42            | DPRYN-9-Z-1 10.435 KM | CB Not installed            | CB Not installed      | Transient Fault. After inspection of substation at sub-stations. Line charged after message received via mail from ABE/TL, Sri Muktar Sahib.         | As the ageing of line (VOC: 1955), insulator strings are weak. Which gives temporary tripping. Remedial Measure: Replacement of oldage/weak string insulators with polymer strings. | All supply of 132 KV S/S Pangrain Kalan is affected for 12 Minutes.  | NA                                       |
| 41     | 132 KV Moga-Pangrain Kalan Line | 29-07-2023 | 29-07-2023 | 08:38 | 08:29            | DPRYN-9-Z-1 22.879 KM | CB Not installed            | CB Not installed      | Transient Fault. After inspection of substation at sub-stations. Line charged with approval of ABE/TL, Sri Muktar Sahib & PC, Patiala.               | As the ageing of line (VOC: 1955), insulator strings are weak. Which gives temporary tripping. Remedial Measure: Replacement of oldage/weak string insulators with polymer strings. | NA   | NA                                       |
| 42     | 132 KV Moga-Pangrain Kalan Line | 29-07-2023 | 29-07-2023 | 08:01 | 08:18            | DPRYN-9-Z-1 31.802 KM | CB Not installed            | CB Not installed      | Transient Fault. After inspection of substation at sub-stations. Line charged with approval of PC, Patiala.  | As the ageing of line (VOC: 1955), insulator strings are weak. Which gives temporary tripping. Remedial Measure: Replacement of oldage/weak string insulators with polymer strings. | NA   | NA                                       |
| 43     | 132 KV Moga-Pangrain Kalan Line | 27-07-2023 | 27-07-2023 | 23:07 | 23:18            | DPRYN-9-Z-1 23.498 KM | CB Not installed            | CB Not installed      | Transient Fault. After inspection of substation at sub-stations. Line charged with approval of PC, Patiala.  | As the ageing of line (VOC: 1955), insulator strings are weak. Which gives temporary tripping. Remedial Measure: Replacement of oldage/weak string insulators with polymer strings. | All supply of 132 KV S/S Pangrain Kalan is affected for 11 Minutes.  | NA                                       |
| 44     | 132 KV Moga-Pangrain Kalan Line | 29-07-2023 | 29-07-2023 | 07:18 | 5:14             | DPRYN-9-Z-1 4.814 KM  | CB Not installed            | CB Not installed      | No visible fault found in ABE/TL, Sri Muktar Sahib. Line charged after clearance from ABE/TL, Sri Muktar Sahib.                                      | As the ageing of line (VOC: 1955), insulator strings are weak. Which gives temporary tripping. Remedial Measure: Replacement of oldage/weak string insulators with polymer strings. | All supply of 132 KV S/S Pangrain Kalan is affected for 15 Minutes. (Supply restored from 132 KV S/S Sraingra on 07:33 hrs.) | Line controlled & No fault found         |

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| Sr. No | Name of the Line                   | From Date  |       | To Date    |       | Duration |       | Relay Indication                   |                       | Cause of Tripping / Breakdown   | Tripping Analysis/ Remedial Measures Taken  | Supply affected or Not   | Remarks  |
|--------|------------------------------------|------------|-------|------------|-------|----------|-------|------------------------------------|-----------------------|---|---|--|--|
|        |                                    | Time       | Date  | Time       | Date  | HH:MM    | MM:SS | This End                           | That End              |   |   |  |  |
| 45     | 132 KV Mega-Panigrain Kalan Line   | 22-07-2023 | 04:51 | 22-07-2023 | 05:05 | 0:14     | 05:05 | DPR YN-Φ Z-1 22.019 KM             | CB Not installed      | Transient Fault: After inspection of switchyard at sub-stations, Line charged with approval of PC, Patiala  | As the ageing of line (VOC: 1955), Insulator strings are weak, Which gives temporary tripping. Remedial Measure: Replacement of oldage/weak string insulators with polymer strings. | All supply of 132 KV S/S Panigrain Kalan is affected for 14 Minutes.   | NA   |
| 46     | 132 KV Mega-Panigrain Kalan Line   | 17-07-2023 | 05:51 | 17-07-2023 | 06:17 | 0:26     | 06:17 | DPR YN-Φ Z-1 19.847 KM             | CB Not installed      | Transient Fault: After inspection of switchyard at sub-stations, Line charged with approval of AEE/TL, Sri Muktesar Sahib & PC, Patiala                                 | As the ageing of line (VOC: 1955), Insulator strings are weak, Which gives temporary tripping. Remedial Measure: Replacement of oldage/weak string insulators with polymer strings. | All supply of 132 KV S/S Panigrain Kalan is affected for 26 Minutes.   | NA   |
| 47     | 132 KV Mega-Panigrain Kalan Line   | 18-07-2023 | 06:15 | 18-07-2023 | 06:40 | 0:25     | 06:40 | DPR YN-Φ Z-1 19.71 KM              | CB Not installed      | Transient Fault: After inspection of switchyard at sub-stations, Line charged after message received via mail from AEE/TL, Sri Muktesar Sahib & approval of PC, Patiala | As the ageing of line (VOC: 1955), Insulator strings are weak, Which gives temporary tripping. Remedial Measure: Replacement of oldage/weak string insulators with polymer strings. | All supply of 132 KV S/S Panigrain Kalan is affected for 25 Minutes.   | NA   |
| 48     | 132 KV Mega-Panigrain Kalan Line   | 12-07-2023 | 05:08 | 12-07-2023 | 12:08 | 7:00     | 12:08 | DPR YN-Φ Z-1 3.904 KM              | CB Not installed      | No visible fault found in AEE/TL, Sri Muktesar Sahib. Line charged after clearance from AEE/TL, Sri Muktesar Sahib.   | As the ageing of line (VOC: 1955), Insulator strings are weak, Which gives temporary tripping. Remedial Measure: Replacement of oldage/weak string insulators with polymer strings. | No supply is affected of 132 KV S/S Panigrain Kalan because supply was being fed from Strainaga.                               | NA   |
| 49     | 132 KV Mega-Panigrain Kalan Line   | 13-07-2023 | 05:26 | 13-07-2023 | 05:43 | 0:17     | 05:43 | DPR BN-Φ Z-1 27.736 KM             | CB Not installed      | Transient Fault: After inspection of switchyard at sub-stations, Line charged with approval of PC, Patiala  | As the ageing of line (VOC: 1955), Insulator strings are weak, Which gives temporary tripping. Remedial Measure: Replacement of oldage/weak string insulators with polymer strings. | All supply of 132 KV S/S Panigrain Kalan is affected for 17 Minutes.   | NA   |
| 50     | 132 KV Mega-Panigrain Kalan Line   | 08-07-2023 | 06:49 | 08-07-2023 | 07:22 | 0:33     | 07:22 | DPR YN-Φ Z-1 20.222 KM             | CB Not installed      | Transient Fault: After inspection of switchyard at sub-stations, Line charged on No Load with approval of AEE/TL, Sri Muktesar Sahib, SSB & PC, Patiala.                | As the ageing of line (VOC: 1955), Insulator strings are weak, Which gives temporary tripping. Remedial Measure: Replacement of oldage/weak string insulators with polymer strings. | All supply of 132 KV S/S Panigrain Kalan is affected for 10 Minutes. (Supply restored from 132 KV S/S Strainaga on 07:05 Hrs.) | NA   |
| 51     | 132KV Muktesar-Sadiq(Pandkot) Line | 29-07-2023 | 9:15  | 29-07-2023 | 9:25  | 0:10     | 9:25  | DPR Operated, Phase:15.48km,Zone-1 | Breaker not installed | Transient fault   | As the ageing of line & on H-Pole, Insulator strings are weak, Which gives temporary tripping   | not affected   | NA   |
| 52     | 132KV Muktesar-Sadiq(Pandkot) Line | 30-07-2023 | 3:27  | 30-07-2023 | 12:05 | 6:38     | 12:05 | DPR Operated, Phase:15.42km,Zone-1 | Breaker not installed | STRING OF DISC INSULATORS FLASHED AT TOWER NO 109 OF R Phase<br>Replacement of flased string of disc insulators at tower no 109 of R phase By TL Team Muktesar          | Replacement of flased string of disc insulators at tower no 109 of R phase By TL Team Muktesar  | Replacement of flased string of disc insulators at tower no 109 of R phase By TL Team Muktesar                                 | NA   |
| 53     | 132KV Muktesar-Sadiq(Pandkot) Line | 19-07-2023 | 2:45  | 19-07-2023 | 2:59  | 0:14     | 2:59  | DPR Operated, Phase:15.16km,Zone-1 | Breaker not installed | Transient fault   | As the ageing of line & on H-Pole, Insulator strings are weak, Which gives temporary tripping   | not affected   | NA   |
| 54     | 132KV Muktesar-Sadiq(Pandkot) Line | 19-07-2023 | 4:34  | 19-07-2023 | 13:35 | 9:01     | 13:35 | DPR Operated, Phase:15.66km,Zone-1 | Breaker not installed | STRING OF DISC INSULATORS FLASHED AT TOWER NO 113 OF R Phase<br>Replacement of flased string of disc insulators at tower no 113 of R phase By TL Team Muktesar          | Replacement of flased string of disc insulators at tower no 109 of R phase By TL Team Muktesar  | Replacement of flased string of disc insulators at tower no 109 of R phase By TL Team Muktesar                                 | NA   |
| 55     | 132KV Muktesar-Sadiq(Pandkot) Line | 19-07-2023 | 22:38 | 19-07-2023 | 22:56 | 0:18     | 22:56 | DPR Operated, Phase:15.66km,Zone-1 | Breaker not installed | Transient fault   | As the ageing of line & on H-Pole, Insulator strings are weak, Which gives temporary tripping   | not affected<br>220 KV S/S Ferozpur Line   | Replacement of flased string of disc insulators at tower no 113 of R phase By TL Team Muktesar |

| Sl. No | Name of the Line                   | From Date  | To Date    | Time  | Phase | Location                               | Time  | Phase | Remarks  | Supply affected or Not   | Remarks   |
|--------|------------------------------------|------------|------------|-------|-------|--|-------|-------|--|--|---|
| 56     | 132KV Makisar-Sadiq(Fardikes) Line | 18/07/2023 | 18/07/2023 | 21:35 | RVB   | DPR Operated, Phase:25.46km,Zone-2     | 06:11 | RVB   | Broken conductor at 220KV Stadio Kokeron Line (TL Makisar) fallen on 132KV Stadio Line. Remove broken conductor of 230KV stadio Kokeron line from 132KV stadio line by TL Team Makisar | not affected   | Remove broken conductor of 230KV stadio Kokeron line from 132KV stadio line by TL Team Makisar              |
| 57     | 132KV Makisar-Sadiq(Fardikes) Line | 09/07/2023 | 09/07/2023 | 06:27 | RN    | DPR Operated, Phase:15.44km,Zone-1     | 06:23 | RN    | Line Tripped due to storm & line weather   | not affected   | NA  |
| 58     | 132KV Makisar-Sadiq(Fardikes) Line | 22/07/2023 | 22/07/2023 | 13:19 | RN    | DPR Operated, Phase:15.16km,Zone-1     | 13:01 | RN    | STRING OF DISC INSULATORS FLASHED AT TOWER NO 111 OF R Phase. Replacement of fused string of disc insulators at tower no 111 of R phase wide PTW No 69 By TL Team Makisar              | Replacement of fused string of disc insulators at tower no 111 of R phase By TL Team Makisar | Replacement of fused string of disc insulators at tower no 111 of R phase By TL Team Makisar                |
| 59     | 132KV Makisar-Sadiq(Fardikes) Line | 20/07/2023 | 20/07/2023 | 17:40 | RN    | DPR Operated, Phase:15.55km,Zone-1     | 17:30 | RN    | STRING OF DISC INSULATORS FLASHED AT TOWER NO 110 OF R Phase. Replacement of fused string of disc insulators at tower no 110 of R phase wide By TL Team Makisar                        | not affected   | Replacement of fused string of disc insulators at tower no 110 of R phase wide PTW No 62 By TL Team Makisar |
| 60     | 132KV Makisar-Sadiq(Fardikes) Line | 14/07/2023 | 14/07/2023 | 23:16 | RN    | DPR Operated, Phase:15.22km,Zone-1     | 06:11 | RN    | Line Tripped due to rain & bad weather   | not affected   | NA  |
| 61     | 132 KV Makisar-Sarangga Line       | 9/21/2023  | 9/21/2023  | 9:01  | RPB   | RPH E/F Z-1, 2.4 KM                    | 5:52  | RPB   | Line Parolised by TL but No visible fault found  | 132kv sarangga & 132kv Kokoepara-2 S/S supply effected for 20 mnts                           | Line parolised from TL No. 463 to 485. No fault Found.  |
| 62     | 132 KV Makisar-Sarangga Line       | 9/23/2023  | 9/24/2023  | 6:05  | RPB   | RPH E/F Z-1, 6.20 KM                   | 0:15  | RPB   | Transient fault  | 132kv sarangga & 132kv Kokoepara-2 S/S supply effected for 15 mnts                           | NA  |
| 63     | 132 KV Makisar-Sarangga Line       | 8/29/2023  | 8/29/2023  | 2:23  | RPB   | RPH E/F Z-1, 5.91 KM                   | 0:11  | RPB   | Transient fault  | 132kv sarangga & 132kv Kokoepara-2 S/S supply effected for 14 mnts                           | NA  |
| 64     | 132 KV Makisar-Sarangga Line       | 9/20/2023  | 9/20/2023  | 3:35  | RPB   | RPH E/F Z-1, 10.33 KM                  | 0:15  | RPB   | Transient fault  | 132kv sarangga & 132kv Kokoepara-2 S/S supply effected for 15 mnts                           | NA  |
| 65     | 132 KV Makisar-Sarangga Line       | 8/31/2023  | 8/31/2023  | 11:20 | RPB   | RPH E/F Z-1, 5.95 KM                   | 9:23  | RPB   | Line Parolised by TL but No visible fault found  | 132kv sarangga & 132kv Kokoepara-2 S/S supply effected for 16 mnts                           | Line tower top parolised from 77Nv 473 To 480. No fault Found.  |
| 66     | 132 KV Baliwana-Bethinda Line      | 8/12/2023  | 8/12/2023  | 20:36 | DPR   | Operated O/C R-Ph Z-4, Distance: 5.5km | 0:29  | DPR   | No Fault Found   | Not affected   | ....  |
| 67     | 132 KV Baliwana-Bethinda Line      | 8/28/2023  | 8/28/2023  | 13:02 | DPR   | Operated O/C R-Ph Z-4, Distance: 6.9km | 0:16  | DPR   | No Fault Found   | Not affected   | ....  |
| 68     | 132 KV Busanear-Sarangga           | 9/28/2023  | 9/28/2023  | 7:17  | RPB   | RPH E/F Z-1, 5.84 KM                   | 1:27  | RPB   | Line Parolised by TL but No visible fault found  | 132kv sarangga & 132kv Kokoepara-2 S/S supply effected for 21 mnts                           | Line parolised from TL No. 465 to 479. No fault Found.  |
| 69     | 132 KV Guderbaha - Badii Line      | 24-08-2023 | 24-08-2023 | 19:15 | NI    | DPR OC Z-1, 4.03KM                     | 0:23  | NI    | transient fault  | NI   | ....  |
| 70     | 132 KV Guderbaha - Badii Line      | 28-08-2023 | 28-08-2023 | 15:30 | NI    | DPR OC Z-1, 7.93KM                     | 1:18  | NI    | transient fault  | NI   | Line parolised, done, no cause of tripping found  |
| 71     | 132 KV Guderbaha - Badii Line      | 29-08-2023 | 29-08-2023 | 12:02 | NI    | DPR Z1 24.1 KM                         | 1:48  | NI    | transient fault  | NI   | ....  |
| 72     | 132 KV Guderbaha - Badii Line      | 30-08-2023 | 30-08-2023 | 9:54  | NI    | DPR Z1 24 KM                           | 0:31  | NI    | transient fault  | NI   | ....  |
| 73     | 132 KV Guderbaha - Badii Line      | 31-08-2023 | 31-08-2023 | 20:40 | NI    | DPR Z1 42.6 KM                         | 0:30  | NI    | transient fault  | NI   | ....  |
| 74     | 132 KV Guderbaha - Badii Line      | 31-08-2023 | 01-09-2023 | 15:51 | NI    | DPR RN Z1 7.8 KM                       | 18:43 | NI    | R-ph insulator string found flash at top, replaced it  | NI   | lower top parolised done along PTW  |

| Sr. No | Name of the Line                              | From       |       | To         |       | Duration<br>HH:MM | Relay Indication<br>This End  | Cause of Tripping / Breakdown                             | Tripping Analysis / Remedial Measures<br>Taken  | Remarks  |
|--------|---|------------|-------|------------|-------|-------------------|---|---|---|--|
|        |   | Date       | Time  | Date       | Time  |                   |   |   |   |  |
| 75     | 132 KV Balluana Gidderbaha Line               | 8/23/2023  | 20:30 | 8/23/2023  | 21:42 | 1:12              | Dpr operated, Z-1, Distance: 16KM                                   | transient fault   | transient fault   | 132 KV Gidderbaha-Balluana Line hold at Gidderbaha end at 21:44. Blackout at 132 KV S/S Gidderbaha for 29 mins                 |
| 76     | 132 KV Malout-Gidderbaha                      | 8/23/2023  | 20:30 | 8/23/2023  | 20:59 | 0:29              | R PH O/C E/F ZONE-2   | Not Tripped   | transient fault   | 132 KV Gidderbaha-Balluana Line hold at Gidderbaha end at 21:44. Blackout at 132 KV S/S Gidderbaha for 29 mins                 |
| 77     | 132 KV Malout-Gidderbaha                      | 8/15/2023  | 4:56  | 8/15/2023  | 7:47  | 2:51              | BPH O/C E/F ZONE-1, DIST. 4.2KM                                     | transient fault   | transient fault   | Line hold at 07:44 at Gidderbaha End   |
| 78     | 132 KV Malout-Gidderbaha                      | 8/17/2023  | 9:56  | 8/17/2023  | 10:07 | 0:11              | YPH O/C E/F ZONE-1, DIST. 01.8KM                                    | transient fault   | transient fault   | 0-11   |
| 79     | 132 KV Maktesar-Kotkapura-1 Line              | 8/29/2023  | 1:05  | 8/29/2023  | 1:22  | 0:17              | Yph. E/F Z-1, 12.3 KM   | TRANSIENT FAULT AFTER PERMISSION OF PC Patala & SSE SAHIB | Temporary Tripping  | NA   |
| 80     | 132 KV Sarainaga-Kotkapura-02- Panigrahi Line | 8/17/2023  | 3:06  | 8/17/2023  | 3:16  | 0:10              | O/C Y-Ph-Z-1 Distance 18.32 Km, IR=145.4 A.IY=2.731 KA, IB=58.69 A  | Transient Fault   | transient fault   | Supply effected Kotkapura-2 grid for 00:10 minutes.  |
| 81     | 132 KV Sarainaga-Kotkapura-02- Panigrahi Line | 8/18/2023  | 1:49  | 8/18/2023  | 1:59  | 0:10              | O/C Y-Ph-Z-1 Distance 18.29 Km, IR=146.7 A.IY=2.725 KA, IB=58.64 A  | Transient Fault   | transient fault   | Supply effected Kotkapura-2 grid for 00:10 minutes.  |
| 82     | 132 KV Sarainaga-Kotkapura-02- Panigrahi Line | 8/21/2023  | 18:37 | 8/21/2023  | 18:47 | 0:10              | O/C B-Ph-Z-1 Distance 09.12 Km, IR=66.42 A.IY=1.451 KA, IB=35.75 KA | Transient Fault   | transient fault   | Supply effected of kotkapura-2 for 00:10 minutes   |
| 83     | 132 KV Sarainaga-Kotkapura-02- Panigrahi Line | 8/24/2023  | 3:30  | 8/24/2023  | 3:40  | 0:10              | O/C Y-Ph-Z-1 Distance 18.22 Km, IR=139.3 A.IY=2.785 KA, IB=61.70 A  | Transient Fault   | transient fault   | Supply effected of kotkapura-2 Grid for 00:10 minutes  |
| 84     | 132 KV Sarainaga-Kotkapura-02- Panigrahi Line | 8/29/2023  | 5:19  | 8/29/2023  | 5:29  | 0:10              | O/C Y-Ph-Z-1 Distance 18.21 Km, IR=143.6 A.IY=2.824 KA, IB=64.89A   | Transient Fault   | transient fault   | Supply effected of kotkapura-2 Grid for 00:10 minutes  |
| 85     | 132 KV Maktesar-Sadiq(Pandikot) Line          | 8/1/2023   | 5:19  | 8/1/2023   | 12:42 | 7:23              | DPR Operated, Phase, 15.83km, Zone-1                                | Breaker not installed                                     | string of disc insulators flashed at tower no 111 of B phase  | Replacement of string of disc insulators flashed at tower no 111 of B phase  |
| 86     | 132 KV Maktesar-Sadiq(Pandikot) Line          | 8/8/2023   | 21:01 | 8/8/2023   | 21:16 | 00:15             | DPR Operated, Phase, 16.86km, Zone-1                                | Breaker not installed                                     | transient fault   | NA   |
| 87     | 132 KV Maktesar-Sadiq(Pandikot) Line          | 8/9/2023   | 5:20  | 8/9/2023   | 13:18 | 7:58              | DPR Operated, Phase, 15.42km, Zone-1                                | Breaker not installed                                     | TL Team Muktesar patrolled the line and no visible fault found  | TL Team Muktesar patrolled the line from T.No. 105 to 125 and no visible fault found.  |
| 88     | 132 KV Moga-Panigrahi Kalan                   | 05/08/2023 | 2:31  | 05/08/2023 | 3:10  | 0:39              | DPR BN-0 Z-1 22.104 KM  | CB Not Installed  | Transient Fault   | All supply of 132 KV S/S Panigrahi Kalan is affected for 19 Minutes. (Supply restored from 132 KV S/S Sarainaga on 02:50 Hrs.) |
| 89     | 132 KV Moga-Panigrahi Kalan                   | 05/08/2023 | 8:14  | 05/08/2023 | 8:33  | 0:19              | DPR YK-0 Z-1 15.805 KM  | CB Not Installed  | Transient Fault   | All supply of 132 KV S/S Panigrahi Kalan is affected for 19 Minutes.   |
| 90     | 132 KV Moga-Panigrahi Kalan                   | 07/08/2023 | 2:02  | 07/08/2023 | 2:08  | 0:06              | DPR YK-0 Z-1 20.158 KM  | CB Not Installed  | Transient Fault   | NA   |
| 91     | 132 KV Moga-Panigrahi Kalan                   | 07/08/2023 | 2:12  | 07/08/2023 | 12:06 | 9:54              | DPR YK-0 Z-1 19.541 KM  | CB Not Installed  | Due to flashed disc insulator at T/No.307, Y-Phase. Line charged after clearance from AEE/TL, Sri Muktesar Sahib. | Line tower top patrolled from T/No. 290 To 310 & replaced flashed top most disc insulator of T/No.307 (Y-Phase)                |
| 92     | 132 KV Moga-Panigrahi Kalan                   | 05/08/2023 | 2:47  | 08/08/2023 | 2:56  | 0:11              | DPR YK-0 Z-1 23.262 KM  | CS Not Installed  | Transient Fault   | NA   |
| 93     | 132 KV Moga-Panigrahi Kalan                   | 10/08/2023 | 19:21 | 10/08/2023 | 19:48 | 0:27              | DPR RN-0 Z-1 18.593 KM  | CB Not Installed  | Transient Fault   | NA   |
| 94     | 132 KV Moga-Panigrahi Kalan                   | 15/08/2023 | 4:15  | 15/08/2023 | 4:21  | 0:06              | DPR YK-0 Zone-NA 27.842 KM  | CB Not Installed  | Transient Fault   | NA   |

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| Sl. No | Name of the Line            | Event Date | Time  | Duration (HH:MM) | Rollback Substation    | Time Held            | Class of Tripping / Re-energization  | Tripping/Analysis/ Remedial Measure  | Supply affected or Not  | Remarks  |
|--------|-----------------------------|------------|-------|------------------|------------------------|----------------------|--|--|---|--|
| 95     | 132 KV Mega-Pangrain Kalan  | 16/08/2023 | 3:43  | 0:12             | DPR BN-0-2-1 24.315 KM | CE Not installed     | Transient Fault. After inspection of switchyard at sub-stations. Line charged after message received via mail from ABE/TL, Sri Muktesar Sahib.               | Transient Fault.   | All supply of 132 KV S/S Pangrain Kalan is affected for 12 Minutes.   | NA   |
| 96     | 132 KV Mega-Pangrain Kalan  | 19/08/2023 | 10:36 | 0:16             | DPR YN-0-2-1 19.628 KM | CE Not installed     | Transient Fault. After inspection of switchyard at sub-stations. Line charged with approval of SSE & ABE/TL, Sri Muktesar Sahib.                             | Transient Fault.   | All supply of 132 KV S/S Pangrain Kalan is affected for 16 Minutes.   | NA   |
| 97     | 132 KV Mega-Pangrain Kalan  | 20/08/2023 | 7:09  | 0:11             | DPR BN-0-2-1 9.952 KM  | CE Not installed     | No Visible fault found to ABE/TL, Sri Muktesar Sahib during patrolling. Line charged after clearance from ABE/TL, Sri Muktesar Sahib.                        | Line tripped by TL but no visible fault found.   | All supply of 132 KV S/S Pangrain Kalan is affected for 18 Minutes. (Supply restored from 132 KV S/S Sranganj at 09:27 Hrs.)                          | Line patrolled from T/No. 271 To 283 & No visible fault found.                                   |
| 98     | 132 KV Mega-Pangrain Kalan  | 21/08/2023 | 11:37 | 0:15             | DPR BN-0-2-1 18.02 KM  | CE Not installed     | Transient Fault. After inspection of switchyard at sub-stations. Line charged with approval of PC, Palaka & ABE/TL, Sri Muktesar Sahib.                      | Transient Fault.   | All supply of 132 KV S/S Pangrain Kalan is affected for 15 Minutes.   | NA   |
| 99     | 132 KV Mega-Pangrain Kalan  | 27/08/2023 | 4:47  | 0:19             | DPR YN-0-2-1 18.544 KM | CE Not installed     | Transient Fault. After inspection of switchyard at sub-stations. Line charged with approval of ABE/TL, Sri Muktesar Sahib.                                   | Transient Fault.   | All supply of 132 KV S/S Pangrain Kalan is affected for 19 Minutes.   | NA   |
| 100    | 132 KV Mega-Pangrain Kalan  | 27/08/2023 | 18:59 | 0:15             | DPR YN-0-2-1 19.943 KM | CE Not installed     | Transient Fault. After inspection of switchyard at sub-stations. Line charged with approval of ABE/TL, Sri Muktesar Sahib & SSE, 220 KV S/S Moga (Singawale) | Transient Fault.   | All supply of 132 KV S/S Pangrain Kalan is affected for 15 Minutes.   | NA   |
| 101    | 132 KV Mega-Pangrain Kalan  | 28/08/2023 | 17:45 | 0:05             | DPR YN-0-2-1 19.965 KM | CE Not installed     | Transient Fault. After inspection of switchyard at sub-stations. Line charged with approval of ABE/TL, Sri Muktesar Sahib. Line got hold.                    | Transient Fault.   | All supply of 132 KV S/S Pangrain Kalan is affected for 05 Minutes.   | NA   |
| 102    | 132 KV Mega-Pangrain Kalan  | 29/08/2023 | 13:06 | 0:19             | DPR BN-0-2-1 6.6 KM    | CE Not installed     | B-0 Conductor B/D between T/No. 262 To 263. Line charged after clearance from ABE/TL, Sri Muktesar Sahib.  | B-0 Conductor B/D between T/No. 262 To 263. Aggravation of conductor at 02 Sq mm ceased. | All supply of 132 KV S/S Pangrain Kalan is affected for 15 Minutes. All sub-stations supply restored from 132 KV S/S Sri Muktesar Sahib at 18:21 Hrs. | Line patrolled as per fault location in DPR & attend B-0 Conductor B/D between T/No. 262 To 264. |
| 103    | 132 KV Muktesar-Malout Line | 07/12/2023 | 7:48  | 0:59             | Rph E/F-2-1 4.51 KM    | Rph E/F-2-1 24.48 KM | Transient Fault. TAKEN TRY AFTER PERMISSION OF PC Palaka & SSE SAHB  | Line on H-Pole. Insulator strings are weak. Which gives temporary tripping.              | Not affected.   | Line patrolled down from H-pole no. 35 to 46. No fault found.                                    |
| 104    | 132 KV Muktesar-Malout Line | 09/15/2023 | 6:50  | 0:20             | Rph E/F-2-1 9.74 KM    | Breaker not trip     | Transient Fault. TAKEN TRY AFTER PERMISSION OF PC Palaka & SSE SAHB  | Line on H-Pole. Insulator strings are weak. Which gives temporary tripping.              | 132 KV SS Malout supply affected for 20 mins.   | NA   |
| 105    | 132 KV Muktesar-Malout Line | 07/17/2023 | 5:40  | 0:40             | Rph E/F-2-1 5.67 KM    | Rph E/F-2-1 23.76 KM | Try taken after clearance ceramic fuse given by TL. H-pole No. 51 Nph disc changed.  | Material failure.  | Not affected.   | Line patrolled from H-Pole no. 45 to 66 & at H-pole No. 51 Nph disc changed.                     |

| Sr. No | Name of the Line                  | From Date  | To Date    | Time  | Duration HH:MM | Relay Indication This End                                     | That End                   | Cause of Tripping / Breakdown   | Tripping Analysis/ Remedial Measures Taken                                | supply affected or Not  | Remarks  |
|--------|-----------------------------------|------------|------------|-------|----------------|---|----------------------------|---|---|---|--|
| 106    | 132 KV Muktesar-Malout Line       | 8/19/2023  | 8/19/2023  | 7:45  | 0:45           | Rph E/F Z-1, 2.498 KM   | Rph E/F Z-1, 5.25 KM       | Transient Fault TAKEN TRY AFTER PERMISSION OF PC Patiala & SSE SAHIB  | Line Hi-Pole, Insulator strings are weak. Which gives temporary tripping. | No affected   | Line patrolled, but no fault found to TL team.   |
| 107    | 132 KV Muktesar-Malout Line       | 8/20/2023  | 8/20/2023  | 7:44  | 2:23           | Bph E/F Z-1, 15.55 KM   | Bph E/F Z-1, 13.35 KM      | Line Patrolled by TL No fault found   | Material Failure,   | No affected   | Line patrolled from Hi-Pole No. 130 to 150. No fault found.                                      |
| 108    | 132 KV Muktesar-Malout Line       | 8/25/2023  | 8/25/2023  | 17:25 | 1:40           | Rph E/F Z-1, 10.33 KM   | Rph E/F Z-1, 18.86 KM      | Line Patrolled by TL No fault found   | temporary tripping.   | No affected   | Line patrolled from Hi-Pole No. 80 to 100. No fault found.                                       |
| 109    | 132 KV Muktesar-Malout Line       | 8/30/2023  | 8/30/2023  | 6:25  | 3:25           | Rph E/F Z-1, 4.29 KM  | Rph E/F Z-1, 35.29 KM      | Line Patrolled by TL No fault found   | temporary tripping.   | No affected   | Line patrolled from Hi-Pole No. 28 to 46. No fault found.  |
| 110    | 132 KV Muktesar-Falaabad Line     | 8/7/2023   | 8/7/2023   | 2:30  | 5:09           | DPR Operated, Phase-1, 6km, Zone-1                            | Breaker not installed      | TL Team Muktesar patrolled the line and no visible fault found  | Line patrolled by TL team, but no fault found                             | TL Team Muktesar patrolled the line and no visible fault found  | TL Team Muktesar patrolled the line from LDC, 01 to 10 and no visible fault found                |
| 111    | 132 KV Mega-Kokkepura-01          | 17/08/2023 | 17/08/2023 | 1:25  | 0:21           | DPR BN-Φ Z-1, 23.472 KM                                       | DPR BN-Φ Z-1, 18.39 KM     | Transient Fault After inspection of switchyard at sub-stations. Line charged with approval of ABE/TL Shri Muktesar Sahib SSE & PC, Patiala          | Transient Tripping  | No supply affected at 132 KV S/S Kokkepura-01   | NA   |
| 112    | 132 KV Ferozepur-Sadiq Section    | 8/21/2023  | 8/21/2023  | 5:55  | 4:54           | DPR Zone I, YN Phase, Trip Phase RTB, Fault Location 3.177 KM |                            | Message delivered to TL team for patrolling of line, patrolling done by TL and 'No fault was found' certificate given by TL and line was energised. | Transient Tripping  | Supply of 132 KV Sub-Station Fardkot affected for 20 mins. Load of 132 KV Sub-Station Fardkot has been shifted to 220 KV Muktesar Sahib at 06:15. | Line patrolled from T.No. 01 to 16. No fault found.  |
| 113    | 132 KV GNDTP-N.F.L. CRT-2 Line    | 9/4/2023   | 9/4/2023   | 18:24 | 3:28           | DPR O/C B-Ph, Distance:0.4km                                  | Breaker was already closed | Transient Fault Patrolling done No visible fault found  | Transient Fault Patrolling done   | No affected   |  |
| 114    | 132 KV Godderbaha Channa Line     | 9/27/2023  | 9/27/2023  | 15:30 | 1:25           | RN Z1 4.8 KM 51%  | RN Z1 5.74 KM              | Try taken as per PC Patiala instructions  | transient fault   | No  | ....   |
| 115    | 132 KV Godderbaha Channa Line     | 9/29/2023  | 9/29/2023  | 22:02 | 0:23           | BN Z1 5.2 KM 55.10%   | BN Z1 5.85 KM              | Try taken as per PC Patiala instructions  | transient fault   | No  | ....   |
| 116    | 132 KV GRDTP- Bahinda Cantt. Line | 9/14/2023  | 9/16/2023  | 18:35 | 0:44           | DPR operated O/C YN-Ph Z-1, Distance=9.6km                    | NA                         | VCB of 11kV Feeder bistated at 132KV Bahinda Cantt. S/S   | Material Failure  | Yes   |  |
| 117    | 132 KV GNDTP- Bahinda Cantt. Line | 9/23/2023  | 9/23/2023  | 14:30 | 0:22           | DPR operated O/C Y-Ph Z-1, Distance=10km                      | NA                         | Y-Ph LA of T/F Bistated at 132KV Bahinda Cantt. S/S   | Material Failure  | Yes   |  |
| 118    | 132 KV Muktesar-Sarananga Line    | 9/8/2023   | 9/8/2023   | 0:05  | 0:10           | Sph E/F Z-1, 5.92 KM  | Z-1, 6.97 KM               | Transient Fault   | Transient Fault   | 132kv sarananga & 132kv Kokkepura-2 S/S supply effected for 10 mins   | 132kv sarananga & 132kv Kokkepura-2 S/S supply effected for 10 mins                              |
| 119    | 132 KV Muktesar-Sarananga Line    | 9/8/2023   | 9/8/2023   | 1:10  | 7:40           | Sph E/F Z-1, 5.78 KM  | Z-1, 6.932 KM              | Tower No. 466 Ept. damaged disc changed   | Material Failure: String damaged at T.No. 466 (B-Phase)                   | S/S supply effected for 10 mins   | Patrolling done by team as per fault location. At Tower No. 466 B-Phase damaged string replaced. |
| 120    | 132 KV Muktesar-Sarananga Line    | 9/12/2023  | 9/12/2023  | 5:01  | 1:46           | Sph E/F Z-1, 5.93 KM  | Sph E/F Z-1, 7.08 KM       | Try taken after clearance certificate given by TL   | Transient Fault   | 132kv sarananga & 132kv Kokkepura-2 S/S supply effected for 14 mins   | Line patrolled as per fault location and no visible fault found                                  |
| 121    | 132 KV Muktesar-Sarananga Line    | 9/21/2023  | 9/21/2023  | 14:05 | 3:45           | Rph E/F Z-1, 0.634 KM   | Breaker Not trip           | Try taken after clearance certificate given by TL   | Transient Fault   | 132kv sarananga S/S supply effected for 1 hr-12 mins  | Line patrolled as per fault location and no visible fault found                                  |

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| Sl. No | Name of the Line                           | IPDR Base  | Time  | Dispatch | Relay mechanism                      | That find   | Cause of Tripping / Breakdown | Tripping Ambiguity / Recirculation Behaviour | Supply affected or Not  | Remarks  |
|--------|--|------------|-------|----------|--------------------------------------|---|-------------------------------|--|---|--|
| 122    | 132 KV Maranga-Sarangga Line               | 9/24/2023  | 6:01  | 9:16     | Phb E/F Z-1, 5.99 KM                 | Phb E/F Z-1, 7.12 KM  | Transient fault               | Transient fault                              | Supply affected for 10 mins   | 132KV Sarangga & 132KV Kokoapara-2 S/S supply effected for 10 mins |
| 123    | 132 KV Gandi-Biduana Line                  | 9/14/2023  | 4:59  | 11:56    | Dpr operated, Z-1, Distance: 2.07 KM | Dpr operated, Z-1, Distance: 14.7 KM                            | Transient fault               | Material failure                             | Supply of 132 KV S/S Biduana & 132 KV S/S Gudatuba affected for 42 mins | Lower top patrolling done & replaced. flushed insulator string     |
| 124    | 132 KV Gandi-Biduana Line                  | 9/30/2023  | 4:48  | 10:52    | Dpr operated, Z-1, Distance: 1.83 KM | Dpr operated, Z-1, Distance: 12.4 KM                            | Transient fault               | Material failure                             | No  | Lower top patrolling done & replaced. flushed insulator string     |
| 125    | 132 KV Sarangga-Kokoapara-02 Line          | 9/5/2023   | 4:44  | 6:10     | O/C Y-Ph-Z-1 Distance: 16.27 KM      | Breaker not installed at 132 KV SS KRP2                         | Transient fault               | Transient fault                              | Supply effected Kokoapara-2 grid for 00:10 minutes.                     | NA   |
| 126    | 132 KV Gudatuba-Badu Line                  | 9/17/2023  | 16:49 | 16:44    | DPR Z-1 3.55KM                       | No  | Transient fault               | Material failure                             | on 05-9-2023, 3,00.9 (R phase) disc insulator changed by TL RTI         | Lower top patrolling done & replaced. flushed insulator string     |
| 127    | 132 KV Gudatuba-Badu Line                  | 15-09-2023 | 9:25  | 10:38    | DPR VN Z-2 2.48KM                    | No  | Transient fault               | Transient fault                              | Try taken after PG Permission.  | NA   |
| 128    | 132 KV Biliang-Gudatuba Line               | 9/14/2023  | 3:03  | 6:42     | Dpr operated, Z-1, Distance: 0.2 KM  | Not Tripped 1 only Biduana End (Tripped)                        | Transient fault               | Transient fault                              | Supply of 132 KV S/S Biduana & 132 KV S/S Gudatuba affected for 42 mins | NA   |
| 129    | 132 KV Kaloar-Gudatuba Line                | 9/14/2023  | 3:08  | 6:23     | Phb O/C E/F                          | Breaker not tripped   | Transient fault               | Transient fault                              | NA  | NA   |
| 130    | 132 KV Malout-Gudatuba Line                | 9/4/2023   | 1:40  | 13:35    | B PH O/C E/F, ZONE-1, DIST- 2.4KM    | B PH O/C E/F, ZONE-1, DIST- 2.4KM                               | Material failure              | Material failure                             | NA  | Lower top patrolling done & replaced. flushed insulator string     |
| 131    | 132 KV Malout-Gudatuba Line                | 9/2/2023   | 12:45 | 16:43    | B PH O/C E/F, ZONE-1, DIST- 2.5KM    | B PH O/C E/F, Z-1, DIST- 14.67 KM                               | Transient fault               | transient fault                              | NA  | NA   |
| 132    | 132 KV Makasar-Kokoapara-1 Line            | 9/2/2023   | 3:22  | 6:13     | Phb. E/F Z-1, 11.11 KM               | Phb. E/F Z-1, 16.7 KM   | Transient fault               | Transient fault                              | Not   | NA   |
| 133    | 132 KV Makasar-Kokoapara-1 Line            | 9/4/2023   | 20:05 | 16:20    | Yph. E/F Z-1, 11.31 KM               | Yph. E/F Z-1, 15.16 KM  | Transient fault               | Transient fault                              | Not   | NA   |
| 134    | 132 KV Makasar-Kokoapara-1 Line            | 9/11/2023  | 2:29  | 6:16     | Phb. E/F Z-1, 23.19 KM               | Phb. E/F Z-1, 4.4 KM  | Transient fault               | Transient fault                              | not   | Lower patrolling done P.No. 105 to 125 and no visible fault found  |
| 135    | 132 KV Makasar-Kokoapara-1 Line            | 9/12/2023  | 20:47 | 16:23    | Yph. E/F Z-1, 16.85 KM               | Yph. E/F Z-1, 15.69 KM  | Transient fault               | Transient fault                              | not   | NA   |
| 136    | 132 KV Makasar-Kokoapara-1 Line            | 9/19/2023  | 13:46 | 13:46    | Yph. E/F                             | Breaker Not trip  | Transient fault               | Transient fault                              | 132kv Kokoapara-1 S/S supply effected for 10 mins                       | NA   |
| 137    | 132 KV Makasar-Kokoapara-1 Line            | 9/29/2023  | 13:36 | 14:15    | Yph. E/F Z-1, 25.84 KM               | Yph. E/F Z-1, 15.29 KM  | Transient fault               | Transient fault                              | not   | NA   |
| 138    | 132 KV Sarangga-Kokoapara-02, Pangara Line | 9/1/2023   | 3:00  | 6:12     | Phb E/F Z-1, 5.9 KM                  | Phb E/F Z-1, 6.94 KM  | Transient fault               | Transient fault                              | Supply effected Sarangga & Kokoapara-2 grid for 00:21 minutes.          | NA   |
| 139    | 132 KV Sarangga-Kokoapara-02, Pangara Line | 9/8/2023   | 5:22  | 6:23     | O/C Y-Ph-Z-1 Distance: 17.64 KM      | O/C Y-Ph-Z-1 Distance: 17.64 KM, 3.6047KM BY #2505A, B, #1508 A | Transient fault               | Transient fault                              | Supply effected Sarangga & Kokoapara-2 grid for 00:10 minutes           | NA   |
| 140    | 132 KV Sarangga-Kokoapara-02, Pangara Line | 9/19/2023  | 17:44 | 6:10     | O/C Y-Ph-Z-1 Distance: 16.28 KM      | Breaker not installed at 132 KV SS KRP2                         | Transient fault               | Transient fault                              | Supply effected of Kokoapara-2 for 00:10 minutes                        | NA   |
| 141    | 132 KV Sarangga-Kokoapara-02, Pangara Line | 9/20/2023  | 25:51 | 6:01     | O/C Y-Ph-Z-1 Distance: 20.58 KM      | Breaker not installed at 132 KV SS KRP2                         | Transient fault               | Transient fault                              | Supply effected of Kokoapara-2 Grid for 00:10 minutes                   | NA   |
| 142    | 132 KV Sarangga-Kokoapara-02, Pangara Line | 9/21/2023  | 1:47  | 1:57     | O/C Y-Ph-Z-1 Distance: 20.63 KM      | Breaker not installed at 132 KV SS KRP2                         | Transient fault               | Transient fault                              | Supply effected of Kokoapara-2 Grid for 00:10 minutes                   | NA   |

*[Handwritten Signature]*

| Sr. No | Name of the Line                             | From Date  | Time  | To Date    | Time  | Duration Hrs:MM | Relay Indication                    |   | Cause of Tripping / Breakdown  | Tripping Analysis/ Remedial Measures Taken   | supply affected or Not   | Remarks  |
|--------|--|------------|-------|------------|-------|-----------------|-------------------------------------|---|--|--|--|--|
|        |  |            |       |            |       |                 | This End                            | Tant End                                |  |  |  |  |
| 143    | 132 KV Saranaga-Kokkapura-02-Panigrahal Line | 9/21/2023  | 4:55  | 9/21/2023  | 12:05 | 7:10            | O/C Y-Ph.2-1 Distance 20.56 Km,     | Breaker not installed at 132 KV SS KRP2 | Line Patrolled by TL (No fault found)  | Transient Fault  | Supply effected of kokkapura-2 Grid for 00:16 minutes. Supply restore from panigrahal at 5:11                                  | Line patrolled as per fault location and no visible fault found                                |
| 144    | 132 KV Saranaga-Kokkapura-02-Panigrahal Line | 9/25/2023  | 4:26  | 9/25/2023  | 4:36  | 0:10            | O/C B-Ph.2-1 Distance 21.38 Km      | Breaker not installed at 132 KV SS KRP2 | Transient Fault  | Transient Fault  | Supply effected of kokkapura-2 Grid for 00:10 minutes  | NA   |
| 145    | 132 KV Saranaga-Kokkapura-02-Panigrahal Line | 9/28/2023  | 0:44  | 9/28/2023  | 0:54  | 0:10            | O/C Y-Ph.2-1 Distance 18.25 Km,     | Breaker not installed at 132 KV SS KRP2 | Transient Fault  | Transient Fault  | Supply effected of kokkapura-2 Grid for 00:10 minutes.   | NA   |
| 146    | 132 KV Muktesar-Sadag(Faridkot) Line         | 9/12/2023  | 5:03  | 9/12/2023  | 5:13  | 0:10            | DPR Operated, Phase,15.43km,Zone-1  | Breaker not installed                   | Transient fault  | Transient Fault  | Not  | NA   |
| 147    | 132 KV Muktesar-Sadag(Faridkot) Line         | 9/14/2023  | 5:07  | 9/14/2023  | 5:17  | 0:10            | DPR Operated, Phase,15.59km,Zone-1  | Breaker not installed                   | transient fault  | Transient Fault  | not  | NA   |
| 148    | 132 KV Muktesar-Sadag(Faridkot) Line         | 9/28/2023  | 5:30  | 9/28/2023  | 5:40  | 0:10            | DDPR Operated, Phase,15.09km,Zone-1 | Breaker not installed                   | transient fault  | Transient Fault  | not  | NA   |
| 149    | 132 KV Moga- Panigrahal Kalan                | 06/09/2023 | 22:10 | 06/09/2023 | 22:23 | 0:13            | DPR YN-φ 2-1 25.912 KM              | CB Not Installed                        | Transient Fault  | Transient Fault  | All supply of 132 KV S/S Panigrahal Kalan is affected for 13 Minutes.  | NA   |
| 150    | 132 KV Moga- Panigrahal Kalan                | 9/8/2023   | 5:20  | 9/8/2023   | 5:45  | 0:25            | DPR YN-φ 2-2 36.017 KM              | CB Not Installed                        | Transient Fault  | Transient Fault  | All supply of 132 KV S/S Panigrahal Kalan, Kokkapura-02 & saranaga is affected for 25 Minutes.                                 | NA   |
| 151    | 132 KV Moga- Panigrahal Kalan                | 10/09/2023 | 1:06  | 10/09/2023 | 1:16  | 0:10            | DPR RN-φ 2-1 24.228 KM              | CB Not Installed                        | Transient Fault. After inspection of switchyard at sub-stations, Line charged  | Transient Fault  | All supply of 132 KV S/S Panigrahal Kalan is affected for 10 Minutes.  | NA   |
| 152    | 132 KV Moga- Panigrahal Kalan                | 10/09/2023 | 1:58  | 10/09/2023 | 11:55 | 9:57            | DPR RN-φ 2-1 23.779 KM              | CB Not Installed                        | As the ageing of line & insulator strings are week. Which gives temporary tripping of line.  | As the ageing of line & insulator strings are week. Which gives temporary tripping of line. Remedial Measure: Replacement of oldage/ weak string insulators. | All supply of 132 KV S/S Panigrahal Kalan is affected for 10 Minutes. (Supply restored from 132 KV S/S Saranaga on 02:08 Hrs.) | Line patrolled from T/No. 310 To 330. No visible fault found.                                  |
| 153    | 132 KV Moga- Panigrahal Kalan                | 10/09/2023 | 20:42 | 10/09/2023 | 20:55 | 0:13            | DPR RN-φ 2-1 24.809 KM              | CB Not Installed                        | Transient Fault. After inspection of switchyard at sub-stations, Line charged  | Transient Fault  | All supply of 132 KV S/S Panigrahal Kalan is affected for 13 Minutes.  | NA   |
| 154    | 132 KV Moga- Panigrahal Kalan                | 13/09/2023 | 1:51  | 13/09/2023 | 2:01  | 0:10            | DPR YN-φ 2-1 28.129 KM              | CB Not Installed                        | Transient Fault. After inspection of switchyard at sub-stations, Line charged  | Transient Fault  | All supply of 132 KV S/S Panigrahal Kalan is affected for 10 Minutes.  | NA   |
| 155    | 132 KV Moga- Panigrahal Kalan                | 13/09/2023 | 6:08  | 13/09/2023 | 13:45 | 7:37            | DPR BN-φ Zone-NA 26.058 KM          | CB Not Installed                        | As the ageing of line & insulator strings are week. Which gives temporary tripping of line. Remedial Measure: Replacement of oldage/ weak string insulators. | As the ageing of line & insulator strings are week. Which gives temporary tripping of line. Remedial Measure: Replacement of oldage/ weak string insulators. | All supply of 132 KV S/S Panigrahal Kalan is affected for 10 Minutes. (Supply restored from 132 KV S/S Saranaga on 06:28 Hrs.) | Line patrolled from T/No. 310 To 330 & tree cutting between 264 & 265. No visible fault found. |
| 156    | 132 KV Moga- Panigrahal Kalan                | 13/09/2023 | 13:45 | 13/09/2023 | 18:05 | 4:20            | DPR BN-φ 2-1 27.613 KM              | CB Not Installed                        | Due to flash disc string on B-Phase T/No. 343.   | Material Failure-String damaged at T.No. 343 (B-Phase)   | No supply affected at 132 KV S/S Panigrahal Kalan.   | Line Patrolled as per DPR location & replaced flash disc string of B-Phase T/No. 343.          |
| 157    | 132 KV Moga- Panigrahal Kalan                | 9/16/2023  | 20:01 | 9/16/2023  | 20:11 | 0:10            | DPR YN-φ Zone-NA 28.167 KM          | CB Not Installed                        | Transient Fault. After inspection of switchyard at sub-stations, Line charged  | Transient Fault  | All supply of 132 KV S/S Panigrahal Kalan is affected for 10 Minutes.  | NA   |
| 158    | 132 KV Moga- Panigrahal Kalan                | 9/17/2023  | 5:38  | 9/17/2023  | 5:49  | 0:11            | DPR YN-φ Zone-NA 27.367 KM          | CB Not Installed                        | Transient Fault. After inspection of switchyard at sub-stations, Line charged  | Transient Fault  | All supply of 132 KV S/S Panigrahal Kalan is affected for 11 Minutes.  | NA   |

| SF No | Name of the Line              | Event Date | Time  | Date       | Time  | Phase | Distance                                   | Phase                               | Time    | Phase | Cause of Tripping / Breakdown  | Tripping Analysis / Remedial Action taken                 | Remarks   |    |
|-------|-------------------------------|------------|-------|------------|-------|-------|--|-------------------------------------|---------|-------|--|---|---|----|
| 159   | 132 KV Boga-Pangrain-Kahan    | 21/09/2023 | 05:56 | 21/09/2023 | 06:11 | PHASE | DPRAVN-4 Z-1 5.09 KM                       | CB Not Installed                    | 06:15   | PHASE | Transient Fault. After inspection of switchgear at sub-station, line was changed.                                | Transient Fault   | All supply of 132 KV S/S Pangrain-Kahan & Koksapure-02 is affected for 18 & 19 Minutes respectively.<br>* Try taken on No Load & Load of 132 KV S/S Pangrain-Kahan & Koksapure-02 first on Shunt loads at 06:15 hrs. & 06:15 hrs. respectively. | NA |
| 160   | 132 KV Boga-Pangrain-Kahan    | 9/23/2023  | 6:58  | 9/23/2023  | 7:03  | PHASE | DPRAVN-4 Z-1 11.506 KM                     | CB Not Installed                    | 02:4    | PHASE | Transient Fault. After inspection of switchgear at sub-station, line changed.                                    | Transient Fault   | All supply of 132 KV S/S Pangrain-Kahan is affected for 24 Minutes.   | NA |
| 161   | 132 KV Boga-Pangrain-Kahan    | 26/09/2023 | 3:51  | 26/09/2023 | 3:52  | PHASE | DPRAVN-4 Z-1 25.22 KM                      | CB Not Installed                    | 0:11    | PHASE | Transient Fault. After inspection of switchgear at sub-station, line changed.                                    | Transient Fault   | All supply of 132 KV S/S Pangrain-Kahan is affected for 11 Minutes.   | NA |
| 162   | 132 KV Boga-Pangrain-Kahan    | 26/09/2023 | 3:57  | 26/09/2023 | 3:58  | PHASE | DPRAVN-4 Z-1 6.081 KM                      | CB Not Installed                    | 0:10    | PHASE | Transient Fault. After inspection of switchgear at sub-station, line changed.                                    | Transient Fault   | All supply of 132 KV S/S Pangrain-Kahan is affected for 10 Minutes.   | NA |
| 163   | 132 KV Makasar-Kalout Line    | 9/7/2023   | 17:14 | 9/7/2023   | 17:42 | PHASE | PHASE Z-1 12.96 KM                         | PHASE Z-1 12.96 KM                  | 0:28    | PHASE | Transient Fault  | Transient Fault   | Not affected  | NA |
| 164   | 132 KV Makasar-Kalout Line    | 9/11/2023  | 10:20 | 9/11/2023  | 10:50 | PHASE | PHASE Z-1 12.06 KM                         | PHASE Z-1 17.46 KM                  | 0:30    | PHASE | Transient Fault  | Transient Fault   | Not affected  | NA |
| 165   | 132 KV Makasar-Kalout Line    | 13/09/2023 | 7:21  | 13/09/2023 | 11:21 | PHASE | PHASE Z-1 27.52 KM                         | PHASE Z-1 1.03 KM                   | 4:03    | PHASE | Try taken after clearance certificate given by TL  | Transient Fault due to temporary flashover over the discs | Line paroled as per fault location and no visible fault found   | NA |
| 166   | 132 KV Makasar-Kalout Line    | 9/15/2023  | 13:27 | 9/15/2023  | 14:45 | PHASE | PHASE Z-1 1.03 KM                          | PHASE Z-1 1.03 KM                   | 1:18    | PHASE | transient fault  | Transient Fault   | Not affected  | NA |
| 167   | 132 KV Boga-Kokapure-01 Line  | 9/3/2023   | 18:23 | 9/3/2023   | 18:45 | PHASE | DPRAVN-4 Phase-R Zone-1 Distance- 11.94Kms | DPRAVN-4 Zone-1 Distance- 29.466Kms | 0:22    | PHASE | Transient Fault  | Transient Fault   | Not affected  | NA |
| 168   | 132 KV Boga-Kokapure-01 Line  | 9/4/2023   | 4:15  | 9/4/2023   | 4:45  | PHASE | DPRAVN-4 Z-1 1.03 KM                       | PHASE Z-1 1.03 KM                   | 0:30    | PHASE | Transient Fault  | Transient Fault   | Not affected  | NA |
| 169   | 132 KV Boga-Kokapure-01 Line  | 9/7/2023   | 5:39  | 9/7/2023   | 13:01 | PHASE | DPRAVN-4 Z-1 1.03 KM                       | PHASE Z-1 1.03 KM                   | 7:22    | PHASE | Transient Fault  | Transient Fault due to temporary flashover over the discs | Paroled since by team as per fault location of both end. No fault found to TL team.   | NA |
| 170   | 220 KV Makasar-Sarum Line     | 7/4/2023   | 14:50 | 7/4/2023   | 20:30 | PHASE | Phase N Phase, Zone-1, L=25.35 KM          | Phase N Phase, Zone-1, L=10.61 KM   | #VALUE! | PHASE | Line paroled by TL S/O Bhatinda. No fault found. Try taken with approval of PC Patish. Line holded successfully. | Transient Fault   | Paroled since, no visible cause of tripping found.  | NA |
| 171   | 220 KV Makasar-Balur Line     | 7/15/2023  | 2:46  | 7/15/2023  | 13:39 | PHASE | Yellow N Phase, Zone-1, L=13.6 KM          | Yellow N Phase, Zone-1, L=18.29 KM  | #VALUE! | PHASE | Line paroled by TL S/O Bhatinda. No fault found. Try taken with approval of PC Patish. Line holded successfully. | Transient Fault   | Paroled since, no visible cause of tripping found.  | NA |
| 172   | 220 KV Makasar-Balur Line     | 7/20/2023  | 4:38  | 7/20/2023  | 10:28 | PHASE | Red N Phase, Zone-1, L=52.3 KM             | Red N Phase, Zone-1, L=51.78 KM     | #VALUE! | PHASE | Line paroled by TL S/O Bhatinda. No fault found. Try taken with approval of PC Patish. Line holded successfully. | Transient Fault   | Paroled since, no visible cause of tripping found.  | NA |
| 173   | 220 KV Bhatinda-Nandagar Line | 7/24/2023  | 8:09  | 7/24/2023  | 16:29 | PHASE | DPRAVN-4 Zone 2, B-ph Zone 2, L=45.12 km   | NA                                  | #VALUE! | PHASE | Breakdown of high suspension clamp in Tower no.37/6  | Mechanical Failure  | Breakdown reported  | NA |

| Sr. No | Name of the Line                      | From Date | Time  | To Date   | Duration HH:MM | Relay Indication |  | Cause of Tripping / Breakdown   | Tripping Analysis / Remedial Measures Taken  | supply affected or Not | Remarks  |
|--------|---------------------------------------|-----------|-------|-----------|----------------|------------------|--|---|--|------------------------|--|
|        |                                       |           |       |           |                | This End         | That End   |   |  |                        |  |
| 174    | 220 KV GNUTP-Bachinda-Badali Line     | 7/24/2023 | 18:13 | 7/24/2023 | 21:36          | AVL001           | DPR Operated<br>1. Dist=12km O/C Y-Ph, Main-2 PSS PSN Z-1, Dist=11.8km O/C Y-Ph                  | Main-1 PSS PSN CRZ-2, Main-2 PSS PSN Z-1  | Line patrolled by TL S/D Muktar. No fault found. Try taker with approval of PC Patala. Line holded successfully. | Not Affected           | Line patrolled as per both end fault locations, but no visible fault found.                              |
| 175    | 220 KV Bachinda - Badali Line         | 8/5/2023  | 0:55  | 8/5/2023  | 13:41          |                  | DPR Main-1 Operated, Zone-1, RN-Phase, E/F, Distance=5.3km PSR PSN                               | DPR Operated, Main-1, Zone-2, RN-Phase, Distance=50.10km, R=1.949KA, Y=94.63A, B=14.81A, Main-2, RN-Phase, Distance=49.7km  | Tower Top Patrolling done from 134 to 149 by TL Team but no visible fault found 149 by TL Team                   | Not Affected           | No Visible fault found during patrolling.  |
| 176    | 220 KV GNUTP- Badali Line             | 8/31/2023 | 23:39 | 9/1/2023  | 0:58           |                  | DPR Operated, Main-1, Zone-2, PSS PSN CRZ, Main-2, Zone-2, Distance=50km                         | Auto Reclosed   | Transient Fault  | Not affected           |  |
| 177    | 220 KV Muktar-Bachinda Circuit-2      | 8/14/2023 | 12:47 | 8/14/2023 | 15:35          |                  | DPR Operated, Phase, 33.15km Zone-1  | BN  | Transient Fault  | not affected           | No Visible fault found during patrolling.  |
| 178    | 220 KV GNUTP- Muktar Ckt-2            | 8/14/2023 | 12:50 | 8/14/2023 | 15:35          |                  | DPR Operated, Main-1, Zone-1, Distance=11.6km O/C B-Ph, Main-2, Zone-1, Distance=17.8km O/C B-Ph | DPR Operated, Zone-1, B-Phase, Distance=33.15km, Fault Current Ie=18.30A, Y=19.34%, B=3.791kA   | Transient Fault  | Not Affected           |  |
| 179    | 220KV Abaha- Kitorawala line 4-6      | 8/25/2023 | 22:06 | 8/25/2023 | 22:35          |                  | DPR main-1, Rph z=1, L=15.46 km Ia=6956A, Ib=7666A, Ic=61.87A z=2 L=12.3 km                      | main-1 R Ph z=1, L=10.9 km Ia=103A, Ib=106A, Ic=10 6A main-2 R Ph z=1 L= 9.1 km   | Line is not handed over to TL Muktar by TLSC   | NOT                    | NA   |
| 180    | 220 KV Bajakhava- Lohra Ckt-2         | 8/7/2023  | 22:34 | 8/7/2023  | 14:39          |                  | O/C B Phase main 1, zone 1, started phase CN   | main 1 started phase CB, Fault location 25.963 zone 1   | insulator string failure at T.no.63 (B-ph)   | Not Affected           | insulator string replaced at T.no.63   |
| 181    | 220 KV Mansa-Dhanwala                 | 8/17/2023 | 3:08  | 8/17/2023 | 3:43           |                  | Red Phase, Zone-1, length=17.54 km   | Red Phase, Zone-1 length=22 km  | Transient Fault  | Not affected           |  |
| 182    | 220 KV Mansa-Jaur                     | 8/21/2023 | 12:43 | 8/21/2023 | 13:40          |                  | R N Phase, Zone-1 length=2.8 km  | R N Phase, Zone-1 length=28.09 Km   | Transient Fault  | Not affected           | no fault found during ground patrolling to Line  |
| 183    | 220 KV Mansa-Rainery Ckt1             | 8/27/2023 | 19:42 | 8/27/2023 | 20:05          |                  | R N Phase, Zone-1 length=28.9 Km   | R Phase, Zone-1 length=13.8 km  | Transient Fault  | Not affected           |  |
| 184    | 220 KV Bachinda-Badali Line           | 9/5/2023  | 3:41  | 9/5/2023  | 8:22           |                  | Main-1, PH-AM, Tripped Ph-ABC, Z-2, L=49.60km; Main-2, PH-AN, L=54.3km                           | DPR operated, Main-1- L=1.1km, Z-1, PSR, PSN, CRZ, IR=9173A, W=127A, IB=3627A, IN=9073A; Main-2- Z-1, PSR, PSN, CRZ, L=1.4km, IR=7856A, W=137A, IB=31.02A, IN=7746A | Transient Fault  | Not affected           | Line patrolling done as per both end fault locations. No fault found to TL team.                         |
| 185    | 220 KV Muktar-Bachinda Circuit-1 Line | 9/2/2023  | 17:03 | 9/2/2023  | 23:34          |                  | DPR Operated, Zone-1, Distance=3798km  | SOTTY Zone-1, Distance=3798km   | String of disc insulators: flushed at tower no 138 of Y Phase  | Not affected           | Material Failure, Patrolling done by TL team and found damaged disc insulators at tower no 138 (Y-Phase) |

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| Sl. No | Name of the Line                               | From      | To    | Date      | Time  | Duration | Remarks | Root Cause  | Next Step       | Case of Tripping / Breakdown                             | Supply affected or Not                       | Remarks   |
|--------|--|-----------|-------|-----------|-------|----------|---------|---|-----------------|--|--|---|
| 186    | 220 KV Ashokhar-Katowadih Line                 | 9/15/2023 | 13:40 | 9/15/2023 | 21:57 | 8:17     | TRIP    | DPR Zone-1, 0°C Ph. 1<br>L= 5.662 km<br>R= 22.68A, I= 158.4A, A= 679A, B= 57.65A, C= 42.2A, D= 37.7A, E= 4.6 km                 | Transient Fault | Transient Fault, line tripped due to stormy, bad weather | Not affected                                 | Line protecting done as per fault loc. fault locations. No fault found to TL start. |
| 187    | 220 KV Sakhar-Katowadih Line (From 400KV)      | 9/15/2023 | 13:40 | 9/15/2023 | 24:44 | 1:04     | TRIP    | Main-1 RVB ph. 1, 0°C Ph. 1<br>L= 2.67 km, I= 51.68A, B= 812A, C= 27.52A, D= 18.8A, E= 2.30A                                    | Transient Fault | Line charge with verbal approval of PC                   | NA   | Line protecting done as per fault loc. fault locations. No fault found to TL start. |
| 188    | 220 KV Malabar-Gudhaya Circuit-01 (From 400KV) | 9/22/2023 | 15:15 | 9/22/2023 | 16:38 | 1:23     | TRIP    | DPR-1<br>O/C R/B PHASE ZONE-1<br>O/C R/B PHASE DISTANCE: 31.7 KM ZONE-1<br>DISTANCE: 7.8 KM                                     | Transient Fault | Transient Fault  | Not affected                                 | Line protecting done as per fault loc. fault locations. No fault found to TL start. |
| 189    | 220 KV Sandhar-Mukhar Line (From 400 KV)       | 9/24/2023 | 9:46  | 9/24/2023 | 13:38 | 3:52     | TRIP    | W-1 40.6A, N= 140.8A, I= 60.58A   | Transient Fault | Line tripped due to stormy weather                       | Not affected                                 | Line protecting done as per fault loc. fault locations. No fault found to TL start. |
| 190    | 220 KV Balakara-Baghpuram Ckt-1 Line           | 9/6/2023  | 7:39  | 9/6/2023  | 11:51 | 4:22     | TRIP    | RVB Phase<br>DPR Operated<br>Zone-1<br>L= 27.42 km  | Transient Fault | Transient Fault  | Not affected                                 | Line protecting done as per fault loc. fault locations. No fault found to TL start. |
| 191    | 220 KV Mau Talwandi Sabo Line                  | 9/8/2023  | 2:47  | 9/8/2023  | 3:25  | 0:38     | TRIP    | Main-1 Trip Phase Y-B<br>Main-2 Trip Phase R-B<br>PUPT Send Carrier Send  | Not Tripped     | Transient Fault  | Affected at 220 KV Talwandi sabo             | Line protecting done as per fault loc. fault locations. No fault found to TL start. |
| 192    | 220 KV Mau Talwandi Sabo Line                  | 9/19/2023 | 2:57  | 9/19/2023 | 21:33 | 0:36     | TRIP    | Main-1 Trip Phase R-B<br>Main-2 Trip Phase R-B<br>PUPT Send Carrier Send  | Not Tripped     | Transient Fault  | Affected at 220 KV Talwandi sabo for 20 Mins | Line protecting done as per fault loc. fault locations. No fault found to TL start. |
| 193    | 220KV Bahanda-Lehra Ckt-1 Line                 | 9/9/2023  | 11:53 | 9/9/2023  | 13:52 | n/VALUE  | TRIP    | DPR Operated Main-1 Zone-1, PSS PSN CRZ, YN-Phase, Dist=8.9km YN-Phase Main-2 Zone-1, PSS PSN CRZ, Dist=9.6km YN-Phase          | Transient Fault | Transient Fault  | Not affected                                 | Line protecting done as per fault loc. fault locations. No fault found to TL start. |
| 194    | 220KV Bahanda-Lehra Ckt-1 Line                 | 9/13/2023 | 9:45  | 9/13/2023 | 10:23 | n/VALUE  | TRIP    | DPR Operated Main-1 Zone-1, PSS PSN CRZ, Dist=17.5km YN-Phase Main-2 Zone-1, PSS PSN CRZ, Dist=16.2km YN-Phase                  | Transient Fault | Transient Fault  | Not affected                                 | Line protecting done as per fault loc. fault locations. No fault found to TL start. |
| 195    | 220KV Bahanda-Lehra Ckt-1 Line                 | 9/14/2023 | 12:08 | 9/14/2023 | 17:24 | n/VALUE  | TRIP    | DPR Operated Main-1 Zone-1, PSS PSN CRZ, Dist=20.2km YN-Phase Main-2 Zone-1, PSS PSN CRZ, Dist=20km YN-Phase                    | Transient Fault | Transient Fault  | Not affected                                 | Line protecting done as per fault loc. fault locations. No fault found to TL start. |
| 196    | 220 KV Bahanda-Lehra Ckt-1 Line                | 9/28/2023 | 10:43 | 9/28/2023 | 10:30 | n/VALUE  | TRIP    | DPR Main-1 - TRG1, ZAR2, ZAR3 PSS PSN CRZ, Fault Location = 34.5 km<br>DPR Main-2, Zone-1, R ph, Trip Fault Location = 34.73 km | Transient Fault | Transient Fault  | Not affected                                 | Line protecting done as per fault loc. fault locations. No fault found to TL start. |
| 197    | 220 KV Katowadih-Basant Line                   | 9/3/2023  | 1:03  | 9/3/2023  | 1:43  | 0:40     | TRIP    | Main-1, started PH-0N, Tripped ph. 0, Z-1, L= 14.10km, Main-2, Ph-BN, Z-1, L= 4.44km  | Transient Fault | Transient Fault  | Not affected                                 | Line protecting done as per fault loc. fault locations. No fault found to TL start. |

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| Sr. No | Name of the Line                     | From Date  |       | To Date    |       | Duration<br>HH:MM | Time  | Relay Indication<br>This End   | Cause of Tripping / Breakdown                         | Tripping, Analysis/ Remedial Measures<br>Taken  | Supply affected or Not | Remarks  |
|--------|--------------------------------------|------------|-------|------------|-------|-------------------|-------|--|---|---|------------------------|--|
|        |                                      | Time       | Date  | Time       | Date  |                   |       |  |   |   |                        |  |
| 198    | 220 KV Katorewala-Badal Line         | 9/15/2023  | 3:41  | 9/15/2023  | 3:41  | 0:00              | 3:41  | main-1 RV ph #3 L=57.70 km<br>Ib=1.666KA, Ib=163.2KA, Ic=524.2A<br>RN ph #3 L= 87.78 km<br>Ib=1.649KA, Ib=167.4KA, Ic=524.2A   | Line auto reclose operated                            | Fault location is far beyond line length  | Not affected           | NA   |
| 199    | 220 KV Abobbar-Katorewala line       | 9/13/2023  | 1:19  | 9/13/2023  | 1:19  | 0:00              | 1:19  | DPR main-1 Y ph, E/F #1 L= 15.74 km<br>Ib=1.63A, Ib=49.10A, Ic=68A<br>Z=1 L= 12.5 km   | Line auto reclose operated                            | Transient Fault   | Not affected           | NA   |
| 200    | 220 KV Muktsar-Katorewala Line       | 9/14/2023  | 13:29 | 9/14/2023  | 13:29 | 0:00              | 13:29 | main-1 R ph #1 L= 8.522 km<br>Ib=4.531KA, Ib=580.1A, Ic=846.9A   | Line auto reclose operated                            | Transient Fault   | Not affected           | Fault location checked by TL team. No fault found.                       |
| 201    | 400 KV Talwandi- Muktsar-ct-1        | 03.07.2023 | 19:53 | 7/3/2023   | 19:53 | 0:00:00           | 19:53 | Main-1<br>Zone-1, B-ph,<br>L=44.2 KM, Main 2: B=4.7KA, In=4.9KA, 43.4km  | Auto reclose was operated, line remained charged      | insulator failure   | Not affected           | insulator strings 02 nos. changed at T.no.138 (B-ph)                     |
| 202    | 400 KV Muktsar-Talwandi- Circuit- 02 | 29.07.2023 | 2:13  | 29.07.2023 | 2:13  | 0:00              | 2:13  | Main-1<br>B-ph,<br>L=75.7KM; Main 2: B=4.0KA, In=3.6A, 62.1km  | Auto reclose was operated, line remained charged      | transient fault   | Not affected           | Swallowing of line Done  |
| 203    | 400 KV Muktsar-Talwandi- Circuit- 02 | 03.07.2023 | 11:53 | 03.07.2023 | 11:53 | 0:00              | 11:53 | Main-1<br>Fault current Ib=5.02ka<br>Distance=57.8km, Zone-1, Blue phase, Main-2<br>Fault current Ib=5.0ka and Ib=5.1ka<br>Fault loop type=L2-N<br>Distance=59.9km         | Auto reclose was operated, line remained charged      | A/R opnd. due to change/variation in climate temperature. Existing String Disc are normal type and weak. Polymer Strings insulator are required to avoid tripping.    | Not                    | At Tower no.146, B- phase damaged string replaced with polymer strings.  |
| 204    | 400 KV Muktsar-Talwandi- Circuit- 02 | 06.07.2023 | 15:46 | 06.07.2023 | 15:46 | 0:00              | 15:46 | Main-1<br>Fault current Ib=7.52ka<br>Distance=57.6 km, Zone-1, Yellow phase, Main-2<br>Fault current Ib=7.5ka and Ib=7.7ka<br>Fault loop type=L2-N<br>Distance=20.5km      | Auto reclose was operated, line remained charged      | A/R opnd. due to change/variation in climate temperatures. Existing String Disc are normal type and weak. Polymer Strings insulator are required to avoid tripping.   | Not                    | At Tower no.211, Y- phase damaged string replaced with polymer strings.  |
| 205    | 400 KV Muktsar-Talwandi- Circuit- 02 | 06.07.2023 | 15:49 | 06.07.2023 | 15:49 | 0:00              | 15:49 | Main-1<br>Fault current Ib=11.12 ka<br>Distance=21.6 km, Zone-1, Yellow phase, Main-2<br>Fault current Ib=12=11 ka and Ib=11.4 ka<br>Fault loop type=L2-N<br>Distance=5 km | Auto reclose was operated, line remained charged      | Line tripped due to change/variation in climate temperature. Existing String Disc are normal type and weak. Polymer Strings insulator are required to avoid tripping. | Not                    | At Tower no. 280, Y- phase damaged string replaced with polymer strings. |
| 206    | 400 KV Muktsar-Talwandi- Circuit-01  | 18/15/2023 | 5:00  | 8/15/2023  | 8:57  | 3:57              | 8:57  | 86.1 and 86.2, relay operate. DT send. No other fault found  | bay #02 yellow ph CT cable found faulty at 400 KV MMS | Fault exists in 400KV S/S Sr. Muktsar Sahib   | not                    | NA   |
| 207    | 400 KV Muktsar- Malhu:01             | 18-08-202  | 14:12 | 18-09-202  | 14:12 | 0:00              | 14:12 | Main-1<br>Fault current Ib=5.66 ka<br>Distance=36.1 km, Yellow phase,<br>Main-2<br>Fault current Ib=2= 5.7 ka and<br>Fault loop type=L2-N<br>Distance=32.9 km              | bay #02 yellow ph CT cable found faulty at 400 KV MMS | A/R opnd. due to change/variation in climate temperature. Existing String Disc are normal type and weak. Polymer Strings insulator are required to avoid tripping.    | not                    | At Tower no. 105, Y- phase damaged string replaced with polymer strings. |



| Sr. No | Name of the Line                         | From Date | Time  | To Date   | Time  | Duration | Relay Indication This Day  | Final Day  | Cause of Tripping / Breakdown                       | Tripping Analyses/ Remedial Measures Taken   | Supply affected or Not | Remarks  |
|--------|--|-----------|-------|-----------|-------|----------|--|--|---|--|------------------------|--|
| 208    | 400 KV Muktesar-Talwandi Circuit-02 Line | 8/25/2023 | 13:52 | 8/27/2023 | 13:52 | 0:00     | Main-1<br>Fault current Ia=1.08kA<br>Distance=21.1km, Zone-1, Red phase.<br>Main-2<br>Fault current Ia=10.5kA and IN=11.1kA<br>Fault loop type=LL-N<br>Distance=5.1 km | Peak current=3.3 kA,<br>distance=98.6 km,<br>LL-N, Red phase | All operated and line remain changed from both ends | A/R opnd. due to change/variation in climate temperature. Existing String Disc are normal type and weak. Polymer Strings insulator are required to avoid tripping. | Not                    | A/R Tower no.200, R-Phase damaged string replaced with polymer strings on 9/26 at T. No.5. PTV 22-8-2023 0:44 to 1:58    |
| 209    | 400 KV Muktesar-Talwandi Circuit-02      | 8/27/2023 | 13:59 | 8/27/2023 | 13:59 | 0:00     | M-1, fault current Ia=5.47kA, dist=78.2km, M-2, LL-N, distance=36.5km, LL-2, 5.4kA, IN=5.4kA   | on 08/28/2023  | All operated and line remain changed from both ends | Material Failure   | not                    | Changed Electro static insulator strings on 9/26 at T. No.5. PTV 22-8-2023 0:44 to 1:58                                  |
| 210    | 400 KV Muktesar-Talwandi Circuit-02      | 8/27/2023 | 14:04 | 8/27/2023 | 14:04 | 0:00     | M-1, fault current Ia=5.47kA, dist=78.2km, M-2, LL-N, distance=36.5km, LL-2, 5.4kA, IN=5.4kA   | on 08/28/2023  | All operated and line remain changed from both ends | A/R opnd. due to change/variation in climate temperature. Existing String Disc are normal type and weak. Polymer Strings insulator are required to avoid tripping. | not                    | A/R Tower no.156, Y-Phase damaged string replaced with polymer strings   |
| 211    | 400 KV Muktesar-Talwandi Circuit-02      | 8/27/2023 | 17:58 | 8/27/2023 | 17:58 | 0:00     | M-1, fault current Ia=8.11kA, dist=78.1km, M-2, LL-N, distance=11.1km, LL-3, 9.6kA, IN=9.5kA   | Distance=81.7km,<br>on 08/28/2023<br>IN=3.69kA               | All operated and line remain changed from both ends | A/R opnd. due to change/variation in climate temperature. Existing String Disc are normal type and weak. Polymer Strings insulator are required to avoid tripping. | not                    | A/R Tower no.240, B-Phase damaged string replaced with polymer strings   |
| 212    | 400 KV Muktesar-Talwandi Circuit-02      | 8/24/2023 | 12:48 | 8/24/2023 | 11:27 | 23:15    | M-1, fault current Ia=13.48kA, dist=16.5km, Zone-01, Blue Phase, M-2, LL-N, distance=2.9km, LL-3=12.4kA, IN=12.4kA   | CB not closed from Talwandi end.                             | string replaced of B-ph. Tower no.207               | A/R opnd. due to change/variation in climate temperature. Existing String Disc are normal type and weak. Polymer Strings insulator are required to avoid tripping. | not                    | A/R Tower no.207, B-Phase damaged string replaced with polymer strings   |
| 213    | 400 KV Muktesar-Talwandi Circuit-02      | 8/25/2023 | 11:35 | 8/28/2023 | 12:51 | 1:16     | M-1, fault current Ia=8.21 kA, dist.=32.7 km, Blue Phase M-2, LL-N, distance=19.9 km, LL-3=8.4kA, IN=8.4 kA  | CB not closed from Talwandi end.                             | string replaced of B-ph. Tower no.209               | A/R opnd. due to change/variation in climate temperature. Existing String Disc are normal type and weak. Polymer Strings insulator are required to avoid tripping. | not                    | A/R Tower no.209, B-Phase damaged string replaced with polymer strings   |
| 214    | 400 KV Muktesar-Talwandi Circuit-02      | 8/26/2023 | 12:51 | 8/27/2023 | 14:01 | 35:50    | M-1, fault current Ia=7.24 kA, dist.=40.5 km, Red Phase, M-2, LL-N, distance=23.7 km, fault current=6.9kA  | on 08/28/2023<br>Dist=66k, Balance-67km phase 1              | string replaced of R-ph. Tower no.201               | A/R opnd. due to change/variation in climate temperature. Existing String Disc are normal type and weak. Polymer Strings insulator are required to avoid tripping. | not                    | A/R Tower no.201, B-Phase damaged string replaced with polymer strings   |
| 215    | 400 KV Muktesar-Talwandi Circuit-02 Line | 9/20/2023 | 14:50 | 9/28/2023 | 14:50 | 0:30     | Main-01, Red phase<br>Distance=40 km<br>Fault current Ia 6.61kA<br>Main-2<br>Fault loop type LL-N<br>Distance=23.6 km<br>Fault current Ia= 6.9kA IN=7.2kA              | R phase current=4.51 kA, distance=68.10 km                   | A/R Operated  | A/R opnd. due to change/variation in climate temperature. Existing String Disc Insulators are weak. Polymer Strings Insulator are required to avoid tripping.      | Not                    | A/R Tower no.202, R-Phase damaged string replaced with polymer strings on dated: 29/09/2023 by using emergency shutdown. |

*[Handwritten Signature]*

| Sr. No | Name of the Line                | From Date |       | To Date   |       | Time      | Duration<br>HH:MM                                      | Relay Indication<br>This End         | That End  | Cause of Tripping / Breakdown   | Tripping Analysis/ Remedial Measures<br>Taken | supply affected or Not<br>Taken | Remarks |
|--------|---------------------------------|-----------|-------|-----------|-------|-----------|--|--------------------------------------|---|---|---|---------------------------------|---------|
|        |                                 | Date      | Time  | Date      | Time  |           |  |                                      |   |   |   |                                 |         |
| 1      | 220kv Jamsheer-Jamsherdar       | 9/15/2023 | 7:28  | 15/09/23  | 7:28  | 0:00      | DPR B phase at 29 km autoreclosed from both ends.      | DPR B phase at 22 km                 | extreme lightning and raining at fault nearby location.   |   | no  |                                 |         |
| 2      | 220kv Jamsheer-Goraya           | 7/6/2023  | 20:25 | 7/6/2023  | 23:08 | 2:43      | Dpr. B phase Z-1, F-3, 036km                           | Dpr. B phase Z-1, F-3, 22km          | Patrolled line after tripping, towers were checked from tw no. 301 to 312 and founds ok.                        | Patrolled line after tripping, towers were checked from tw no. 301 to 312 and founds ok.                        | Not Effected                                  |                                 |         |
| 3      | 220kv Reonajattan-Jamsheer line | 7/9/2023  | 7:22  | 7/9/2023  | 12:45 | 05:23hrs  | YB-phase, zone-1, 4.93km                               | YB-phase, Zone-1, 17.76km            | During patrolling a suspected tree fallen between spane 74/75 due to flood water.                               | Patrol the line from tower no 67/1 to 67/18 and 67 to 102.  | No  |                                 |         |
| 4      | 220kv Manjipur-Jamsheer line    | 7/11/2023 | 2:47  | 7/11/2023 | 9:54  | 07:07hrs  | R-phase, zone-1, 30.76km                               | R-phase, zone-1, 4.22km, 10.2km      | Transient Fault   | Patrol the line from tower no 79 to 143, no any visible fault found.  | No  |                                 |         |
| 5      | 220kv Alawaipur-Basuya          | 7/22/2023 | 11:27 | 7/22/2023 | 12:17 | 0:50      | Not tripped(RN, R, 7.77km)                             | Earth fault                          | Patrolled line after tripping, Disc insulators of towers were checked from tw no.231 to 240 and founds Healthy. | Patrolled line after tripping, Disc insulators of towers were checked from tw no.231 to 240 and founds Healthy. | Not Effected                                  |                                 |         |
| 6      | 220 kv PGDL-Kantarpur CRT-2     | 7/23/2023 | 7:14  | 7/23/2023 | 7:14  | 0:00      | DPR B phase at 3.7 kms. Auto reclosed at Kantarpur end | DPR B phase at 1.0kms                | Line Patrolled from tower no 05 to 15 and no visible abnormality observed. Transient fault                      |   | no  |                                 |         |
| 7      | 220kv Jamsheer-Bhinga           | 8/2/2023  | 0:29  | 8/2/2023  | 8:23  | 7:54      | Dpr. Y phase Z-1, F-1, 3.05km                          | Not tripped                          | Patrolled line after tripping, towers were checked from tw no.301 to 310 and founds ok.                         | Patrolled line after tripping, towers were checked from tw no.301 to 310 and founds ok.                         | Not Effected                                  |                                 |         |
| 8      | 220kv Raajaji-Science city 6st2 | 8/2/2023  | 10:13 | 8/2/2023  | 11:40 | 1:27      | Dpr ABC Master Trip                                    | Tripped ABC Phase                    | Due to Carrier Related Fault  | Due to Carrier Related Fault  | Not Effected                                  |                                 |         |
| 9      | 220kv Bhakra-Manjipur 6st-1     | 8/2/2023  | 13:16 | 8/2/2023  | 14:47 | 01:31hrs  | B-phase, Zone-1, 10.82km                               | B-Phase, Zone-1, 33.44km             | Transient Fault   | during patrolling no fault found  |   |                                 |         |
| 10     | 220kv Reonajattan-Jamsheer line | 8/3/2023  | 10:10 | 8/3/2023  | 19:10 | 09:00 hrs | R-phase, zone-1, 13.83km and 13.80km                   | R-phase, zone-1, 11.78km and 10.51km | R-phase insulator string flash on T-94  | Patrol the line from tower no 67/1 to 67/18 and 67 to 102.  | No  |                                 |         |

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| Sr. No | Name of the line                  | From Date | To Date   | Time  | Duration (H:MM) | Distance (km)                   | Remarks   | Supply status at site | Remarks   |
|--------|-----------------------------------|-----------|-----------|-------|-----------------|---------------------------------|---|-----------------------|---|
| 11     | 220KV Noidapur-Bahawalpattan line | 8/4/2023  | 8/5/2023  | 9:25  | 11:45 hrs       | 30 phase zone-1, 20km           | Case of Tripping / Breakdown<br>relay tripped in reverse zone during paralleling no fault found on line.                | Yes                   | Tripping Analysis/ Reason of Disturbance<br>Subst<br>relay tripped in reverse zone during paralleling no fault found on line. |
| 12     | 220KV Rehanpattan-Bahawalpattan   | 8/4/2023  | 8/7/2023  | 21:56 | 09:48 hrs       | 30 phase zone-1, 40km           | Case of Tripping / Breakdown<br>Not trip  | Yes                   |   |
| 13     | 220 KV Noidapur-Bahawalpattan     | 8/4/2023  | 8/4/2023  | 21:15 | 2:34            | power system fault. DC received | Case of Tripping / Breakdown<br>DCPR B Phase w/ at 2.27 km bar tripped at Rehanpattan station                           | Yes                   |   |
| 14     | 220 KV Bahawalpattan-Rohannpur    | 8/4/2023  | 8/4/2023  | 19:57 | 1:17            | DCPR B Phase w/ at 2.45 km      | Case of Tripping / Breakdown<br>Bar bar tripped at Rehanpattan station  | Yes                   |   |
| 15     | 220KV Bahawalpattan               | 8/10/2023 | 8/10/2023 | 12:12 | 0:27            | DCPR B Phase w/ at 1.07 km      | Case of Tripping / Breakdown<br>Paralleling done after tripping powers were checked from bar nos 56 to 65 and found ok. | Not Estimated         |   |

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| Sr. No | Name of the Line                   | From Date |       | To Date   |       | Time      | Duration<br>HH:MM                    | Relay Indication<br>This End | Treat End  | Cause of Tripping / Breakdown  | Tripping Analysis/ Remedial Measures<br>Taken | supply affected or Not | Remarks |
|--------|------------------------------------|-----------|-------|-----------|-------|-----------|--------------------------------------|------------------------------|--|--|---|------------------------|---------|
|        |                                    | Time      | Date  | Time      | Date  |           |                                      |                              |  |  |   |                        |         |
| 16     | 220kv Saitanpur-Chochia shhib      | 8/10/2023 | 11:45 | 8/10/2023 | 12:12 | 0:27      | Dpr. R phase Z-1, F: 19.36km         | Not tripped                  | Patrolled line after tripping, towers were checked from tw no.56 to 65 and founds ok.  | Patrolled line after tripping, towers were checked from tw no.56 to 65 and founds ok.  | Not Effected                                  |                        |         |
| 17     | 220kv Rehana/Jattan-Jarnesher line | 8/10/2023 | 6:59  | 8/10/2023 | 13:55 | 06:50hrs  | BC phase, Zone-1, 12.7km and 12.98km | YB-phase, Zone-1, 10.05km    | YB-phase insulator string flash on T.no.92   | Y-phase insulator string flash on T.no.92  | No  |                        |         |
| 18     | 220kv Mahipur-Rehana/Jattan line   | 8/10/2023 | 10:50 | 8/10/2023 | 11:50 | 01:40 hrs | RYB-phase, zone-1, 18.02km           | B-phase, Zone-1, 1.93km      | suspected flash found on insulator.  | during patrolling no fault found   | No  |                        |         |
| 19     | 220kv Alawaipur-Daasya             | 8/15/2023 | 1:13  | 8/15/2023 | 19:50 | 18:37     | ABKZ-1, F: 4.692km                   | Earthault                    | Due to Flashed/damaged disc insulators of R and Y phase at tw no.243 Line was Tripped and same were replaced with new disc insulators. | Due to Flashed/damaged disc insulators of R and Y phase at tw no.243 Line was Tripped and same were replaced with new disc insulators. | Not Effected                                  |                        |         |
| 20     | 220kv Bhakre-Mahipur ckt-1         | 8/17/2023 | 20:28 | 8/18/2023 | 16:55 | 20:27hrs  | RY-Phase, Zone-2, 45.2km             | RY-phase, zone-1, 3.8km      | insulator string flash at tower no 141 and jumper breakdown at Mahipur substation.   | insulator string flash at tower no 141 and jumper breakdown at Mahipur substation.   | No  |                        |         |
| 21     | 220kv Bhakra-Mahipur ckt-2         | 8/18/2023 | 10:50 | 8/19/2023 | 17:10 | 30:20hrs  | BC-phase                             | BC-phase, Zone-2, 43.79km    | wave trap damages at Bhakra end  | wave trap damages at Bhakra end  | No  |                        |         |
| 22     | 220kv Pong-Daasya-3                | 8/18/2023 | 12:29 | 8/19/2023 | 18:11 | 29:42hrs  | Not trip                             | YB-phase, zone-1, 17.99km    | Transient Fault  | Patroll the line from tower no 41 to 80, no any visible fault found.   | No  |                        |         |
| 23     | 220 KV Nakodar-Hosharpur           | 8/18/2023 | 12:08 | 8/18/2023 | 13:40 | 1:32      | DPR B Phase e/ f at 19.41 km         | DPR B Phase e/ f at 34.80 km | Bad weather  |  | no  |                        |         |
| 24     | 220KV Jarnesher-Saitanpur          | 8/28/2023 | 7:48  | 8/28/2023 | 9:40  | 1:52      | Dpr. B phase Z-1, F: 16.22km         | Dpr. B phase Z-1             | Patrolled line after tripping, Disc insulators of towers were checked from tw no.44 to 53 and founds healthy.                          | Patrolled line after tripping, Disc insulators of towers were checked from tw no.44 to 53 and founds healthy.                          | Not Effected                                  |                        |         |

| Sl. No | Name of the Line               | From Date | To Date   | Time  | Duration (HH:MM) | TRM End                               | TRM Start                             | Link End                              | Class of Tripping / Breakdown  | Tripping Analysis of Remedial Measure  | supply affected or not | Remarks |
|--------|--------------------------------|-----------|-----------|-------|------------------|---------------------------------------|---------------------------------------|---------------------------------------|--|--|------------------------|---------|
| 25     | 220KV Sutanpur-Patu            | 8/28/2023 | 9/28/2023 | 10:55 | 3:57             | Dpr. R phase Z-1, F-126km             | Dpr. A phase Z-1, F-248km             | Dpr. A phase Z-1, F-248km             | Patrolled line after tripping. Disc insulators of towers were checked from tower no.33 to 42 and found healthy.                                | Patrolled line after tripping. Disc insulators of towers were checked from tower no.33 to 42 and found healthy.                                | Not affected           |         |
| 26     | 220kV Rahaajattam-Jamsherdhara | 8/28/2023 | 8/28/2023 | 17:59 | 08:11:05         | 36 phase, Zone-1, 12.75km and 12.98km | 36 phase, Zone-1, 12.75km and 12.98km | 36 phase, Zone-1, 12.75km and 12.98km | Disc insulators of towers were checked from tower no.71 to 80 and found ok.  | Patrol the line from tower no.83 to 183  | No                     |         |
| 27     | 220 KV Jamsherdhara-Sutanpur   | 9/4/2023  | 9/4/2023  | 2:40  | 04:49            | Dpr. B phase Z-1, F-607 km            | Dpr. B phase Z-1, F-26.75 km          | Dpr. B phase Z-1, F-26.75 km          | The Disc insulators of B phase at tower no.21 were found flashed and same were replaced with new disc insulators.                              | The Disc insulators of B phase at tower no.21 were found flashed and same were replaced with new disc insulators.                              | Not affected           |         |
| 28     | 220 KV GVK-Bottanwala          | 9/5/2023  | 9/5/2023  | 13:25 | 1:50             | Dpr. B phase Z-1, F-26.1 km           | Dpr. B phase Z-1, F-36.40km           | Dpr. B phase Z-1, F-36.40km           | Patrolled line after tripping. Disc insulators of towers were checked from tower no.71 to 80 and found ok.                                     | Patrolled line after tripping. Disc insulators of towers were checked from tower no.71 to 80 and found ok.                                     | Not affected           |         |
| 29     | 220 KV Jamsherdhara-Sutanpur   | 9/11/2023 | 9/11/2023 | 13:35 | 0:32             | Dpr. B phase Z-1, F-26.5 km           | Dpr. B phase Z-1, F-17.74 km          | Dpr. B phase Z-1, F-17.74 km          | During patrolling a metal wire was found on B phase cross arm at tower no.76 due to which line was tripped and same was cleared from the line. | During patrolling a metal wire was found on B phase cross arm at tower no.76 due to which line was tripped and same was cleared from the line. | Not affected           |         |
| 30     | 220 KV BMBB-Alwaripour         | 9/15/2023 | 9/15/2023 | 13:26 | ---              | Dpr. R phase Z-1, F-6378 km           | Dpr. R phase Z-1, F-5.496 km          | Dpr. R phase Z-1, F-5.496 km          | The Disc insulators of R phase at tower no.265 were found flashed and same were replaced with new disc insulators.                             | The Disc insulators of R phase at tower no.265 were found flashed and same were replaced with new disc insulators.                             | Not affected           |         |
| 31     | 220KV Geryya-Jadu              | 9/16/2023 | 9/16/2023 | 15:21 | 3:19             | Dpr. W phase Z-1, F-23 km             | Dpr. W phase Z-1, F-70.92km           | Dpr. W phase Z-1, F-70.92km           | Patrolled line after tripping. Disc insulators of towers were checked at tower no.187,188,189,210,211,212 and found ok.                        | Patrolled line after tripping. Disc insulators of towers were checked at tower no.187,188,189,210,211,212 and found ok.                        | Not affected           |         |
| 32     | 220KV Bhakra-Mahipur est-1     | 9/16/2023 | 9/16/2023 | 16:46 | 34 mins          | 9 phase, Zone-1, 10.02km              | 9 phase, Zone-1, 35.22km              | 9 phase, Zone-1, 35.22km              | Transient Fault  | During patrolling no fault found   | No                     |         |
| 33     | 220KV Desuap-Railway Line      | 9/22/2023 | 9/22/2023 | 18:38 | 35 mins          | XB-Phase, Zone-2                      | not trip                              | not trip                              | patrol the line nothing found  | patrol the line nothing found  | No                     |         |

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| Sr. No | Name of the Line         | From Date |       | To Date   |       | Relay Indication             |                              | Duration<br>HH:MM | Time  | Cause of Tripping / Breakdown  | Tripping Analysis/ Remedial Measures Taken   | supply affected or Not | Remarks |
|--------|--------------------------|-----------|-------|-----------|-------|------------------------------|------------------------------|-------------------|-------|--|--|------------------------|---------|
|        |                          | Date      | Time  | Date      | Time  | This End                     | That End                     |                   |       |  |  |                        |         |
| 34     | 220KV PGCL-Kaerli CKT-2  | 9/23/2023 | 6:10  | 9/23/2023 | 15:55 | Dpr. R phase Z-1 FI: 2.8 km  | Dpr. R phase Z-1             | 10:45             | 15:55 | The Disc insulators of R phase and Y phase at tw no.13 were found flashover/damaged and same were replaced with new disc insulators. | The Disc insulators of R phase and Y phase at tw no.13 were found flashover/damaged and same were replaced with new disc insulators. | Not Effectd            |         |
| 35     | 132 KV Phulaur -Jamalpur | 7/1/2023  | 12:59 | 7/2/2023  | 5:25  | DPR B phase e/f at 10.9 km   | DPR B phase e/f at 3.9 km    | 16:26             | 5:25  | conductor breakdown: between tower no 29 and 30  |  | no                     |         |
| 36     | 132KV BBMB-Dihwaan       | 7/2/2023  | 9:44  | 7/3/2023  | 2:05  | Dpr. R phase Z-1 FI: 2.4km   | Not Tripped                  | 16:21             | 2:05  | Due to B phase conductor breakdown at tw no.223-224 and same was attended.   | Due to B phase conductor breakdown at tw no.223-224 and same was attended.   | Not Effectd            |         |
| 37     | 132kv Hamirpur-Chahalime | 7/2/2023  | 16:35 | 7/3/2023  | 18:10 | No indication                | Y-Phase, Zone-1, 39.3km      | 01:45 hrs         | 18:10 | Transient Fault  | Patroll the line from tower no 10-21.50. 67 no any visible fault found.  | Supply not effected    |         |
| 38     | 132KV BBMB-Dihwaan       | 7/3/2023  | 6:14  | 7/3/2023  | 9:53  | Dpr. ANZ-1 FI: 29.04km       | Earthfault                   | 3:39              | 9:53  | Patrolled line after tripping,towers were checked from tw no.223 to 195 and founds ok.   | Patrolled line after tripping,towers were checked from tw no.223 to 195 and founds ok.   | Not Effectd            |         |
| 39     | 132KV BBMB- Kahannpur    | 7/4/2023  | 15:29 | 7/4/2023  | 19:32 | Dpr. Y phase Z-1 FI: 8.046km | Dpr. Y phase Z-1 FI: 1.455km | 4:03              | 19:32 | The Disc Insulators of Y phase at tw no.29 were found flashover and same were replaced with new disc insulators.                     | The Disc Insulators of Y phase at tw no.29 were found flashover and same were replaced with new disc insulators.                     | Not Effectd            |         |
| 40     | 132KV BBMB-Pragwara      | 7/5/2023  | 8:19  | 7/5/2023  | 11:10 | Dpr. Y phase Z-2 FI: 16.74km | Dpr. Y phase Z-1 FI: 2.76km  | 2:51              | 11:10 | Patrolled line after tripping,towers were checked from tw no.:56 to 165 and founds ok.   | Patrolled line after tripping,towers were checked from tw no.156 to 165 and founds ok.   | Not Effectd            |         |
| 41     | 132 KV Phulaur -Jamalpur | 7/6/2023  | 13:15 | 7/6/2023  | 17:32 | DPR R phase e/f at 16.49 km  | DPR R phase e/f at 3.9 km    | 4:17              | 17:32 | Patrolling done from tower no 1 to 15. nothing abnormal found  |  | no                     |         |
| 42     | 132KV BBMB-Sahannpur     | 7/8/2023  | 11:05 | 7/8/2023  | 17:02 | Dpr. B phase Z-2 FI: 0.445km | Dpr. B phase Z-2 FI: 8.313km | 5:57              | 17:02 | Due to strorage at Car:ry BBMB s/s and same was cleared from the line.   | Due to strorage at Car:ry BBMB s/s and same was cleared from the line.   | Effectd(08.48hrs)      |         |

| Sl. No | Name of the line              | From Date | To Date   | Time  | Duration (HH:MM) | Route Information         | Tower No. | Tower Elevation (m) | Cause of Trapping / Breakdown   | Trapping Analysis / Remedial Measures Taken                            | Supply collected or Not | Remarks |
|--------|-------------------------------|-----------|-----------|-------|------------------|---------------------------|-----------|---------------------|---|--|-------------------------|---------|
|        |                               |           |           |       |                  |                           |           |                     |   |  |                         |         |
| 43     | 132KV Nandanpur-Baspaipar     | 7/8/2023  | 7/8/2023  | 11:45 | 0:46             | Breaker No. 1, 17.53km    | 134       | 13.4m               | This line was tripped due to the trapping of 132KV BMB-Baspaipar line.                            | This line was tripped due to the trapping of 132KV BMB-Baspaipar line. | Not collected           |         |
| 44     | 132 KV Pallaipar -Jinnalpur   | 7/9/2023  | 7/9/2023  | 12:42 | 1:20             | DPR R phase 2/ at 9.33 km | 135       | 13.5m               | heavy rain and thunder storm  |  | no                      |         |
| 45     | 132kv MPHE-Bhogpur line       | 7/9/2023  | 7/9/2023  | 1:37  | 34 mins          | R-phase, Zone-1, 17.53km  | 136       | 13.6m               | Due to heavy rain and lightning   | Patrol the line from tower no 135, at MPHE.                            | Supply not collected    |         |
| 46     | 132kv MPHE-MPH4 sub-2         | 7/9/2023  | 7/9/2023  | 18:25 | 11:55hrs         | NYB-phase, Zone-1         | 137       | 13.7m               | Due to R-Phase LA damage at MPHE sub  | Patrol the full line, R-Phase LA change at MPHE sub                    | Supply not collected    |         |
| 47     | 132 KV Pallaipar -Jinnalpur   | 7/10/2023 | 7/10/2023 | 10:06 | 6:39             | DPR R phase 2/ at 7.4 km  | 138       | 13.8m               | patrolling done from tower no 28 to 50, bird nest found on tower no 51                            |  | no                      |         |
| 48     | 132KV MPHE-Bhogpur line       | 7/10/2023 | 7/10/2023 | 10:30 | 31 mins          | R-phase, Zone-1, 27.28km  | 139       | 13.9m               | Suspected newly built bird nest remove from tower no 47.  | Patrol the line from tower no 48 to 139.                               | Supply not collected    |         |
| 49     | 132 KV Pallaipar -Jinnalpur   | 7/11/2023 | 7/11/2023 | 01:18 | 2:00             | DPR R phase 2/ at 9.33 km | 140       | 14.0m               | tower top patrolling done from tower no 45 to 70, insulator strings at tower no 54 and 57 changed |  | no                      |         |
| 50     | 132 KV Pallaipar -Jinnalpur   | 7/11/2023 | 7/11/2023 | 14:41 | 6:46             | DPR R phase 2/ at 12.5 km | 141       | 14.1m               | tower top patrolling done from tower no 45 to 70, insulator strings at tower no 54 and 57 changed |  | no                      |         |
| 51     | 132KV Nandan-Nandanbher sub-2 | 7/12/2023 | 7/12/2023 | 17:30 | 20:18hrs         | Y-phase, Zone-1, 53.303km | 142       | 14.2m               | Earth wire breakdown on tower no 100  | Patrol the line and found the earth wire breakdown on tower no 100     | Supply not collected    |         |

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| Sr. No | Name of the Line                    | From Date |       | To Date   |       | Duration<br>HH:MM | Relay Indication                 |                                | That End  | Cause of Tripping / Breakdown   | Tripping Analysis/ Remedial Measures Taken | supply affected or Not | Remarks |
|--------|-------------------------------------|-----------|-------|-----------|-------|-------------------|----------------------------------|--------------------------------|---|---|--|------------------------|---------|
|        |                                     | Time      | Date  | Time      | Date  |                   | This End                         | This End                       |   |   |  |                        |         |
| 52     | 132 KV Garaya-Jaisalpur             | 7/15/2023 | 15:20 | 7/15/2023 | 19:47 | 4:27              | D/C Y ph.                        | Y ph. Z-1, Dist. 18 km         | patrolling from 33 to 66 done, nothing abnormal found   |   | No   |                        |         |
| 53     | 132 KV Phillaur-Jaisalpur           | 7/19/2023 | 15:20 | 7/19/2023 | 20:13 | 4:53              | DPR B phase e/ at 6.5 km         | DPR B phase e/ at 6.5 km       | line patrolled from tower no 65 to 100, nothing abnormal found  |   | no   |                        |         |
| 54     | 132KV Kartarpur-Beas                | 7/20/2023 | 12:59 | 7/20/2023 | 16:22 | 3:23              | Dpr. B phase Z-1, R-2, F-2, 3 km | Dpr. BN                        | During patrolling of this line it is found that at tw no.56-57 there was heavy earth mover tipper doing NHAI Highway work, during work tipper touches with the line due to which line was tripped and same was cleared from the line.                     | During patrolling of this line it is found that at tw no.56-57 there was heavy earth mover tipper doing NHAI Highway work, during work tipper touches with the line due to which line was tripped and same was cleared from the line.                     | Not Effected                               |                        |         |
| 55     | 132KV Focal Point-Kartarpur         | 7/20/2023 | 15:05 | 7/20/2023 | 15:46 | 2:41              | Dpr. L3 K, Z-2, F-1, 11.2 km     | Not Tripped                    | This Line was tripped due to the tripping of 132KV Kartarpur-Beas Line.   | This Line was tripped due to the tripping of 132KV Kartarpur-Beas Line.   | Not Effected                               |                        |         |
| 56     | 132KV BBMB-Kahanpur                 | 7/20/2023 | 18:03 | 7/20/2023 | 18:50 | 0:47              | Dpr. Y phase Z-1, F-1, 8.014 km  | Dpr. Y phase Z-1, F-1, 6.32 km | The Disc Insulators of Y phase at tw no.29 were found flashed and same were replaced with new disc insulators.  | The Disc Insulators of Y phase at tw no.29 were found flashed and same were replaced with new disc insulators.  | Not Effected                               |                        |         |
| 57     | 132 KV Urban estate-Koda Janga line | 7/23/2023 | 1:35  | 7/23/2023 | 2:05  | 0:30              | no dpr                           | DPR R phase e/ at 6.53 km      | transient fault   |   | no   |                        |         |
| 58     | 132KV BBMB-Bhogpur                  | 7/23/2023 | 7:17  | 7/23/2023 | 15:14 | 7:57              | Dpr. YNZ-1, F-1, 11.12 km        | Dpr. YNZ-1, F-1, 15.56 km      | Attended earth wire breakdown at tw no.37 to 41.  | Attended earth wire breakdown at tw no.37 to 41.  | Not Effected                               |                        |         |
| 59     | 132 KV Garaya-Phagwara CRT-1        | 7/24/2023 | 18:10 | 7/24/2023 | 22:32 | 4:22              | R ph. Z-1, Dist. 2.2 km          | R ph. Z-1, Dist. 5.3 km        | patrolling from 235 to 305 done, nothing abnormal found   |   | No   |                        |         |
| 60     | 132KV BBMB-Phagwara                 | 7/27/2023 | 15:12 | 7/27/2023 | 17:40 | 2:28              | Dpr. Y phase Z-1, F-1, 15.64 km  | Dpr. Y phase Z-1, F-1, 4.4 km  | Patrolled line after tripping towers were checked from tw no.137 to 172 and founds ok.  | Patrolled line after tripping towers were checked from tw no.167 to 172 and founds ok.  | Not Effected                               |                        |         |
| 61     | 132KV BBMB-Dalwan                   | 8/2/2023  | 12:15 | 8/2/2023  | 15:00 | 2:45              | Dpr. B phase Z-1, F-1, 21.03 km  | Not Tripped                    | During patrolling of this line it is found that at tw no.236-237 there was heavy earth mover tipper doing NHAI Highway work, during work tipper comes in the induction zone of the line due to which line was tripped and same was cleared from the line. | During patrolling of this line it is found that at tw no.236-237 there was heavy earth mover tipper doing NHAI Highway work, during work tipper comes in the induction zone of the line due to which line was tripped and same was cleared from the line. | Effected(00.03hrs)                         |                        |         |

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| Sr. No | Name of the line                | From Date | To Date  | Time  | Duration (HH:MM) | Substation                    | Trk End                       | Dist. km | Case of Tripping / Re-closure   | Tripping Analysis / Remarks / Measures taken  | Supply affected or Not | Remarks |
|--------|---------------------------------|-----------|----------|-------|------------------|-------------------------------|-------------------------------|----------|---|---|------------------------|---------|
| 62     | 132kV BRSKB-Bhogpur             | 8/4/2023  | 8/4/2023 | 12:21 | 0:01             | Dist. B phase-Z, 1 Ph. 12.0km | Dist. B phase-Z, 1 Ph. 12.0km | 14.85km  | The disc insulators of B phase at tower no.71 were found flashed and some were replaced with new disc insulators. | The Disc insulators of B phase at tower no.71 were found flashed and some were replaced with new disc insulators. | Not affected           |         |
| 63     | 132kV MPH2-MPH3 ckt-1           | 8/4/2023  | 8/4/2023 | 10:45 | 03:04 hrs        | No indication                 | Not trip                      |          | Internal fault at MPH2 end  | Internal fault at MPH2 end  | Yes                    |         |
| 64     | 132kV MPH3-MPH4 ckt-1           | 8/4/2023  | 8/4/2023 | 7:50  | 19 mins          | Not trip                      | Not trip                      |          | Internal fault at MPH2 end  | Internal fault at MPH2 end  | Yes                    |         |
| 65     | 132kV MPH3-MPH4 ckt-2           | 8/4/2023  | 8/4/2023 | 7:55  | 24 mins          | 07hr                          | Y phase, Zone-2, 16.14km      |          | Internal fault at MPH2 end  | Internal fault at MPH2 end  | Yes                    |         |
| 66     | 132kV MPH2-Tausa line           | 8/4/2023  | 8/4/2023 | 8:20  | 01:07hrs         | Not trip                      | Y phase, Zone-2, 46.0km       |          | Internal fault at MPH2 end  | Internal fault at MPH2 end  | Yes                    |         |
| 67     | 132kV MPH2-Bhogpur line         | 8/4/2023  | 8/4/2023 | 8:30  | 01:20hrs         | Not trip                      | Y phase, Zone-2, 61.45km      |          | Internal fault at MPH2 end  | Internal fault at MPH2 end  | Yes                    |         |
| 68     | 132kV Raikhan-Navarshahar ckt-1 | 8/5/2023  | 8/8/2023 | 12:54 | 04:56hrs         | 07NS                          | B phase, Zone-1, 0.91km       |          | B phase string flash on tower no.167  | B phase string flash on tower no.167  | No                     |         |
| 69     | 132kV Kalampur-Bhogpur          | 8/6/2023  | 8/6/2023 | 18:12 | 12:22            | Dist. B phase-Z, 1 Ph. 12.0km | Dist. B phase-Z, 1 Ph. 12.0km | 4.603km  | The Disc insulators of B phase at tower no.77 were found flashed and some were replaced with new disc insulators. | The Disc insulators of B phase at tower no.77 were found flashed and some were replaced with new disc insulators. | Not affected           |         |
| 70     | 132kV MPH1-MPH2 ckt-1           | 8/8/2023  | 8/8/2023 | 15:58 | 01:48hrs         | B phase, Zone-1, 3.26km       | Not trip                      |          | Line charge from one end  | Line charge   | Yes                    |         |
| 71     | 132kV MPH1-MPH2 ckt-2           | 8/8/2023  | 8/8/2023 | 20:50 | 06:40hrs         | B phase, Zone-1, 1.98km       | B phase, Zone-1, 5.02km       |          | Harroll the line from tower no.15 to 110, one fault found.  | Harroll the line from tower no.15 to 110, one fault found.  | Yes                    |         |

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| Sl. No | Name of the Line                 | From Date |           | To Date |       | Duration<br>HH:MM | Relay Indication<br>This End      | Triat End                 | Cause of Tripping / Breakdown  | Tripping Analysis / Remedial Measures Taken  | Supply affected or Not | Remarks |
|--------|----------------------------------|-----------|-----------|---------|-------|-------------------|-----------------------------------|---------------------------|--|--|------------------------|---------|
|        |                                  | Time      | Date      | Time    | Date  |                   |                                   |                           |  |  |                        |         |
| 72     | 132kv BBMP-Dhivani               | 8/9/2023  | 8/9/2023  | 14:21   | 14:21 | 0:06              | Dpr: B phase-Z-1,F:1.94km         | Not Tripped               | Patrolled line after tripping towers were checked from tw no.266 to 279 and founds ok. | Patrolled line after tripping towers were checked from tw no.266 to 279 and founds ok. | Effected(00.03hrs)     |         |
| 73     | 132kv Nakliani-Nawanshehar ckt-2 | 8/12/2023 | 12/8/2023 | 8:46    | 8:46  | 07:50 hrs         | Y-phase, Zone-1, 2.69km           | Y-phase, Zone-1, 21.9km   | During patrolling suspected flash string found on tower no 35.                         | During patrolling suspected flash string found on tower no 35.                         | No                     |         |
| 74     | 132kv BBAB-paavara               | 8/16/2023 | 8/16/2023 | 12:22   | 12:22 | 1:43              | Dpr: BN,Z-1,F:2.001km             | Dpr: BN,Z-2,F:17.6km      | Patrolled line after tripping towers were checked from tw no.225 to 232 and founds ok. | Patrolled line after tripping towers were checked from tw no.225 to 232 and founds ok. | Not Effected           |         |
| 75     | 132kv MPHA-Sri Hargobindpur-1    | 8/17/2023 | 8/17/2023 | 14:19   | 14:27 | 9 mins            | B-phase, E/F                      | Not trip                  | Transient Fault  | During patrolling no any fault found   | Yes                    |         |
| 76     | 132kv MPHA-Sri Hargobindpur-1    | 8/17/2023 | 8/17/2023 | 14:19   | 16:52 | 02:33hrs          | Not trip                          | B-phase, Zone-1, 2.4km    |  |  | Yes                    |         |
| 77     | 132 KV Goraya-Jamalpur           | 8/18/2023 | 8/18/2023 | 14:17   | 15:04 | 0:47              | O/C/R ph.                         | R-ph. Z-1, Dist 12.1 km   | Bat weather  |  | No                     |         |
| 78     | 132kv Karpurbhila-Ruf            | 8/19/2023 | 8/20/2023 | 19:05   | 3:12  | 8:07              | Dpr: Z-1, Master Trip             | Earth fault               | Attended Earthwire breakdown at tw no.5 to 9.  | Attended Earthwire breakdown at tw no.5 to 9.  | Not Effected           |         |
| 79     | 132kv MPHE-Bhogpur line          | 8/19/2023 | 8/19/2023 | 9:35    | 10:28 | 33 mins           | R-phase, Zone-1, 2.556km          | R-phase, Zone-1, 20.16km  | Due to newly bit bird, inst. on tower no.70  | Due to newly bit bird inst. on tower no.70   | No                     |         |
| 80     | 132kv Hamirpur-Chotal line       | 8/19/2023 | 8/19/2023 | 18:30   | 17:27 | 03:52hrs          | No indication                     | R-Phase, Zone-1, 2.51km   | Bridge on tower no 192   | During patrolling found that bridge on tower no 192.                                   | No                     |         |
| 81     | 132 KV Phular-Jamalpur           | 8/25/2023 | 8/25/2023 | 11:45   | 12:55 | 1:08              | DPR R Phase e/f at 1.54 km, 2.58A | DPR R Phase e/f at 5.4 km | transient fault  |  | No                     |         |

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| Sr. No | Name of the line                   | From Date | To Date   | Time  | Duration (HH:MM) | Relay Indication This End            | Test End                        | Causes of Tripping / Breakdown   | Tripping Analysis/ Remedial Measr not Taken  | supply affected or Not | Remarks |
|--------|------------------------------------|-----------|-----------|-------|------------------|--------------------------------------|---------------------------------|--|--|------------------------|---------|
| 82     | 132kv Ghataparu-Chophal line       | 8/25/2023 | 8/28/2023 | 16:43 | 05:13hrs         | No Indication                        | Phase Zone-1, 39.7km            | Leading breakdown on tower no 13.  | Leading breakdown on tower no 13.  | No                     |         |
| 83     | 132 KV Upan-ekara-Kera Jangal line | 8/26/2023 | 8/26/2023 | 22:36 | 1:08             | No DPH                               | DPH phase of at 11.3 km         | we were thunderstorm and lightning   |  | yes                    |         |
| 84     | 132kv Baranpur-Bans                | 8/26/2023 | 8/26/2023 | 19:26 | 0:32             | DPH-B/LZ-1, Z-2, F-1, 16.5km         | Earth fault                     | Parallel line after tripping, Disc insulators of towers were checked from tower no.102 to 112 and found healthy. | Parallel line after tripping, Disc insulators of towers were checked from tower no.102 to 112 and found healthy. | Not affected           |         |
| 85     | 132 KV Gonyra-Jamalpur             | 8/27/2023 | 8/27/2023 | 20:30 | 5:57             | R, B ph. E/F, Z-1                    | R, B ph. E/F, Z-1, Dist. 1.7 km | paralling done from tower no 1 to 23. Nothing abnormal found   |  | No                     |         |
| 86     | 132 KV Phulaur-Jamalpur            | 8/27/2023 | 8/27/2023 | 20:51 | 7:42             | DPH R Phase of/ at 16.29 km, 2.5KA   | DPH R Phase of/ at 3.95 km      | line paralles from tower no 1 to 23 and nothing abnormal found   |  | NO                     |         |
| 87     | 132 KV Gonyra-Phagwara CRT-1       | 8/28/2023 | 8/28/2023 | 18:52 | 1:58             | E/F                                  | R ph. Z-2, Dist. 12.0 km        | transformer tripped at gonyra stn  |  | no                     |         |
| 88     | 132 KV Gonyra-Phagwara CRT-2       | 8/28/2023 | 8/28/2023 | 18:14 | 0:59             | E/F                                  | E/F, Dist. 11.9 km              | transformer tripped at gonyra stn  |  | no                     |         |
| 89     | 132 kv gonyra phulaur              | 8/28/2023 | 8/28/2023 | 18:10 | 0:18             | G, Trip B ph. E/F, Z-1, Dist. 4.8 km | Breaker not tripped             | transformer tripped at gonyra stn  |  | No                     |         |
| 90     | 132 KV Gonyra-Jamalpur             | 8/28/2023 | 8/28/2023 | 12:30 | 28:16            | O/C R ph.                            | R ph. Z-1, Dist. 36.5 km        | paralling done from tower no 10 to 66. earth wire breakdown between tower no 22-23-24                            |  | No                     |         |
| 91     | 132kv Nakkara-Nawanahar CRT-1      | 8/28/2023 | 8/29/2023 | 10:50 | 25:56hrs         | 07NS                                 | Y/F phase, Zone-1, 13km         | Due to lightning and fault in the region   | Parall: the line from tower no 136/1 to 136/30.  | No                     |         |

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| Sr. No | Name of the Line                     | From      |       | To        |       | Duration<br>HH:MM | Relay Indication<br>This End | That End                     | Cause of Tripping / Breakdown  | Tripping Analysis/ Remedial Measures<br>Taken  | Supply affected or Not | Remarks |
|--------|--------------------------------------|-----------|-------|-----------|-------|-------------------|------------------------------|------------------------------|--|--|------------------------|---------|
|        |                                      | Date      | Time  | Date      | Time  |                   |                              |                              |  |  |                        |         |
| 92     | 132kV Kharsa mandir-Rgt              | 8/29/2023 | 4:45  | 8/29/2023 | 5:36  | 0:51              | Dpr. R-Phase-2-1, F-26km     | Earth fault                  | Patrolled line after tripping from tw no 4 to 18 and founds ok.  | Patrolled line after tripping from tw no.4 to 18 and founds ok.  | Not Effected           |         |
| 93     | 132kV BMB-Dubwan                     | 8/30/2023 | 11:37 | 8/30/2023 | 12:08 | 0:31              | Dpr. B phase-2-1, F-26km     | Earth fault                  | During patrolling a metal wire was found on B phase cross arm at tw no.213 and same was cleared from the line. | During patrolling a metal wire was found on B phase cross arm at tw no.213 and same was cleared from the line. | Not Effected           |         |
| 94     | 132kV Kapurthala-Science City        | 9/2/2023  | 11:34 | 9/2/2023  | 15:30 | 3:56              | Dpr. B phase-2-1, F-10.9 km  | Dpr. B phase-2-1, F-100 Mcr. | Patrolled line after tripping towers were checked from tw no.85/2 to 85/7 and founds ok.                       | Patrolled line after tripping towers were checked from tw no.85/2 to 85/7 and founds ok.                       | Not Effected           |         |
| 95     | 132kV Nakkim-Nawanshetar ckt-1       | 9/5/2023  | 10:12 | 9/9/2023  | 16:00 | 05:52hrs          | R-phase, Zone-1              | R-Phase, Zone-1, 10.12km     | Patrol the line from tower no 145 to 136/12, no fault found.   | Patrol the line from tower no 145 to 136/12, no fault found.   | No                     |         |
| 96     | 132kV Nawanshetar-Gorayan line       | 9/9/2023  | 7:28  | 9/9/2023  | 7:56  | 28 mins           | R-Phase, Zone-1, 8.17km      | R-Phase, Zone-1, 23.13km     | Bridge on tower no 38 R-Phase  | during patrolling found the bridge on tower no 30  | No                     |         |
| 97     | 132kV BMB-Bhogpur                    | 9/10/2023 | 23:44 | 9/11/2023 | 7:48  | 8:04              | Dpr. Y Phase-2-1, F-20.52km  | Dpr. Y Phase-2-1, F-3.79km.  | The Disc insulators of Y phase at tw no.70 were found flashed and same were replaced with new disc insulators. | The Disc insulators of Y phase at tw no.70 were found flashed and same were replaced with new disc insulators. | Not Effected           |         |
| 98     | 132kV Bhogpur-Hoshiarpur line        | 9/11/2023 | 1:50  | 11/9/2023 | 11:11 | 09:21hrs          | Y-phase, Zone-1, 8.17km      | Y-phase, Zone-1, 17.1km      | Transient Fault  | during patrolling probing found  | No                     |         |
| 99     | 132 kV Nakodar-Kotla Janga           | 9/13/2023 | 1:31  | 9/13/2023 | 2:10  | 0:39              | E/F                          | E/F                          | transient fault  |  | yes                    |         |
| 100    | 132 kV Nakodar-Noormahli             | 9/13/2023 | 1:31  | 9/13/2023 | 2:14  | 0:35              | E/F                          | E/F                          | transient fault  |  | yes                    |         |
| 101    | 132 kV Umana-estate-Rotla Janga line | 9/13/2023 | 1:31  | 9/13/2023 | 2:15  | 2:44              | breaker not tripped          | breaker not tripped          | transient fault  |  | no                     |         |

| Sr. No | Name of the line               | From Date | To Date   | Time  | Duration (Hrs:Min) | Phase/Location                 | Dist. (km) | Phase/Location  | Dist. (km) | Remarks   | Supply status as per Meter |
|--------|--------------------------------|-----------|-----------|-------|--------------------|--------------------------------|------------|---|------------|---|----------------------------|
| 102    | 132kv Nandipur-Bungu line      | 9/13/2023 | 9/13/2023 | 5:01  | 38 mins            | V-Phase, Zone-1, 21.8km        |            | Transient Fault   |            | Nothing found   | No                         |
| 103    | 132 KV Gersya-Jansajpur        | 9/14/2023 | 9/14/2023 | 9:32  | 7:42               | O/C 3 ph                       | 18.1 km    | the patches from cover no 23 to 7th nothing abnormal found  |            |   | No                         |
| 104    | 132 KV Gersya-Jansajpur        | 9/16/2023 | 9/16/2023 | 13:24 | 4:32               | O/C 3 ph                       | 8.2 km     | line retrieved from cover no 3 to 22, nothing abnormal found  |            |   | No                         |
| 105    | 132kv Nawanshehar-Gorsyan line | 9/17/2023 | 9/17/2023 | 9:10  | 08:44hrs           | R-Phase, Zone-1, 22.6km        | 4.7km      | R-phase string flash on tower no 82   |            | R-phase string flash on tower no 82   | No                         |
| 106    | 132kv Tamba-Bhagpur line       | 9/17/2023 | 9/17/2023 | 17:15 | 02:50hrs           | B-Phase, Zone-1, 18km          |            | due to newly bit, bit rust on tower no 109  |            | Breach on tower no 109  | No                         |
| 107    | 132kv APRG-Sri Hargobindpur-1  | 9/19/2023 | 9/19/2023 | 25:25 | 14:20hrs           | B-phase, Zone-1, 10.09km       | 25.1km     | Paroll the line from tower no 19 to 41, no fault found.   |            | Paroll the line from tower no 19 to 41, no fault found.   | No                         |
| 108    | 132 KV Nalodra-Noomdahi        | 9/20/2023 | 9/20/2023 | 14:42 | 3:24               | DPR R & B phase e/f at 1.9 km  |            | line parolled from tower no 20 to 36, nothing abnormal found  |            |   | No                         |
| 109    | 132kv BHMSP-Dihwan             | 9/20/2023 | 9/20/2023 | 12:24 | 1:06               | Dpr. B phase Z-1, R-20.67km    |            | During Parolling a metal wire was found on R phase cross arm at Tw no 229 due to which line was tripped and same was cleared from the line.   |            | During Parolling a metal wire was found on R phase cross arm at Tw no 229 due to which line was tripped and same was cleared from the line.   | Not Effectd                |
| 110    | 132kv Pooal Point-Ramajpur     | 9/20/2022 | 9/20/2023 | 13:07 | 4:23               | Dpr. 1.5 B-Phase Z-1, R-1.4 km |            | During patrolling it was found that between the no 32-33 due to illegal construction of building work and stack was fall on the line due to which line was tripped, same was cleared from the line. |            | During patrolling it was found that between the no 32-33 due to illegal construction of building work and stack was fall on the line due to which line was tripped, same was cleared from the line. | Not Effectd                |
| 111    | 132 KV Nalodra-Nodra, (wsg)    | 9/21/2023 | 9/21/2023 | 18:53 | 0:28               | DPR Y&B E/F                    | 7.8 km     | T-7 damaged at 132 KV Nalodra str   |            |   | Yes                        |

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| Sr. No              | Name of the Line           | From Date  | To Date    | Time  | Duration<br>HH:MM | Relay Indication<br>This End  | Cause of Tripping / Breakdown   |   | Tripping Analysis/ Remedial Measures<br>Taken  | supply affected or Not<br>Taken | Remarks |
|---------------------|----------------------------|------------|------------|-------|-------------------|---|---|---|--|---------------------------------|---------|
|                     |                            |            |            |       |                   |   | That End  | That End  |  |                                 |         |
| 112                 | 132 KV Nakodar-Normahal    | 9/21/2023  | 9/21/2023  | 19:35 | 0.42              | DPR Y&B E/F   | DPR Y&B E/F at 10.1 km  | CT damaged at 132 KV nakodar stn                              |  | yes                             |         |
| 113                 | 132 KV Nakodar-Kotla Janga | 9/22/2023  | 9/22/2023  | 13:22 | 0.24              | E/F   | Y & B phase E/F   | transient fault   |  | yes                             |         |
| 114                 | 132 KV Nakodar-Normahal    | 9/22/2023  | 9/22/2023  | 16:49 | 4.51              | E/F phase   | O/C Y Phase   | transient fault   |  | yes                             |         |
| 115                 | 132KV MPH2-Bhingspur line  | 9/23/2023  | 9/23/2023  | 14:20 | 22 mins           | Y-phase, Zone-1   | Y-phase, Zone-1, 13.58km  | due to newly bit bird nest on tower no 92                     | Birdage on tower no 92   | No                              |         |
| 116                 | 132KV MPH2-Tapsia line     | 9/24/2023  | 9/24/2023  | 17:56 | 06:29 hrs         | B-phase, Zone-1, 26.52km  | B-phase, Zone-1, 7.4km  | B-phase string flash on tower no 54                           | B-phase string flash on tower no 54  | No                              |         |
| 117                 | 132 KV Phulaur -nanaipur   | 9/28/2023  | 9/28/2023  | 18:03 | 5.08              | DPR R Phase e/f at 29.88A   | DPR R Phase e/f at 7.6km km   | line patrolled from tower no 10 to 26, nothing abnormal found |  | no                              |         |
| P&M CIRCLE Ludhiana |                            |            |            |       |                   |   |   |   |  |                                 |         |
| 1                   | 220KV G2-Gangawal          | 02.07.2023 | 03.07.2023 | 16:34 | 19:48             | DPR Main-1, Z-1, R-Phase Fault location 50.1km, Fault Current 2988A                   | DPR Main-1 Z-1 B-Phase Distance: 14.80KM Fault Current 10156.0A       | B-Phase Polymer String flashed on TN 29.                      | Tower no-15 to 72 Patrolling done as per DPR data & T.No. 66,33,26,29 top patrolled. Weather was cloudy. | Supply not effected             |         |
| 2                   | 220KV G2-Gangawal          | 04.07.2023 | 05.07.2023 | 16:58 | 20:02:00          | DPR Main-1 38kV Microm B-Phase, Zone-1 Fault Distance 14.91km Fault Current 11631.41A | DPR Zone-1 B-Phase E/F Fault Distance 14.91km Fault Current 11631.41A | B-Phase Polymer String flashed on TN 29.                      | Tower no-29 to 36 Patrolling done as per DPR data & T.No. 66,33,26,29 top patrolled. Weather was cloudy. | Supply not effected             |         |

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| Sr.No | Name of the Line            | From Date  | To Date    | Time  | Duration (HH:MM) | Relay/Protection  | Fault Kind  | Cause of Tripping / Breakdown   | Tripping Analysis / Remedial Measures  | Supply affected or Not | Remarks |
|-------|-----------------------------|------------|------------|-------|------------------|---|---|---|--|------------------------|---------|
|       |                             |            |            |       |                  |   |   |   |  |                        |         |
| 3     | 220KV G1 - RTP 650-3        | 09.07.2023 | 11.07.2023 | 17:45 | 40:45            | DPR RVB-Phase. Current: R-2136 A, Y-5415 A, B-6438 A. Distance=23.48 km                     | DPR RVB-Phase. Fault: R-2136 A, Y-5415 A, B-6438 A. Distance=23.48 km | Power failure near TN 05 with some of its top branches touching the bottom phase due to heavy load weather. | Fault found on Tower No 05. This tower is located nearby Kallam River whose banks broke from 2 places. The tower was in the way of heavy flood water. Many trees appeared on the way due to force of water & one of the backlogs was left near the base of tower with some of its top branches touching the bottom phase. Chances of tripping is more due to difficulty in reaching fault site as heavy flooding was observed in the region. Location Village Chauria, Khard, Beta, Dist. Raipur. Weather: Extremely heavy rain, flooding. | Supply not affected    |         |
| 4     | 220 KV G2-G3                | 09.07.2023 | 09.07.2023 | 16:36 | 0:52             | RV B-Phase, Zone-3  | Not Tripped   | Transient fault due to bad weather  | Due to Extremely Bad weather (flooding situation), heavy rain, it was taken by PC pinna & R govt. Substation did not tripped from G3 end. Weather: Extremely heavy rain, flooding.   | Supply not affected    |         |
| 5     | 220 KV Beldaha - G1         | 09.07.2023 | 09.07.2023 | 17:02 | 1:18             | DPR Zone 3 RVB-Phase. Fault Current: R - 2079A, Y - 2240A, B - 2118A. Dist not shown by DPR | Not tripped   | Transient fault due to bad weather  | Line did not tripped from G1 end & low fault current. Line energized under instruction to PC Patna. Weather: Extremely heavy rain, flooding.   | Supply not affected    |         |
| 6     | 220KV G1-Rajpara2           | 09.07.2023 | 09.07.2023 | 19:20 | 3:36             | Not tripped   | DPR Z-1 RVB-Phase.  | Problem in CB at Rajpara end.   | After Protection testing at Rajpara end line not held from Rajpara end. Weather: Extremely heavy rain, flooding.   | Supply not affected    |         |
| 7     | 220 KV G1 - RTP 3           | 10.07.2023 | 11.07.2023 | 17:15 | 34:14            | DPR Zone-1 R-Phase. Fault Current: R-6099A. Distance-27.57 Km                               | DPR Zone-1 R-Phase. Fault Current: R-6099A. Distance-27.57 Km         | Transient fault due to bad weather  | Patrolling of line was done from TN 109 to TN 156 as per DPR data. No. 110 top was held. No visible fault found. Duration of tripping is more due to difficulty in reaching fault site as heavy flooding was observed in the region. Weather: Extremely heavy rain, flooding.  | Supply not affected    |         |
| 8     | 220KV Gangavah-Bhari        | 15.07.2023 | 15.07.2023 | 23:58 | 6:28             | Not tripped   | DPR Main-1 Zone 1 B-Phase   | Hardware breakdown between TN No. 3 to 7  | After line was not tripped from Bari end & line was taken by PC patna at night hood. During patrolling on dated 16.07.2023 hardware breakdown found between T.No. 3 to 7 & same was attended by taking PTW.  | Supply not affected    |         |
| 9     | 220 KV Beldaha - Beldahloch | 15.07.2023 | 16.07.2023 | 18:45 | 29:47            | DPR Z-1 Y Phase. Fault current Y - 6329 A. Dist not shown by DPR                            | DPR Z-1 Y Phase. Fault current Y - 6092 A. Dist not shown by DPR      | Transient fault due to bad weather  | Patrolling of line was done from TN 50 to TN 92 as per DPR data. TN 63 top was held. Tripping duration is more as hardware breakdown on 220KV Beldaha-Gangavah was attended first & this line patrolled thereafter.  | Supply not affected    |         |
| 10    | 220 KV G1 - RTP 1           | 26.07.2023 | 26.07.2023 | 7:31  | 08:32            | DPR Zone 1 R-Phase. Fault current 9780A. Distance 11.62KM                                   | DPR Z-1 R-Phase. Fault current 2439A. Distance 46.4 km                | R phase disc flashed at tower no. 150   | Patrolling of line was done from TN 120 to TN 155 as per DPR data. TN 103,134,136,150,153 top patrolled.   | Supply not affected    |         |

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*[Handwritten Signature]*

| Sr. No | Name of the Line                 | From Date  | Time  | To Date    | Time  | Duration Hrs:MM | Relay Indication This End                                    | That End  | Cause of Tripping / Breakdown   | Tripping Analysis/ Remedial Measures Taken   | Supply affected or Not                                 | Remarks |
|--------|----------------------------------|------------|-------|------------|-------|-----------------|--|---|---|--|--|---------|
| 11     | 220 KV Jamalpur-Gangawadi ckt 2  | 12.07.2023 | 20:30 | 13.07.2023 | 15:55 | 19:25           | DPR Z-1,Y-B-PHASE DIS 65.48 KM                               | DPR Z-1,Y-B-PHASE DIS 8.6 KM                      | Tree branch came in range between TN 29C-30   | Line was tripped because drain was cleared by local people with the help of JCB. During the work a tree move towards line and came in the range of line. Line was charged after removal the tree branch.   | Supply not effected                                    |         |
| 12     | 220 KV Jamalpur-Ganguwadi ckt 1  | 20.07.2023 | 11:32 | 20.07.2023 | 20:45 | 9:13            | DPR Z-1,Y-PHASE DIS 49.93 KM                                 | DPR Z-1,Y-PHASE DIS 23.73 KM                      | Transient fault due to bad weather  | Tower No. 69 to 76 patrolling done No visible abnormality was found. Line energised under intimation to PC Patiala.  | Supply not effected                                    |         |
| 13     | 220 KV Sandhor- MairKotla ckt 2  | 23.07.2023 | 8:06  | 23.07.2023 | 9:44  | 1:38            | Not tripped  | DPR Z-3,B-PHASE DIS 25.8 KM                       | Line was tripped because 220KV Sandhor-Barnala Break down.  | Line was changed from other end under intimation to PC Patiala.  | Supply not effected                                    |         |
| 14     | 220 KV Lalton- Ferozpur Road     | 28.07.2023 | 22:40 | 29.07.2023 | 9:54  | 11:14           | DPR Z-1,B-PHASE DIS 7.3 KM                                   | DPR Z-1,B-PHASE DIS 15.11 KM                      | Transient Fault   | Tower No. 17 to 29/B patrolling done No visible abnormality was found. Line energised under intimation to PC Patiala.  | Supply not effected                                    |         |
| 15     | 220 KV Moge-Sadiq                | 12.07.2023 | 23:58 | 13.07.2023 | 1:10  | 1:12            | DPR Z-1,B-ph E/F, 27.2KM, No fault current recorded at Moge. | DPR Z-1,B-ph E/F, 26.79KM, 4.031KA. Auto reclose. | Transient Fault   | Line remain energised from 220 KV Sadiq and after Auto reclose. After inspection of switchgear by SYS Staff. Line energised from 220 KV Moge end under intimation to PC Patiala.   | Supply not effected                                    |         |
| 16     | 220 KV Sadiq-Kokkrore            | 18.07.2023 | 16:40 | 21.07.2023 | 16:55 | 72:15           | DPR Zone-1, B-Phase FC-0.321 KA, D-304.8 Mtr.                | DPR Zone-2, B-Phase E/F, D-36.20KMA, FC-4.59KA    | Conductor breakdown: from straight joint of B-phase between Tower no. 74 and 75. (First and second tower outside 220 KV S/S Sadiq). | Line was charged after attending the break Down by replacing the conductor B/W Towers. There was delay in attending the break down<br>1) Due to delay in providing approval for S/D by SE, DS Faridkot, as Lead of 132 KV S/S Faridkot being affected.<br>2) Bad weather and rain affected the work<br>3) Also Helipoint and damaged conductor replaced at 220 KV Kokkrore b/w gantry and first tower. | Supply of 220 KV SADIQ affected by 38 mins.            |         |
| 17     | 220 KV Sadiq- Ferozpur           | 18.07.2023 | 16:40 | 18.07.2023 | 21:48 | 5:08            | DPR Zone-4-B-Phase, FC-2.69KA, D-925.9 Mtr                   | DPR Zone-1, B-Phase E/F, D-32.6KM, FC-2.68KA      | Due to Conductor breakdown of 220 KV Kokkrore-Sadiq Line.   | Line was charged after removal of broken conductor from Tower no 74, and was clear to charge but kept shut as a matter of safety for attending breakdown, as both 220 KV Lines and two No. 132 KV Lines run on common Tower no. 74.  | All supply of 220 KV SADIQ affected by 38 mins.        |         |
| 18     | 220 KV Sadiq- Sri Muktesar Sahib | 18.07.2023 | 16:40 | 18.07.2023 | 17:20 | 0:40            | DPR Zone-6, B-Phase, FC-3.465KA, D-920.8mtr                  | Not tripped                                       | Due to Conductor breakdown of 220 KV Kokkrore-Sadiq Line.   | Line was charged from other end under intimation to PC Patiala. CB closed at 220KV Sadiq, as line was already charged other end.   | All supply of 220 KV SADIQ affected by 38 mins.        |         |
| 19     | 220 KV Sadiq- Moge               | 18.07.2023 | 16:40 | 18.07.2023 | 17:18 | 0:39            | DPR Zone-4, B-Phase, FC-2.604 KA, D-1.56KM                   | Not tripped                                       | Due to Conductor breakdown of 220 KV Kokkrore-Sadiq Line.   | Line was charged from other end under intimation to PC Patiala. CB closed at 220KV Sadiq, as line was already charged other end.   | All supply of 220 KV SADIQ affected by 38 mins.        |         |
| 20     | 220 KV Bahianwaia-Ferozpur       | 21.07.2023 | 10:58 | 21.07.2023 | 13:56 | 2:58            | DPR Zone-1, 8-ph E/F, D-18 KM, FC-5 KA                       | DPR Zone-1, 8-ph E/F, FC-2.265KA                  | Transient Fault   | Line patrolled from Tower no 80/1 to 80/58 and from Tower no 80 to 95. Nothing Abnormal found.   | Supply not effected                                    |         |
| 21     | 132 KV Swaddi-Jamalpur ckt 1     | 07.07.2023 | 06:35 | 07.07.2023 | 12:08 | 11:33           | DPR Z-1, B-PHASE DIS-19.297 KM                               | DPR Z-1, B-PHASE DIS-22.9 KM                      | Transient fault due to bad weather  | Tower No. 40 to 60 patrolling done. No visible abnormality was found. Line energised under intimation to PC Patiala.   | Supply not effected                                    |         |
| 22     | 132 KV Swaddi-Jamalpur ckt 1     | 16.07.2023 | 2:54  | 16.07.2023 | 11:08 | 10:14           | DPR Z-1, Y-PHASE DIS-27.693 KM                               | DPR Z-1, Y-PHASE DIS-16.2 KM                      | Transient fault due to bad weather  | Tower No. 10 to 42 patrolling done. No visible abnormality was found. Line energised under intimation to PC Patiala.   | Supply not effected                                    |         |
| 23     | 132 KV Ghelia-Moge               | 12.07.2023 | 1:50  | 12.07.2023 | 2:20  | 0:30            | Dir-0/C  | Not tripped                                       | Transient Fault   | Line energised under intimation to PC Patiala as offer end.  | All supply of 132 KV Ghelia kalan affected by 30 mins. |         |
| 24     | 132 KV Ghelia-Smakh Bhai         | 12.07.2023 | 1:50  | 12.07.2023 | 2:25  | 0:35            | Dir-0/C  | CB Not installed                                  | Transient Fault   | Line energised under intimation to PC Patiala.   | All supply of 132 KV Smakh Bhai affected by 35 mins.   |         |

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| Sr. No. | Name of the Line               | From Date  | To Date    | Time  | Duration (H:MM) | Remarks | Cause of Tripping / Breakdown                |             | Tripping Analysis / Remedial Measures Taken                              | Supply affected or Not                          | Remarks  |
|---------|--------------------------------|------------|------------|-------|-----------------|---------|--|-------------|--|---|--|
|         |                                |            |            |       |                 |         | Sub. End                                     | Dist. End   |  |   |  |
| 25      | 132KV Magy-Ghuda               | 13.07.2023 | 13.07.2023 | 10:47 | 16:47           |         | DPR Z-2, R-Phase, Dis. 4.8 KM, F.C. 4.892 KA | Not tripped | B-Phase Conductor Breakdown b/w Tower no.51 & 52 (in Ghuda Tower).       | Line was charged after attending the breakdown. | Supply affected of 132 KV Ghuda Sub. & 131 KV Branch bus |
| 26      | 132 KV Fowzpur-Kana Singh Mada | 13.07.2023 | 13.07.2023 | 13:15 | 15:28           |         | DPR Z-1, Y-Phase, Dis. 6.717 KM, F.C. 6.115A |             | Permanent fault due to bad weather.                                      | Supply not affected                             |  |
| 27      | 132 KV Swaddi-Mogra Ckt 2      | 13.07.2023 | 13.07.2023 | 14:32 | 17:23           |         | DPR Z-1, R-Phase, Dis. 16.32 KM              |             | R-Phase die flashed at Tower no 148 (in disc string)                     | Supply not effected                             |  |
| 28      | 132KV Ghuda-Jamalpur Ckt-2     | 17.07.2023 | 17.07.2023 | 17:55 | 20:26           |         | DPR Z-2, R-Phase, Dis. 27.8 km               |             | Transient fault due to bad weather                                       | Supply effected                                 |  |
| 29      | 132 KV Ghuda-Jamalpur Ckt-1    | 17.07.2023 | 17.07.2023 | 17:55 | 20:25           |         | DPR Z-2, R-Phase, Dis. 28.9 km               |             | Transient fault due to bad weather                                       | Supply effected                                 |  |
| 30      | 132 KV Swaddi-Jamalpur Ckt 2   | 20.07.2023 | 20.07.2023 | 13:09 | 13:28           |         | DPR Z-1, R-Phase, Dis. 27.9 KM               |             | Transient Fault  | Supply not effected                             |  |
| 31      | 132KV Ghuda-Chankour Sahib     | 27.07.2023 | 27.07.2023 | 13:39 | 0:52            |         | DPR Z-1, R-Phase, Dis. 23.4 Km               |             | Transient fault due to bad weather                                       | Supply not effected                             |  |
| 32      | 132 KV Swaddi-Mogra Ckt 2      | 27.07.2023 | 27.07.2023 | 22:05 | 18:25:00        |         | DPR Z-1, Y-Phase, Dis. 32.65 KM              |             | R-Phase die flashed at Tower no 211.                                     | Supply not effected                             |  |
| 33      | 132 KV Kadirwa-Fowzpur         | 27.07.2023 | 27.07.2023 | 14:02 | 18:45           |         | DPR Zone-1, Y-Phase, Dis. 4.63KA             |             | Transient fault due to bad weather                                       | Supply not effected                             |  |
| 34      | 132KV Ghuda-Samsapur-Sub       | 29.07.2023 | 29.07.2023 | 14:52 | 6:22            |         | Brecher not installed                        |             | Due to low fault current, Line energised under intimation to PC Patiala. | Supply not effected                             |  |
| 35      | 132 KV Swaddi-Jamalpur Ckt 1   | 29.07.2023 | 29.07.2023 | 14:27 | 12:17           |         | DPR Z-1, Y-Phase, Dis. 18 KM                 |             | Transient fault  | Supply not effected                             |  |
| 36      | 132KV Ghuda-Jamalpur Ckt-1     | 30.07.2023 | 30.07.2023 | 9:50  | 7:15            |         | DPR Z-2, Y-Phase, Dis. 24.6 km               |             | Along with tripping of 132KV Ghuda-Jamalpur Ckt-2                        | Supply effected                                 |  |
| 37      | 132KV Ghuda-Jamalpur Ckt-02    | 30.07.2023 | 30.07.2023 | 9:50  | 7:15            |         | Y-Phase                                      |             | Line energised after attending breakdown.                                | Supply effected                                 |  |

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| Sr. No | Name of the Line            | From Date  |       | To Date    |       | Duration<br>HH:MM | Relay Indication<br>This End  |  | Cause of Tripping / Breakdown  | Tripping Analysis/ Remedial Measures<br>Taken  | Supply affected or Not                       | Remarks |
|--------|-----------------------------|------------|-------|------------|-------|-------------------|---|--|--|--|--|---------|
|        |                             | Time       | Date  | Time       | Date  |                   | This End  | That End   |  |  |  |         |
| 38     | 132 KV Mega-Dhaleke         | 30.07.2023 | 11:37 | 30.07.2023 | 19:56 | 8:19              | DPR Zone-2,R-phase E/F, D-47 BKM, FC-4.35KA,<br>E/F, D-5.5 KM, FC-    | CE Not installed   | R-phase disc string flushed at Tower no. 31.                                   | Line was charged after replacement of flash disc string.   | Supply affected of 132KV Dhaleke for 22 Mins |         |
| 39     | 132 KV -Dhaleke-Dharmkot    | 30.07.2023 | 11:37 | 30.07.2023 | 11:59 | 6:22              | DPR Zone 1,2,3, R-phase O/C, D-10.2 KM,FC-2.83KA,<br>FC-              | Not tripped  | Along with tripping of 132 KV Mega-Dhaleke Line                                | Line energised under intimation to PC Patiala.   | Supply affected of 132KV Dhaleke for 22 Mins |         |
| 40     | 132 KV Koldore-Ferozshah    | 31.07.2023 | 4:25  | 31.07.2023 | 11:32 | 7:07              | DPR Zone-1, B-Phase E/F, D-77.02KM, FC-4.418KA,<br>E/F, D-5.5 KM, FC- | DPR Zone-1, B-Phase E/F, D-5.5 KM, FC-4.95KA                 | Transient Fault  | Complete line patrolling done. No visible fault found. Line energised under intimation to PC Patiala.  | Supply not effected                          |         |
| 41     | 132 KV Mega Interlink Ckt-1 | 31.07.2023 | 8:43  | 31.07.2023 | 13:48 | 4:35              | DPR Zone-1, R-phase E/F, D-2.49KM, FC-8.96KA,<br>E/F, D-12.4KM        |  | Transient Fault  | Complete line patrolling done. No visible fault found. Line energised under intimation to PC Patiala.  | Supply not effected                          |         |
| 42     | 220KV RTP-Kohara            | 02.08.2023 | 18:50 | 02.08.2023 | 23:53 | 5:03              | DPR Z-1,Y-PHASE DIS-82 KM   | DPR Z-1,Y-PHASE DIS 800 mtr                                  | Transient fault  | Tower No-206/1 to 206/12 patrolling done. No visible abnormality was found. Line energised under intimation to PC Patiala.   | Supply not effected                          |         |
| 43     | 220KV Bassi Pathana - RTP   | 03.08.2023 | 6:19  | 03.08.2023 | 7:40  | 1:21              | DPR Z-1 R-Ph Fault<br>FC-2.901KA, Distance=32.138 km                  | DPR Z-1 R-Ph Fault<br>Current=7.767 KA,<br>Distance 18.39 KM | Transient fault  | AS Auto reclose operated at Bassi and CB was ON. Line energised under intimation to PC Patiala.  | Supply not effected                          |         |
| 44     | 220KV Bassi Pathana - G1    | 04.08.2023 | 1:37  | 04.08.2023 | 16:35 | 14:58             | DPR Z-1,B-Ph Fault-Current=2.933 KA, Distance-14.909 km               | DPR Z-1, B-Ph Fault<br>Current=1.156 KA<br>Distance=9.213 km | Earthwire breakdown between TN 183-187.<br>B phase Disc Flash at tower no 184. | Line was charged after attending breakdown and replacement of flashed disc string.   | Supply not effected                          |         |
| 45     | 220KV G2-Ganguwal           | 04.08.2023 | 13:48 | 04.08.2023 | 20:53 | 7:05              | R-Phase, Distance 52.9km Zone-1, Fault Current 2530A                  | R-Phase, Distance 10.154Km Zone-1, Fault Current 10719A      | Transient fault  | Tower No-19 to 49 patrolling done. No visible abnormality was found. Line energised under intimation to PC Patiala.  | Supply not effected                          |         |
| 46     | 220KV Dhandari-POCIL        | 11.08.2023 | 11:22 | 11.08.2023 | 16:58 | 5:36              | DPR Z-1,B-PHASE DIS 7.838 KM  | DPR Z-2,B-PHASE DIS 16.2 KM                                  | Transient fault  | Tower No-7 to 23 patrolling done. No visible abnormality was found. Line energised under intimation to PC Patiala.   | Supply not effected                          |         |
| 47     | 220KV Dhandari-POCIL        | 13.08.2023 | 12:53 | 13.08.2023 | 21:34 | 8:41              | DPR Z-1,B-PHASE Z 1 DIS 7.2 KM  | DPR Z-1,B-PHASE Z-1 DIS 15.3 KM                              | Due to unknown object came in range Between TN 26-27                           | Line was charge after ACSR repair Between TN 26-27   | Supply not effected                          |         |
| 48     | 220KV Dhandari-Lalton       | 15.08.2023 | 0:56  | 15.08.2023 | 13:46 | 12:30             | DPR Z-1,B-PHASE DIS 14.53 KM  | DPR Z-1,R-PHASE DIS 4.1 KM                                   | B-Phase Disc insulator flashed at TN 56 B                                      | Line was charged after replacing flashed disc insulators.  | Supply not effected                          |         |
| 49     | 220KV G2-Ganguwal           | 16.08.2023 | 13:09 | 16.08.2023 | 15:20 | 2:11              | DPR Z-1,R-Phase, Fault Distance 52.3KM, Fault Current 2568A           | DPR Z-1,R-Phase E/F,<br>Distance 10.130KM                    | Transient fault  | As fault current was low. Line energised under intimation to PC Patiala On dated 17/08/2023 ground patrolling of line was carried out from TN 25 to 73 but no visible abnormality found. | Supply not effected                          |         |
| 50     | 220KV G2-G3                 | 17.08.2023 | 23:41 | 18.08.2023 | 19:55 | 21:4:00           | DPR Z-1,R-Ph-Phase  | DPR Z-1,Gen Trip,<br>Distance 3.8km.                         | Y-Phase Conductor Breakdown between Tower No. 220-221                          | Line was charged after attending breakdown.  | Supply effected                              |         |

| Sl. No | Name of the Line            | From Date  | To Date    | Time  | Duration (HH:MM) | Feeder Information (This End)  | That End  | Cause of Tripping / Breakdown  | Tripping Analysis / Remedial Measures Taken   | Supply affected or Not | Remarks |
|--------|-----------------------------|------------|------------|-------|------------------|--|---|--|---|------------------------|---------|
| 51     | 220KV G1- G2                | 17.08.2023 | 18.08.2023 | 22:41 | 19:38            | 20:57  | DPR Z-1 Y-Ph Fault Current=13.00231KA, Distance=1.7km             | Transient fault.   | Tower No-230 to 243 patrolling done. No visible abnormality was found. Line energised under intimation to PC Patiala. Line may have tripped due to conductor breakdown on 220KV G2-G3 line. | Supply not affected.   |         |
| 52     | 220KV G2-Gangawal           | 17.08.2023 | 18.08.2023 | 22:41 | 1:04:00          | Not tripped  |   | Transient fault.   | Line did not tripped from other end. Line energised under intimation to PC Patiala. Line may have tripped due to conductor breakdown on 220KV G2-G3 line.                                   | Supply affected.       |         |
| 53     | 220KV G2-Bharal             | 17.08.2023 | 17.08.2023 | 22:41 | 03:25:00         | Not tripped  |   | Transient fault.   | Line did not tripped from other end. Line energised under intimation to PC Patiala & 4 ph hold. Line may have tripped due to conductor breakdown on 220KV G2-G3 line.                       | Supply affected.       |         |
| 54     | 220KV Jambhaur-Gangawal-01  | 18.08.2023 | 18.08.2023 | 18:10 | 0:36             | DPR Z-1 RV-PHASE DIS 36.14 KM  | DPR Z-1 RV-PHASE DIS 36.35 KM                                     | Tree branch came in range. Line is energised down by fault between TN 120-121                              | Tower No-118 to 126 patrolling done. No visible abnormality was found. Line energised under intimation to PC Patiala.   | Supply not affected.   |         |
| 55     | 220KV Terogaur Road -Jallan | 18.08.2023 | 18.08.2023 | 14:26 | 7:24             | DPR Z-1 RVB-Phase, DIS=2.4 KM  | DPR Z-1 RVB-Ph, DIS 16.84 KM                                      | ACSR Conductor damaged between Tower noo-29/208/29-30 due to tree branch came in range of line inside PAU. | Line is charged after repairing Y-phase ACSR between TN 29/28-29/28   | Supply not affected.   |         |
| 56     | 220KV Bussi Pathana - G1    | 18.08.2023 | 18.08.2023 | 12:03 | 0:13             | DPR B-Ph Fault Current=1.951 K5  | Not tripped   | Transient fault.   | Line did not tripped from other end & fault current was low. Line was charged after the instructions of PC Patiala.   | Supply not affected.   |         |
| 57     | 220KV Bassi Pathana - G1    | 18.08.2023 | 18.08.2023 | 19:58 | 0:57             | DPR Z-1 Y-Ph Fault Current=2.229 KA, B-Ph PC=1.244 KA, Distance=2.2 km | Not tripped   | Transient fault.   | Line did not tripped from other end & fault current was low. Line charged from other end after the instructions of PC Patiala   | Supply not affected.   |         |
| 58     | 220KV Holakha - G1          | 18.08.2023 | 18.08.2023 | 12:03 | 0:20             | DPR B-Ph Fault Current=3.297A  | Not tripped   | Transient fault.   | Line did not tripped from other end & fault current was low. Line charged from other end after the instructions of PC Patiala   | Supply affected.       |         |
| 59     | 220KV G1- G2                | 18.08.2023 | 18.08.2023 | 12:02 | 1:23             | DPR Z-1 B Ph. Fault Current=2.166KA, Distance=0.4 Km                   | Not tripped   | Transient fault.   | Line did not tripped from other end & fault current was low. Line charged from other end after the instructions of PC Patiala   | Supply not affected.   |         |
| 60     | 220KV G1- G3                | 18.08.2023 | 19.08.2023 | 19:57 | 06:11            | DPR Z-1 Y-Ph Fault Current=1.4.64KA, Distance=1.2km                    | Not tripped   | Transient Fault.   | Tower No-255 to 243 patrolling done. No visible abnormality was found. Line energised under intimation to PC Patiala.   | Supply not affected.   |         |
| 61     | 220KV G2-G3                 | 18.08.2023 | 19.08.2023 | 21:10 | 06:25            | B/Phase Trip.  | Not tripped   | Disse to Damaged Y-Phase Jumper End Cons & Jumper on TN 226  | Line was charged after replacement the Jumper &   | Supply not affected.   |         |
| 62     | 220KV G1- G2                | 18.08.2023 | 18.08.2023 | 21:01 | 2:01             | MASTER TRIP  | Not tripped   | Transient fault.   | Line did not tripped from other end. Line charged from other end after the instructions of PC Patiala   | Supply not affected.   |         |
| 63     | 220KV Dhanderi-Jallan       | 18.08.2023 | 19.08.2023 | 9:17  | 4:05             | DPR Z-1 R-PHASE DIS 1.839 KM   | DPR Z-1 R-PHASE DIS 5.8 KM  | Transient fault.   | Tower No-63 to 62 patrolling done. No visible abnormality was found. Line energised under intimation to PC Patiala.   | Supply not affected.   |         |
| 64     | 220KV G1- KTY-04-2          | 20.08.2023 | 20.08.2023 | 7:25  | 12:49            | DPR Z-1 B-Ph Fault Current=5641.7A, B-Ph R/F                           | DPR Z-1 B-Ph Fault Current=6.137KA, Dir E/F. Distance=33.32km 94. | Earthwire breakdown between TN 92-101, and B phase Disc Flare at tower no disc acting.                     | Line was charged after attending breakdown and replacement of insulator disc acting.  | Supply not affected.   |         |

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| Sl. No | Name of the Line                | From Date  |       | To Date    |       | Time    | Duration (H:MM) | Relay Indication:  |  | That End  | Cause of Tripping / Breakdown   | Tripping Analysis/ Remedial Measures Taken | Supply affected or Not | Remarks |
|--------|---------------------------------|------------|-------|------------|-------|---------|-----------------|--|--|---|---|--|------------------------|---------|
|        |                                 | Date       | Time  | Date       | Time  |         |                 | This End   | That End   |   |   |  |                        |         |
| 65     | 220KV G2-Gangawal               | 21.08.2023 | 23:24 | 22.08.2023 | 0:45  | 1:21:00 |                 | DPR Z-1 B-Phase, D-49.9KM  | DPR Z-1 B-Phase E/F, D-10.9KM                          | Transient fault   | Fault current was low. Line changed from other end after the instructions of PC Patiala   | Supply not effected                        |                        |         |
| 66     | 220KV Mega-Bagapurana ckt-1     | 21.08.2023 | 22:53 | 22.08.2023 | 17:35 | 18:42   |                 | DPR Z-1 R-Ph E/F, D-2.013KM, FC-30.7KA   | Backup E/F   | Due to damage CT of R-phase at 220KV Mega end.                                    | Line energised after replacing the damaged CT of R-phase at 220KV Mega end.   | Supply not effected                        |                        |         |
| 67     | 220KV G1- RTP ckt-2             | 22.08.2023 | 14:18 | 22.08.2023 | 18:23 | 4:05    |                 | DPR Z-1 B-Ph Fault Current=2.493K, Zone-1, Distance 53.38km                    | DPR Z-1 B-Ph Fault Current=2.475K, Distance 46.87 km   | Transient fault due to bad weather.   | Tower No-129 to 170 patrolling done. No visible abnormality was found. Line energised under intimation to PC Patiala.   | Supply not effected                        |                        |         |
| 68     | 220KV G1- RTP ckt-1             | 22.08.2023 | 14:09 | 22.08.2023 | 18:20 | 4:11    |                 | DPR Z-1 R-Ph Fault Current=10.60KA, Distance 12.02km                           | DPR Z-1 R-Ph Fault Current=2.475K, Distance 46.87 km   | Transient fault due to bad weather.   | Tower No-129 to 170 patrolling done. No visible abnormality was found. Line energised under intimation to PC Patiala.   | Supply not effected                        |                        |         |
| 69     | 220KV G2-Gangawal               | 24.08.2023 | 12:35 | 24.08.2023 | 13:38 | 1:03    |                 | DPR Main-1 Z-1 R-Phase, Fault Distance 52.1KM, Fault Current 2448A             | DPR Z-1 R-Phase E/F, Dist: 9.6km, Fault Current 10.7ka | Transient fault   | Line energised under intimation to PC Patiala.  | Supply not effected                        |                        |         |
| 70     | 220KV G1- G2                    | 24.08.2023 | 14:08 | 24.08.2023 | 21:48 | 7:40    |                 | Directional E/F, Master trip   | Directional E/F, Master trip                           | Transient fault.  | Patrolling of line carried out from TN 219 to 243 as per DPR data. TN 238 top patrolled & its top phase jumper end cone found damaged & same was replaced as precautionary measure. No visible fault found. | Supply not effected                        |                        |         |
| 71     | 220KV Bharu-Ganguwal            | 24.08.2023 | 14:09 | 24.08.2023 | 14:54 | 0:45    |                 | Not tripped  | General alarm, main tri (M3V), 30G,30I, 30G, 96A, 86T  | Transient fault   | Line did not tripped from other end. Line changed from other end after the instructions of PC Patiala   | Supply not effected                        |                        |         |
| 72     | 220KV G2-Bharti                 | 26.08.2023 | 20:29 | 27.08.2023 | 9:05  | 11:36   |                 | DPR Z-1, RVB-Phase   | DPR Z-1, RVB-Phase, D-10.189KM                         | DFR Main 1 Faulty   | Line charged after Protection MGG team clearance.   | Supply not effected                        |                        |         |
| 73     | 220KV G2-G1                     | 26.08.2023 | 21:10 | 26.08.2023 | 21:45 | 0:35    |                 | DPR Z-1 B-Phase  | ON   | Transient fault   | Line did not tripped from other end. Line charged from other end after the instructions of PC Patiala   | Supply not effected                        |                        |         |
| 74     | 220KV Ladawal - Gaungserh ckt-2 | 28.08.2023 | 8:35  | 28.08.2023 | 20:15 | 11:40   |                 | DPR Z-2, RV-Phase distance-15.622KM, R-phase-5448A, Y-phase-5442A, B-phase-67A | DPR Z-2, RV-Phase                                      | Transient fault due to bad weather.   | Tower No-40 to 61 patrolling done. No visible abnormality was found. Line energised under intimation to PC Patiala.   | Supply not effected                        |                        |         |
| 75     | 220KV Sahnewal-FCIL Ckt-2       | 28.08.2023 | 8:43  | 28.08.2023 | 13:07 | 4:24    |                 | DPR Z-4, R-Phase 8203A, Y-619A, B-959 A  | DPR Z-2, R-Phase 8000A, D-18KM                         | Line tripped due occurrence of fault of 220KV Sahnewal Railway ckt.2.             | Line was charge after inspection.   | Supply effected                            |                        |         |
| 76     | 220KV Sahnewal Railway Ckt-2    | 28.08.2023 | 8:43  | 28.08.2023 | 19:20 | 10:37   |                 | DPR R-Phase 25000A, B-260090A, Distance 2KM                                    | Not Tripped  | Line tripped due to Earth wire breakdown between gantry and TN 17 at Railway end. | Line was charged after removal of earth wire and jumper repaired at TN 1.   | Supply effected                            |                        |         |
| 77     | 220KV Sahnewal Railway Ckt-1    | 28.08.2023 | 8:43  | 28.08.2023 | 13:49 | 5:06    |                 | 220KV Bus bar Supply fail  | Not Tripped  | Line tripped due to Earth wire breakdown between gantry and TN 17 at Railway end. | Line was charge after removal of earth wire.  | Supply effected                            |                        |         |
| 78     | 220KV Sahnewal-Daraha ckt-1     | 28.08.2023 | 8:43  | 28.08.2023 | 11:17 | 2:34    |                 | 220KV Bus bar Supply fail  | DPR Z-4 General trip                                   | Line tripped due occurrence of fault because of 220KV Sahnewal Railway ckt 2.     | Line was charge after inspection.   | Supply not effected                        |                        |         |
| 79     | 220KV Sahnewal-Ghuliel          | 28.08.2023 | 8:43  | 28.08.2023 | 14:52 | 6:09    |                 | 220KV Bus bar Supply fail  | DPR Z-2 R-PHASE  | Line tripped due occurrence of fault because of 220KV Sahnewal Railway ckt 2.     | Line was charge after inspection.   | Supply effected                            |                        |         |

2024/10/10

2024/10/10

| Sr. No | Name of Line                   | From Date  | Time  | To Date    | Time  | Duration<br>HH:MM | Robot indication                                |  | Cause of Tripping / Breakdown   | Tripping Analysis / Remedial Means not  | Remarks             |
|--------|--------------------------------|------------|-------|------------|-------|-------------------|---|--|---|---|---------------------|
|        |                                |            |       |            |       |                   | This End  | Task End                                     |   |   |                     |
| 90     | 220KV Srinawal-Rohart          | 28.08.2023 | 06:43 | 28.08.2023 | 11:15 | 2:13              | 220KV Bhar Supply fail                          | Control trip                                 | Line tripped due occurrence of fault because of 220KV Srinawal Railway cut 2. | Line was changed after inspection.  | Supply effected     |
| 91     | 220KV Gaurigati-Dharmatu       | 28.08.2023 | 06:45 | 28.08.2023 | 9:58  | 1:13:00           | DPR Z-1, B-Phase DIS-66119 K2, B-Phase          | DT received                                  | Transient fault.  | Line was changed as per instruction of PC Patnala.  | Supply not effected |
| 92     | 220KV RTP-Rohara               | 28.08.2023 | 9:03  | 28.08.2023 | 10:21 | 0:16              | DPR Z-1, B-Phase, DIS-66119 K2                  | Not Tripped                                  | Transient fault due to bad weather.   | Tower No-115 to 206/S patrolling done. Tree fallen between TN 204-205 due to heavy wind.  | Supply effected     |
| 93     | 220KV Bhar-Gangwah             | 28.08.2023 | 9:18  | 28.08.2023 | 10:18 | 1:00              | DPR Z-1, B-Phase, PC-5798 K 5486 A, D-3635KM    | DPR Z-1, B-Phase, PC-5798 K 5486 A, D-3635KM | Transient fault.  | Tower No-80 to 140 patrolling done. No visible abnormality was found. Line energised under intimation to PC Patnala.  | Supply not effected |
| 94     | 220KV Dharmati-PCGL            | 29.08.2023 | 15:02 | 29.08.2023 | 16:47 | 3:45              | DPR Z-1, B-Phase, DIS-32 KM                     | DPR Z-1, B-Phase, DIS-32 KM                  | Line is tripped due to unknown vehicle came in range in line between TN 8-9.  | Tower No-1 to 15 patrolling done. Unknown vehicle came in range in line between TN 8-9.   | Supply not effected |
| 95     | 132KV Swadi-Jamalpur est 1     | 02.08.2023 | 20:09 | 02.08.2023 | 23:09 | 17:00             | DPR Z-1, B-Phase DIS-697 KM                     | DPR Z-1, B-Phase E/F DIS-30.2 KM             | Transient fault due to bad weather.   | Tower No-60 to 87 patrolling done. No visible abnormality was found. Line energised under intimation to PC Patnala.   | Supply not effected |
| 96     | 132KV SHAMASHPUR S SEH         | 02.08.2023 | 21:25 | 02.08.2023 | 21:55 | 0:30              | Master trip                                     | Breaker not tripped                          | Transient fault.  | As circuit is single source, line was changed as per instruction of PC Patnala.   | Supply effected     |
| 97     | 132KV Maga-Soran               | 05.08.2023 | 10:39 | 05.08.2023 | 13:38 | 2:59              | DPR Z-1, B-Phase E/F, PC-12.1 KM, PC-3.45KA     | DPR Z-1, B-Phase E/F, D-12.1 KM, PC-3.45KA   | Transient fault.  | Tower No-1 to 47 patrolling done. No visible abnormality was found. Line energised under intimation to PC Patnala.  | Supply not effected |
| 98     | 132KV Swadi-Jamalpur est 1     | 06.08.2023 | 14:39 | 06.08.2023 | 16:01 | 3:22              | B-Phase D/O/C + E/F                             | DPR Z-1, B-Phase DIS-12.6 KM                 | B-Phase AGSO Connection breakdown: Between TN 78-79                           | Line was changed after attending breakdown.   | Supply not effected |
| 99     | 132KV Swadi-Jamalpur est 1     | 06.08.2023 | 14:40 | 06.08.2023 | 21:10 | 6:41              | DPR Z-1, B-Phase DIS 6971 KM                    | DPR Z-1, B-Phase DIS 1.2 KM                  | Transient fault.  | Tower No-1 to 15 patrolling done. No visible abnormality was found. Line energised under intimation to PC Patnala.  | Supply not effected |
| 90     | 132KV Maga-1-Dharmati-Dharmkut | 06.08.2023 | 22:44 | 07.08.2023 | 11:05 | 12:21             | DPR Z-1, 2, 3, V-Phase E/F D-3.8 KM, PC-7.81 KA | DPR Z-1, 2, 3, V-Phase E/F, D-7.1 KM         | Transient fault.  | Tower No-1 to 146.8 towards Dharmkut from Tower no. 1 to 47 patrolling done. No visible abnormality was found. Line energised under intimation to PC Patnala. | Supply not effected |

Date: 09/08/23

| Sr. No | Name of the Line            | From       |       | To         |       | Duration<br>HH:MM | Relay Indication<br>This End                                      | Cause of Tripping / Breakdown           | Tripping Analysis / Remedial Measures<br>Taken   | Supply affected or Not | Remarks |
|--------|-----------------------------|------------|-------|------------|-------|-------------------|---|---|--|------------------------|---------|
|        |                             | Date       | Time  | Date       | Time  |                   |   |   |  |                        |         |
| 91     | 132KV Roper                 | 07.08.2023 | 9:39  | 07.08.2023 | 10:39 | 1:00              | E/F-HS MASTER TRIP<br>R-Phase E/F-MASTER TRIP-DIS-26.3KM          | Transient fault                         | As fault current was low. Line was charged as per instructions of PC Patiala.  | Supply not effected    |         |
| 92     | 132KV Swaddi-Moga ckt 2     | 09.08.2023 | 21:01 | 10.08.2023 | 12:24 | 15:23             | DPR Z-1,Y-PHASE DIS 34 KM   | Transient fault                         | Tower No- 196 to 243 patrolling done. No visible abnormality was found. Line energised under intimation to PC Patiala.     | Supply not effected    |         |
| 93     | 132KV SHAMASHPUR & SEH      | 10.08.2023 | 15:38 | 10.08.2023 | 15:51 | 0:23              | R- PHASE  | Transient fault                         | As fault current was low. Line was charged as per instructions of PC Patiala.  | Supply effected        |         |
| 94     | 132KV Swaddi-Jamalpur ckt 1 | 14.08.2023 | 6:01  | 14.08.2023 | 12:35 | 6:34              | DPR Z-1,Y-PHASE Z-1 DIS 13.52 KM                                  | Transient fault                         | Tower No- 50 to 70 patrolling done. No visible abnormality was found. Line energised under intimation to PC Patiala.       | Supply not effected    |         |
| 95     | 132KV Swaddi-Jamalpur ckt 1 | 15.08.2023 | 11:40 | 15.08.2023 | 17:13 | 15:33             | DPR Z-1,Y-PHASE DIS 25.54 KM                                      | Transient fault                         | Tower No- 36/15 to 36/35 patrolling done. No visible abnormality was found. Line energised under intimation to PC Patiala. | Supply not effected    |         |
| 96     | 132KV Moga interlink ckt-01 | 15.08.2023 | 12:42 | 15.08.2023 | 16:42 | 4:00              | DPR Z-1,Y-phase E/F, D-3.289 KM, FC-7.58 KA<br>D-1.01KM, FC- 68KA | Transient fault due to bad weather.     | Complete line patrolling done. No visible abnormality was found. Line energised under intimation to PC Patiala.            | Supply not effected    |         |
| 97     | 132KV Moga interlink ckt-01 | 19.08.2023 | 11:02 | 19.08.2023 | 17:14 | 6:12              | DPR Z-1,Y-phase E/F, DS-3.56 KM, FC-8.064 KA                      | Y-phase disc flashed. Tower no- 237.    | Line was charged after replacement of flashed disc string.   | Supply not effected    |         |
| 98     | 132KV Moga interlink ckt-02 | 19.08.2023 | 11:02 | 19.08.2023 | 11:18 | 0:16              | Directional O/C-E/F,<br>FC-5.16KA                                 | Transient fault<br>Mega Interlink ckt-1 | Line was charged from other end as per instruction to PC Patiala   | Supply not effected    |         |
| 99     | 132KV Swaddi-Jamalpur ckt 1 | 21.08.2023 | 23:40 | 22.08.2023 | 13:42 | 14:02             | DPR Z-1,Y-PHASE DIS 25.29 KM                                      | Transient fault                         | Tower No- 36/10 to 36/30 patrolling done. No visible abnormality was found. Line energised under intimation to PC Patiala. | Supply not effected    |         |
| 100    | 132KV Swaddi-Jamalpur ckt 1 | 26.08.2023 | 1:26  | 26.08.2023 | 13:17 | 11:51             | DPR Z-1,B-PHASE DIS 26.9 KM                                       | Transient fault                         | Tower No- 36/61 to 36/67 patrolling done. No visible abnormality was found. Line energised under intimation to PC Patiala. | Supply not effected    |         |

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| Sl. No | Name of the Line                | From Date  | Time  | To Date    | Time  | Duration | Relay and status                           | Fault Info                                | Cause of Trip / Breakdown   | Trip/Analysis/ Remedial Measures Taken  | Supply affected or Not | Remarks |
|--------|---------------------------------|------------|-------|------------|-------|----------|--|---|---|---|------------------------|---------|
| 101    | 132KV Ferozshah-Masa Singh Wala | 26.08.2023 | 9:25  | 26.08.2023 | 13:40 | 4:15     | DPR Z-1, V-Phase E/F, D-2.1 KM, PC-5-BGMA  | DPR Z-1, V-Phase E/F, D-2.1 KM, PC-5-BGMA | Transient fault   | Tower No-143/7 to 144/2 paralleling done. No visible abnormality was found. Line energized under instruction to PC Patiala.                                 | Supply not affected    |         |
| 102    | 132KV Masal-Dhaliwala-Dharmkot  | 26.08.2023 | 9:42  | 26.08.2023 | 15:18 | 5:36     | DPR Z-1, B-Phase E/F, D-2.9 KM, PC-822 KA  | B-Phase                                   | Transient fault   | Tower No-1 to 7 & towards Dharmkot from Tower no-1 to 7 paralleling done. No visible abnormality was found. Line energized under instruction to PC Patiala. | Supply not affected    |         |
| 103    | 132KV Ferozpur-Masa Singh Wala  | 26.08.2023 | 10:40 | 26.08.2023 | 11:43 | 1:03     | DPR Z-1, B-Phase E/F, D-2.37 KM, PC-482 KA | DPR Z-1, B-Phase E/F, D-5.5 KM            | Transient fault due to bad weather.                               | Tower No-188 to 189 paralleling done. No visible abnormality was found. Line energized under instruction to PC Patiala.                                     | Supply not affected    |         |
| 104    | 132KV Swaddh-Jamsher ckt 1      | 28.08.2023 | 8:26  | 28.08.2023 | 11:37 | 3:11     | DPR Z-1, B-Phase BS 30.2 KM                | DPR Z-1, B-Phase BS 30.2 KM               | Transient fault   | Line was charged as per instruction to PC Patiala.  | Supply not affected    |         |
| 105    | 132KV Ropar                     | 28.08.2023 | 9:04  | 28.08.2023 | 13:02 | 3:58     | E/F MASTER TRIP                            | DPR Z-2, E/F, MASTER TRIP                 | Transient fault due to bad weather.                               | THREE PULL ON BUS BAR AT 132KV S/S ROPAR Due to WINDSTORM. Line was charged after clearance from 132KV S/S Ropar.   | Supply not affected    |         |
| 106    | 132KV CHAMKOUR SAHIB            | 28.08.2023 | 9:28  | 28.08.2023 | 10:10 | 0:42     | Not Tripped                                | DPR Z-2, B-Phase                          | Transient fault due to bad weather.                               | As line did not trip from Ghuland & trapped on Zone 2 from Ghuland side. Line was charged as per instructions of PC Patiala.                                | Supply not affected    |         |
| 107    | 132KV Swaddh-Jamsher ckt 1      | 29.08.2023 | 6:36  | 29.08.2023 | 13:05 | 6:29     | DPR Z-1, B-Phase BS 30.19 KM               | DPR Z-1, B-Phase BS 11.2 KM               | Transient fault   | Tower No-16/19 to 36/32 paralleling done. No visible abnormality was found. Line energized under instruction to PC Patiala.                                 | Supply not affected    |         |
| 108    | 132KV DORAHIA                   | 29.08.2023 | 6:44  | 29.08.2023 | 12:10 | 7:23     | B Phase BS                                 | Breaker not installed                     | B-Phase disc flashes at tower no-1 of 132KV Doraha - Bhaspur ckt. | Line was charged after replacement of flashed disc string.  | Supply affected        |         |
| 109    | 132KV Masal-Dhaliwala-Dharmkot  | 29.08.2023 | 3:19  | 29.08.2023 | 14:30 | 11:11    | DPR Z-1, B-Phase E/F, D-3.6 KM, PC-7.60 KA | DPR Z-1, B-Phase E/F, D-7.2 KM            | B-Phase wire string flashed at tower no-1 NB-7.                   | Line was charged after replacement of flashed disc string.  | Supply not affected    |         |
| 110    | 132KV Swaddh-Jamsher ckt 2      | 30.08.2023 | 1:55  | 30.08.2023 | 12:20 | 10:25    | DPR Z-1, B-Phase BS 35.93 KM               | DPR Z-1, B-Phase BS 11.8 KM               | Transient fault   | Tower No-195 to 222 paralleling done. No visible abnormality was found. Line energized under instruction to PC Patiala.                                     | Supply not affected    |         |

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| Sr. No | Name of the Line                  | From Date  |            | To Date |  | Duration<br>HH:MM | Relay Indication<br>This End                                     | Triat End  | Cause of Tripping / Breakdown   | Tripping Analysis/ Remedial Measures<br>Taken | supply affected or Not | Remarks |
|--------|-----------------------------------|------------|------------|---------|--|-------------------|--|--|---|---|------------------------|---------|
|        |                                   | Time       | Date       | Time    | Date   |                   |  |  |   |   |                        |         |
| 111    | 400KV Malkhu-PGCL Amritsar ckt 2  | 19.09.2023 | 19.09.2023 | 19:50   | DPR Z-1, B-phase, E/F, D-297KM, FC-69 KA                       | 10:10             | DPR Z-1, B-phase, E/F, D-297KM, FC-69 KA                         | Suspension string flashed of B-Phase at Tower no 82.   | Line was charged after replaced flashed disc string.  | Supply not effected                           |                        |         |
| 112    | 220KV KOHARA-RTP                  | 05.09.2023 | 05.09.2023 | 10:35   | Not tripped  | 8:48              | DPR Z-1,B-PHASE, DIS 18.74 KM                                    | Transient fault  | Tower no- 37 to 52 & 95 to 125 patrolling done. No visible abnormality was found. Line energised under intimation to PC Patiala.  | Not   |                        |         |
| 113    | 220KV Moga-Sadia                  | 06.09.2023 | 06.09.2023 | 2:35    | DPR Zone-1, B-ph E/F, D-27.9 KM, FC-5.512 KA                   | 6:45              | DPR Zone-1, B-ph E/F, D-27.9 KM, FC-4.9 KM, Autoreclosed opened. | Autoreclosed operated and Line remains changed from 220KV Sadia end.                         | Tower no- 80 to 100 patrolling done. No visible abnormality was found. Line energised under intimation to PC Patiala.   | Not   |                        |         |
| 114    | 220KV Baghpurana-Bajakhara ckt-01 | 06.09.2023 | 06.09.2023 | 7:09    | DPR Zone-4, B-ph E/F, D-1.596 KM, FC-16.64 KA                  | 4:22              | DPR Zone-1,B-ph E/F, D-27.43KM                                   | Transient fault  | Tower no- 1 to 30 patrolling done. No visible abnormality was found. Line energised under intimation to PC Patiala.   | Not   |                        |         |
| 115    | 220KV BHAWDAR+PGCL                | 06.09.2023 | 06.09.2023 | 14:43   | DPR Z-1,B-PHASE, DIS- 1.2 KM                                   | 7:19              | DPR Z-1,B-PHASE, DIS-20.4 KM                                     | Jumper damaged at under line gantry at Tower No- 6B-6C.                                      | Line was charged after repairing of jumper.   | Not   |                        |         |
| 116    | 220KV Moga-Sadia                  | 07.09.2023 | 11.09.2023 | 11:42   | DPR M-2 Zone-1, RY-phase, D-14.5 KM, FC-11=12.08KA, IY=11.93KA | 103:49            | DPR Zone-1, RY-Phase, D-49.09 KM, FC-11=2.88KA, IY=3.143KA       | Due to conductor breakdown of Y-phase at Tower no. 21 and R-phase jumper B/D at Tower no. -2 | Conductor was resaged on Tower no. 21 for Y-Phase. Bend cross arm was replaced for Y-Phase and also Jumper was replaced at Tower no. 2 of R-phase. It seems there was delay in tripping of breaker by Protection system, which may have result in Jumper B/D. | Not   |                        |         |
| 117    | 220KV LAITON+JABRAON              | 09.09.2023 | 10.09.2023 | 14:11   | DPR Z-1,R-PHASE, DIS- 4.2 KM                                   | 23:24             | BREAKER OPEN   | Disc string flashed of R-Phase at Tower No. 14.  | Line was charged after replaced flashed disc string.  | Not   |                        |         |
| 118    | 220KV LAITON+HAMBKAN              | 09.09.2023 | 09.09.2023 | 18:13   | DPR Z-1,Y-PHASE, DIS 8.4 KM                                    | 3:21              | DPR Z-1,Y-PHASE, DIS 7.4 KM                                      | Y-Phase Jumper damaged at T.No. 30 due to earth screen broken at 220KV S/S Hambran           | Line was charged after repairing of jumper.   | Not   |                        |         |
| 119    | 220KV LADOWAL-GAUNSOARH CKT 2     | 11.09.2023 | 11.09.2023 | 17:50   | DPR Z-1,B-PHASE, DIS 5.5 KM                                    | 3:12              | DPR Z-1,B-Phase, E/F, D-9.01KM                                   | Transient fault  | Tower no- 12 to 25 patrolling done. No visible abnormality was found. Line energised under intimation to PC Patiala.  | Not   |                        |         |
| 120    | 220KV LAITON+HAMBKAN              | 13.09.2023 | 13.09.2023 | 18:49   | DPR Z-2,RYB-PHASE, D- 17.85 KM                                 | 4:01              | DPR Z-1,B-PHASE, DIS 0.054 KM                                    | Due to B-phase CT clamp damaged at 220KV S/S Hambran   | Line was charged after replaced damaged clamp.  | Not   |                        |         |

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| Sr. No | Name of the Line              | From Date  | To Date    | Time  | Duration (H:MM) | Reclassification This End                                    | Reclassification This End                                   | Reason of Tripping / Breakdown                         | Tripping Analysis/ Remedial Measures Taken   | Supply affected or Not | Remarks |
|--------|-------------------------------|------------|------------|-------|-----------------|--|---|--|--|------------------------|---------|
| 121    | 220KV Bassi Palbhans - RTP    | 20.09.2023 | 21.09.2023 | 19:28 | 16:41           | DPR Z-1B-Ph, FC=3884 KA, D=4094 KM                           | DPR Z-1B-Ph, FC=3884 KA, D=4094 KM                          | Transient fault  | Tower no- 15,79 to 109 patrolling done. No visible abnormality was found. Line energised under intimation to FC Patnaha. | Yes 06:39 hrs.         |         |
| 122    | 220KV Bassi Padawan - GJ      | 20.09.2023 | 20.09.2023 | 19:28 | 06:39           | DPR Z-1B-Ph, FC=406 KA                                       | DPR Z-1B-Ph, FC=406 KA                                      | Transient fault due to 220KV Bassi Padawan - RTP Limb. | Line energised under intimation to FC Patnaha.   | Yes                    |         |
| 123    | 220KV DHARMADEWALTON          | 21.09.2023 | 23.09.2023 | 16:57 | 18:50           | DPR Z-1B-Phase, D=5.07 KM                                    | DPR Z-1B-Phase, D=5.07 KM                                   | Line energised after removal of line string.           | Line energised after removal of line string.   | Not                    |         |
| 124    | 220KV G2-Gangawal             | 21.09.2023 | 21.09.2023 | 13:20 | 2:32            | DPR M-1 Z-1, R-Phase, D=52.5km, FC=2592A                     | DPR Z-1B-Phase, E/F Dist 11.90 Km, FC=10.65 KA              | Transient fault  | Line energised under intimation to FC Patnaha.   | Not                    |         |
| 125    | 220KV Mogra-Nokkara ckt-01    | 23.09.2023 | 23.09.2023 | 6:31  | 7:09            | DPR Zone-1, R-Phase, D=10.37KM, FC=1=18.04KA, $\rho=11.90KA$ | DPR Zone-1, R-Phase, D=13.27KM, FC=1=18.04KA, $\rho=7.73KA$ | Transient fault due to bad weather                     | Tower no- 25 to 65 patrolling done. No visible abnormality was found. Line energised under intimation to FC Patnaha.     | Not                    |         |
| 126    | 220KV Mogra-Bogharpara ckt-01 | 23.09.2023 | 23.09.2023 | 6:32  | 0:50            | Not supplied   | E/F   | Transient fault due to bad weather                     | Line did not tripped from either end. Line energised from either end after intimation to FC Patnaha.                     | Not                    |         |
| 127    | 220KV Bassi Palbhans - RTP    | 23.09.2023 | 23.09.2023 | 2:54  | 13:27           | DPR Z-1B-Ph, FC=1939 KA, D=53 km                             | DPR Z-1B-Ph, FC=1736KA, D=5094 KM                           | Transient fault  | Tower no- 1 to 39 patrolling done. No visible abnormality was found. Line energised under intimation to FC Patnaha.      | Not                    |         |
| 128    | 220KV G2-Gangawal             | 27.09.2023 | 27.09.2023 | 13:00 | 2:41            | DPR M-1 Z-1, R-Phase, D=58.08KM, FC=2580A                    | DPR M-1 Z-1, D=10102km                                      | Transient fault  | Line energised under intimation to FC Patnaha.   | Not                    |         |
| 129    | 132KV Ghelsal - Docha         | 01.09.2023 | 01.09.2023 | 22:15 | 0:30            | Breaker Not installed  | Breaker Not installed                                       | Transient Fault  | Line energised under intimation to FC Patnaha.   | Yes                    |         |
| 130    | 132KV Ghelsal - Docha         | 03.09.2023 | 03.09.2023 | 8:10  | 6:50            | Breaker Not installed  | Breaker Not installed                                       | Transient Fault  | Line energised under intimation to FC Patnaha.   | Yes                    |         |

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| Sl. No | Name of the Line                 | From Date  |       | To Date    |       | Time  | Duration HH:MM | Relay Indication                               |   | That End   | Cause of Tripping / Breakdown   | Tripping Analysis/ Remedial Measures Taken                            | Supply affected or Not | Remarks |
|--------|----------------------------------|------------|-------|------------|-------|-------|----------------|--|---|--|---|---|------------------------|---------|
|        |                                  | Date       | Time  | Date       | Time  |       |                | This End                                       | That End                                      |  |   |   |                        |         |
| 131    | 132KV Ghola - Jamalpur ckt 1     | 08.09.2023 | 16:57 | 08.09.2023 | 17:28 | 0:31  |                | E/F, HSI, FC, IB-1347.78A IN-1652.40A          | DPR Z-1.2.E/F, D-15. KM                       | Transient Fault                                    | Line energised under intimation to PC Patnala.  | Not   |                        |         |
| 132    | 132KV Ghola - ROPAR              | 11.09.2023 | 13:30 | 11.09.2023 | 13:48 | 0:18  |                | E/F Master Trip                                | Y Phase/E/F, D-11.2KM, Master Trip            | Transient Fault                                    | Line energised under intimation to PC Patnala.  | Not   |                        |         |
| 133    | 132KV Ghola - Dostha             | 14.09.2023 | 4:50  | 14.09.2023 | 5:02  | 0:12  |                | E/F, HSI, FC, IB-2365.63A IN-1894.66A          | Breaker Not installed                         | Transient Fault                                    | Line energised under intimation to PC Patnala.  | Yes   |                        |         |
| 134    | 132KV Jamalpur ckt 1             | 23.09.2023 | 21:56 | 23.09.2023 | 22:33 | 0:37  |                | E/F, HSI, FC, IB-1356.44A IN-1664.72A          | DPR Z-2, Y PHASE, D-15.7km                    | Transient Fault                                    | Line energised under intimation to PC Patnala.  | Not   |                        |         |
| 135    | 132KV Ghola - Jamalpur ckt 1     | 23.09.2023 | 22:52 | 24.09.2023 | 14:59 | 16:07 |                | E/F, HSI, FC, IB-1395.91A IN-1707.51A          | DPR Z-2, Y PHASE, D-15.7km                    | Y-Phase Disc Insulators flashed at tower no.329    | Flashed disc insulators replace with New.   | Not   |                        |         |
| 136    | 132KV SWADDI - JAMALPUR CKT 1    | 02.09.2023 | 16:04 | 02.09.2023 | 19:00 | 2:56  |                | DPR Z-3.R-PHASE                                | DPR Z-1, R-PHASE, D-0.9 KM                    | Transient Fault                                    | Tower no- 1 to 12 patrolling done. No visible abnormality was found. Line energised under intimation to PC Patnala. | Not   |                        |         |
| 137    | 132KV Kalkrote-Ferozshah         | 05.09.2023 | 20:43 | 06.09.2023 | 14:33 | 17:50 |                | DPR Zone-1, Y-phase E/F, D-2.246KM, FC-5.910KA | DPR Zone-1, Y phase, E/F, D-10.5KM, FC-4.65KA | Y-Phase discs flashed at Tower no 102 and 109.     | Line was charged after replaced both flashed disc string.   | Not   |                        |         |
| 138    | 132KV Moga-Ghola                 | 06.09.2023 | 5:45  | 06.09.2023 | 9:01  | 3:16  |                | DPR Zone-1, Y-phase E/F, D-5.626KM, FC-7.99KA  | CB not tripped (Radial Line)                  | Transient fault                                    | Tower no- 1 to 32 patrolling done. No visible abnormality was found. Line energised under intimation to PC Patnala. | Supply of 132KV Ghola kolan and 132KV Smadh Bhat affected for 46 Min. |                        |         |
| 139    | 132KV Moga-Ghola                 | 07.09.2023 | 5:39  | 07.09.2023 | 6:03  | 0:24  |                | DPR Zone-1, Y-phase E/F                        | CB not tripped (Radial Line)                  | Transient fault                                    | Line energised under intimation to PC Patnala.  | Supply of 132KV Ghola Kolan and 132KV Smadh Bhat affected by 24 Min.  |                        |         |
| 140    | 132KV Ferozshah - MeenaSinghWala | 08.09.2023 | 8:36  | 08.09.2023 | 14:26 | 5:50  |                | DPR Zone-1, Y-phase E/F, D-4.5 KM, FC-3.46KA   | DPR Zone-1, Y-phase E/F, D-2.1 KM, FC-3.1KA   | Bird shit found on Y-phase string at Tower no 158. | String washed and cleaned & line energised.   | Not   |                        |         |

| Sr. No. | Name of the Line                | From Date  |         | To Date    |         | Time  | Duration (H:MM)   | Main Indicators    | Test End                                   | Cause of Tripping / Breakdown   | Tripping Analysis / Retrieval Measures Taken   | Supply released or Not   | Remarks |
|---------|---------------------------------|------------|---------|------------|---------|-------|---|--------------------|--|---|--|--|---------|
|         |                                 | From Date  | To Date | From Date  | To Date |       |   |                    |  |   |  |  |         |
| 141     | 132KV Mega-Dhuleke              | 15/09/2023 | 20:05   | 16/09/2023 | 11:05   | 15:03 | DPR Zone-1, E, B-phase, E/F, D-5.7 KM, FC-12.3423KA             | CB not established | CP not established                         | Tripping fault  | Line changed after tripping Tower no. 1 to 27. But no visible fault found. Line was Tower top patched from Tower no 7 to 17 by taking separate PTW DTD 21/09/2023 and found punctured string on Tower no. 12 and 16 (both strings replaced). 4 punctured disc on Tower no. (Disc replaced) and 4 No. disc punctured found on Tower no. 15 (4 No. disc replaced with healthy ones) for B-phase. | Supply of 132KV Dhuleke allowed by 33 mins.                    |         |
| 142     | 132KV Dhuleke-Dharmkot          | 15/09/2023 | 20:35   | 15/09/2023 | 20:50   | 0:15  | DPR Zone-1, B-phase, E/F, D-3.5 KM                              |                    | DPR Zone-1, B-phase, E/F, D-7.2KM          | Line engaged under intimation to FC Dhuleke.                                  | Line engaged under intimation to FC Dhuleke.   | Supply of 132KV Dhuleke released by 33 mins.                   |         |
| 143     | 132KV Mega interlink erestli-02 | 16/09/2023 | 10:41   | 17/09/2023 | 16:52   | 30:11 | DPR Zone-1, Y-phase E/F, Master trip, FC-13.029 KA, D-0.685 KM. |                    | Y Ph E/F                                   | Flashed tension string on Tower no. 3, leading to Conductor sagging.          | Retriggering of Tension String done on Tower no.3 of Y-phase and re-energizing of Conductor Core of Tower no 2&3 for Y-phase.  | Not  |         |
| 144     | 132KV Moga-Cholla               | 16/09/2023 | 23:15   | 16/09/2023 | 23:52   | 0:37  | DPR Zone-1, B-ph E/F, D-5.26 KM, FC-8.079 KA                    |                    | CB not tripped (Ranchi Dist)               | Transient fault   | Line engaged under intimation to FC Dhuleke.   | Supply of 132KV Gasin and 132KV Smith Bhr. allowed by 33 mins. |         |
| 145     | 132KV Dhuleke-Dharmkot          | 17/09/2023 | 2:36    | 17/09/2023 | 2:50    | 0:14  | DPR Zone-1, E, B-phase, E/F, D-1.9 KM, FC-6.224KA               |                    | DPR Zone-1, Y-ph E/F, D-3.6 KM             | Line engaged under intimation to FC Dhuleke.                                  | Line engaged under intimation to FC Dhuleke.   | Not  |         |
| 146     | 132KV Dhuleke-Dharmkot          | 20/09/2023 | 1:38    | 20/09/2023 | 1:27    | 1:49  | DPR Zone-1, E, B-phase, E/F, D-1.9 KM, FC-0.261KA               |                    | DPR Zone-1, Y-ph E/F, D-3.6 KM, FC-1.792KA | Two broken disc on Tower no. 14 and punctured disc were found on Tower no. 1A | Strings of Y-phase are replaced on Tower no. 3A and 1A and also precautionary Punctured disc were replaced on Tower no. 3A of B-phase found during tower top patching.   | Not  |         |

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| Sr. No             | Name of the Line                  | From Date  | To Date | Time     | Duration HH:MM | Relay Indication This End                | That End                           | Cause of Tripping / Breakdown   | Tripping Analysis/ Remedial Measures Taken  | supply affected or Not  | Remarks |
|--------------------|-----------------------------------|------------|---------|----------|----------------|--|------------------------------------|---|---|---|---------|
|                    |                                   |            |         |          |                |  |                                    |   |   |   |         |
| 147                | 132KV Dhaliako-Dharmkot           | 22.09.2023 | 20:26   | 20:53    | 0:27           | DPR Zone-1,YN-ph, 3.6 KM, 3.067 KA       | DPR Zone-1,YN-ph, 3.6 KM, 3.067 KA | V-Phase disc punctured at Tower no. 9, 10 & 11.   | Line was tried and it holds. Later Tower Top patrolling was done on 26/09/2023 from Tower No.1-11 from Moga-1 to Dharmkot side and found Punctured strings on Tower no 10 (V phase string Replaced) and also two discs found punctured of each phase on Tower no 9 and Tower no 11. 3 discs were found punctured were replaced. | Not   |         |
| 148                | 132KV SWADDI JAMALPUR CKT 1       | 23.09.2023 | 6:59    | 12:55    | 5:56           | DPR Z-1,B-PHASE, D-7.2 KM                | DPR Z-1,B-PHASE, D-7.2 KM          | Transient fault due to bad weather  | Tower no- 62 to 67 patrolling done. No visible abnormality was found. Line energised under intimation to PC Patiala.  | Not   |         |
| 149                | 132KV Moga-Ghola                  | 24.09.2023 | 21:38   | 21:50    | 0:12           | DPR Zone-1, B-ph E/F, S.593 KM, 8.242KA. | CB not tripped (Radial Line)       | Transient Fault   | Line energised under intimation to PC Patiala.  | Supply of 132KV Ghola kaban and 132KV Smadh Bhai affected for 12 Mins.  |         |
| 150                | 132KV Moga-Ghola                  | 26.09.2023 | 19:30   | 21:02    | 1:32           | DPR Zone-1, Rph E/F, S.268KM, 8.2KA      | CB not tripped (Radial Line)       | Transient Fault   | Line energised under intimation to PC Patiala.  | Supply of 132KV Ghola kaban and 132KV Smadh Bhai affected for 01.32 Mins.   |         |
| 151                | 132KV SWADDI JAMALPUR CKT 2       | 30.09.2023 | 12:55   | 17:27    | 4:32           | DPR Z-1,B-PHASE, D-20.1 KM               | DPR Z-1 B-PHASE, D-19.4 KM         | Transient Fault   | Tower no- 60 to 75 patrolling done. No visible abnormality was found. Line energised under intimation to PC Patiala.  | Not   |         |
| PRM Circle Patiala |                                   |            |         |          |                |  |                                    |   |   |   |         |
| 1                  | 220KV Sandaur-Barnala             | 18.05.23   | 0:16    | 02.07.23 | 19:45          | No tripping of circuit breaker occurred  | DPR Z-1 Y-phase 3.2KA 43KM         | Due to bad weather, Line tripped due to collapsing of (220KV Sandaur-Pakhowal & 220KV Sandaur-Barnala) line towers. | The work of Restoration of 220KV (Sandaur-Barnala & Sandaur-Pakhowal) Ckt 6108 towers (TL 37/6 to 37/11) has been completed as informed by AEE/TL PSTCL Ludhiana.   | Supply of 220KV Grid S/S Sandaur affected from 09:16 to 06:05 (05:09hrs) 18/05-2023. 2nd supply source 220KV Sandaur-Balekanda Ckt No.2 tripped from 220KV GSS Balerkanda end at same time. |         |
| 2                  | 132KV Anandpur - ANANDPUR Railway | 04.07.23   | 6:40    | 7:07     | 0:27           | DPR Z-1 0.2 km PHASE CN                  | No Trip                            | No visible fault found  | Due to Transient fault  | Not   |         |
| 3                  | 132KV Anandpur - ANANDPUR Railway | 04.07.23   | 12:44   | 18:10    | 5:26           | DPR Z-1 0.2 km PHASE CN                  | No Trip                            | Earth Wire was broken under the span No. 2-3 and 3-4  | Broken Earth Wire of tower no. 2-3 was set right and sag of span no. 3-4  | Not   |         |
| 4                  | 132KV Arson-Rambaxy+DSM           | 06.07.23   | 15:56   | 16:35    | 0:39           | OC PHASE YB HSU                          | No Trip                            | No visible fault found  | Due to Transient fault  | Not   |         |
| 5                  | 132KV Arson-Rambaxy+DSM           | 11.07.23   | 16:56   | 17:05    | 0:09           | OC PHASE B HSU                           | No Trip                            | No visible fault found  | Due to Transient fault  | Not   |         |
| 6                  | 132KV Arson-Rambaxy+DSM           | 11.07.23   | 19:13   | 19:32    | 0:19           | OC PHASE R HSU                           | No Trip                            | No visible fault found  | Due to Transient fault  | Not   |         |

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| Sr. No | Name of the Line                       | From Date |       | To Date  |       | Time  | Duration (HH:MM) | Relay Protection Trip Break  | Cause of Tripping / Breakdown   | Tripping Analysis / Remedial Measure if Taken   | Supply affected or Not     | Remarks |
|--------|--|-----------|-------|----------|-------|-------|------------------|--|---|---|----------------------------|---------|
|        |  | Time      | Date  | Time     | Date  |       |                  |  |   |   |                            |         |
| 7      | 132 KV Aarew-RTP                       | 14.07.23  | 0:43  | 14.07.23 | 1:13  | 0:30  |                  | OPR PHASE B Z 1.7.404 km   | No visible fault found  | Due to Transient fault  | Not                        |         |
| 8      | 220 KV Gargawah-majra                  | 14.07.23  | 18:09 | 14.07.23 | 23:31 | 5:22  |                  | Main 1 Phase AN Zone 1.3.657 km  | No visible fault found  | Due to Transient fault  | Not                        |         |
| 9      | 220KV Abawal-Peggamwara Ckt No:1 (A-B) | 18.07.23  | 11:32 | 18.07.23 | 12:21 | 0:49  |                  | Main 1 A-B OPR Zone 1.6.370 & 1.6.659A & 1.3.293 KA Phase B PH 364 KM        | No visible fault found  | Due to Transient fault  | Not                        |         |
| 10     | 132 KV Ropar-Nakkun                    | 17.07.23  | 4:08  | 17.07.23 | 4:55  | 0:47  |                  | OPR AN PHASE 7.1.18.6 KM MASTER TRIP   | No visible fault found  | Due to Transient fault  | Supply affected for 27 min |         |
| 11     | 132 KV Nakkun PS to Nakkun SS          | 17.07.23  | 4:08  | 17.07.23 | 4:35  | 0:27  |                  | No trip  | No visible fault found  | Due to Transient fault  | Yes                        |         |
| 12     | 132 KV Ropar-Kotla 2                   | 18.07.23  | 18:50 | 18.07.23 | 19:55 | 1:05  |                  | OPR PHASE AN Z 1. FT-1 5.9 km Master trip                                    | No visible fault found  | Due to Transient fault  | Not                        |         |
| 13     | 220 KV Gargawah-majra                  | 19.07.23  | 4:50  | 19.07.23 | 6:38  | 1:48  |                  | Main 1 Phase CN Zone 1.3.617 km  | No visible fault found  | Due to Transient fault  | Not                        |         |
| 14     | 220KV Dhanrahi-Bhalwan Ckt No:2        | 20.07.23  | 14:13 | 20.07.23 | 18:41 | 5:28  |                  | OPR M-1 Z-1 R-phase E/F In-2.75KA 26.27KM R & OPR M-2 Z-1 R-phase E/F 26.6KM | 11KV Falchign Chhanna feeder comes under induction zone of line between tower no.12 & lower no.13 | Refered to DS PFCL as 11KV Falchign Chhanna feeder comes under induction zone of line between tower no.12 & lower no.13 | Not                        |         |
| 15     | 220KV Rajpura-Taipara Ckt-2            | 21.07.23  | 10:58 | 21.07.23 | 21:02 | 10:04 |                  | 21P Pickup 8G In-0WA In-10.98KA In-0.59KA Dist-7.5km.                        | Zone-1, Trip AGN In-6.267KA In-7.152KA In-0WA Dist- 3.059km.                                      | conductor breakdown/ constant fading of R-phase at TL no 58 of the circuit  | Not                        |         |
| 16     | 220 KV Mohar-Majra                     | 21.07.23  | 1:47  | 21.07.23 | 2:23  | 0:36  |                  | Main 1 Phase AN Zone 1.6.559 km  | No visible fault found  | Due to Transient fault  | Not                        |         |

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| Sr. No | Name of the Line                    | From Date | Time  | To Date  | Time  | Duration<br>HH:MM | Relay Indication<br>This End  | Cause of Tripping / Breakdown   | Tripping/Analysis/ Remedial Measures Taken  | Remarks   |
|--------|-------------------------------------|-----------|-------|----------|-------|-------------------|---|---|---|---|
|        |                                     |           |       |          |       |                   |   |   |   |   |
| 17     | 220KV Sandour-Barmala               | 23.07.23  | 8:05  | 23.07.23 | 16:29 | 8:24              | DPR M-2 Z-1 B-phase IC-1.2.3KA 2.380KM  | Due to B-phase condenser suspension clamp was broken at tower no 37/6                             | Broken B phase condenser suspension clamp was replaced  | No:   |
| 18     | 132 KV Nakshat PS to Naikhan SS     | 24.07.23  | 7:17  | 24.07.23 | 7:40  | 0:23              | No trip   | No visible fault found  | Due to Transient fault  | Yes   |
| 19     | 132 kv Ropar-Nakkhan                | 24.07.23  | 7:17  | 24.07.23 | 15:40 | 8:23              | DPR Phase ANZ-1.10.4 km Master Trip   | Due to conductor broken and Tower no. 68 Phase R Disc insulator damaged                           | Replaced 01 no. damaged disc insulators string at TL no. 68 R Phase with new one  | Supply affected for 23 min  |
| 20     | 220 kv Mohali-majra                 | 26.07.23  | 22:14 | 26.07.23 | 23:02 | 0:48              | Main-1 PHASE AN Zone-1, 4.036 Km  | No visible fault found  | Due to Transient fault  | Not   |
| 21     | 220 kv RTP- kharar line             | 26.07.23  | 6:11  | 28.07.23 | 12:18 | 6:07              | In-481.7A, Ib-308A, Ic-2722 KA, Zone-1, dis-32.41 km  | Informed AOTL and Line was patrolled from tower no-1 to 20. No fault found.                       | Transient fault   | Not   |
| 22     | 220kv Mohali-Gangawal               | 04.08.23  | 12:17 | 04.08.23 | 15:03 | 2:46              | Main 1 started AN, Z1<br>Main 2, Z1, AN   | Found nothing   | Line tripped due to transient fault   | Not   |
| 23     | 220kv Nabha-Pagganmaija Ckt-1       | 05.08.23  | 20:15 | 06.08.23 | 11:53 | 15:38             | DPR M-1 Z-1 B-phase 5.179KA 4.471KM & DPR M-2 Z-1 B-phase 5.188KA 4.496KM, Autoreclose operated | Due to B-phase conductor of 220KV Nabha Paggan Majra Ckt-1 broken near to gantry from tower no. 1 | After patrolling fault attended as informed by ABE/TL PSTCL Rapra. As per instructions of PC Patada line charged at 11:53hrs dt. 06.08.2023 | Supply affected for 01.56hrs & restored through 220KV Nabha-Pagganmaija Ckt-2 at 21:11hrs (05.08.2023). No 2nd source of supply available at the time of tripping because 220KV Nabha-Pagganmaija Ckt-2 tripped from Pagganmaija end only and 220KV Nabha-Bhatwara line is under PTW by ABE/TL PSTCL Bhatwara from 05.08.2023 (10:49hrs) to continue for ranss height of Tower No. 9&10 for facilitating construction of Road by NHAI. 220KV Nabha-Bhatwara Ckt-1&Ckt-2 tripped from Bhatwara end only. |
| 24     | 220kv Nabha-Pagganmaija Ckt-2       | 05.08.23  | 20:15 | 05.08.23 | 22:11 | 1:56              | Not trip  |   | Line charged after PV instructions.   |   |
| 25     | 220 kv Bhawanigarh-Nabha ckt. No. 1 | 05.08.23  | 20:16 | 05.08.23 | 22:32 | 2:16              | DPR ZONE 1 MASTER TRIP RYB PHASE  | Due to tripping of 220 KV NABHA Pagganmaija Ckt-1 & 2.  | Informed to PC office and to AOTL for patrolling of line and supply of 66 KV S/S Bhawanigarh arranged from 220 KV BBMB Sangrur at 21:25 hrs | Yes 1:09 hrs, Supply of 220KV S/S Bhawanigarh restored from 66KV S/S Bhawanigarh through LT supply at 21:25 hrs   |
| 26     | 220 kv Bhawanigarh-Nabha ckt. No. 2 | 05.08.23  | 20:16 | 05.08.23 | 22:42 | 2:26              | DPR ZONE 1, 1.735 KM, RYB PHASE, MASTER TRIP  | No indication   |   |   |
| 27     | 132 kv Ropar-RTP                    | 09.08.23  | 2:00  | 09.08.23 | 4:21  | 2:21              | R PHASE B/F 208 KM MASTER TRIP  | Not tripped   | Due to 132 KV BUS BAR-1 R PHASE FT DAMAGED AT RTP END   | Not   |
| 28     | 132 kv Astron-RTP                   | 09.08.23  | 2:00  | 09.08.23 | 5:51  | 3:51              | OC RYB 02.1   | Not tripped   |   | Not   |
| 29     | 132 kv Ropar-Roda 1                 | 09.08.23  | 9:57  | 09.08.23 | 11:28 | 1:31              | DPR S N PHASE 28.85KM Z-1 MASTER TRIP   | R S PHASE MASTER TRIP   | Due to 132 KV BUS BAR-2 Y PHASE JUMPER BROKEN AT KOTLA END  | Not   |
| 30     | 220KV Bhatari-Paggan Majra ckt-2    | 09.08.23  | 23:37 | 10.08.23 | 9:25  | 9:48              | RYB Phase Zone-1 + Master trip distance 4.4km   | No abnormality of any kind was observed   | Line checked and All discs of strings was found ok. Due to transient fault  | Not   |
| 31     | 220kv Mohali-Gangawal               | 10.08.23  | 1:59  | 10.08.23 | 3:03  | 1:04              | PD operated & master trip   | Nothing found   | Line charged after clearance from protection team (MFL, B04, T01 and TC2 healthy)   | Not   |

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| Sl. No. | Name of the Line                     | From Date | To Date  | Time  | Duration (HH:MM) | Reason/Description This fault | Time taken | Remarks   | Supply affected or Not | Tripping Analysis/ Reasons/ Measures Taken  | Cause of Tripping / Breakdown   |
|---------|--------------------------------------|-----------|----------|-------|------------------|-------------------------------|------------|---|------------------------|---|---|
| 32      | 220kv Metnoli-Gangawli               | 10.08.23  | 10.08.23 | 8:29  | 8:23             | 10.08.23                      | 10:52      | Not tripped   | Not                    | PD control cable found defective & replaced with spare wire of cable                                  | PD control cable found defective & replaced with spare wire of cable                                  |
| 33      | 132 KV Repair RTP                    | 13.08.23  | 13.08.23 | 5:27  | 6:54             | 13.08.23                      | 6:01       | CN PHASE Z-1, 1.2 KM MASTER TRIP  | Not                    | Due to transient fault  | Due to transient fault  |
| 34      | 132 KV Aeron-RTP                     | 15.08.23  | 15.08.23 | 5:18  | 6:52             | 15.08.23                      | 7:45       | Phase A, Z-1<br>7.1917 KM (45.81%)  | Not                    | Due to transient fault  | Due to transient fault  |
| 35      | 132 KV Repair RGTJA-3                | 15.08.23  | 15.08.23 | 1:57  | 6:58             | 15.08.23                      | 12:45      | R PHASE Z-1, 2.153 KM MASTER TRIP   | Not                    | Due to transient fault  | Due to transient fault  |
| 36      | 132 KV RTP-Aeron                     | 17.08.23  | 17.08.23 | 2:42  | 6:54             | 17.08.23                      | 3:06       | OC R, Z-1<br>6.866 KM (49%)   | Not                    | Line tripped after PC instructions.   | Line tripped after PC instructions.   |
| 37      | 220kv Dhansule-Bansga                | 17.08.23  | 17.08.23 | 3:10  | 6:53             | 17.08.23                      | 3:43       | DPR M-1 Z-1 R-phase<br>4.58KM 17.5433 & DPR<br>M-2 Z-1 R-phase<br>4.548KM 17.5786 &<br>Arderease operated<br>and Circuit Breaker ON   | Not                    | Due to transient fault  | Due to transient fault  |
| 38      | 132 KV Repair-Koch 1                 | 18.08.23  | 18.08.23 | 1:12  | 6:59             | 18.08.23                      | 13:01      | O/C B PHASE E/F MASTER TRIP 2.66KM  | Not                    | Due to transient fault  | Due to transient fault  |
| 39      | 220kv Maholi- RTP                    | 20.08.23  | 20.08.23 | 10:38 | 6:48             | 20.08.23                      | 11:26      | R-phase main 1 optd.<br>main 2 optd. zone 1.<br>distance= 26.15 km  | Not                    | Line tripped due to transient fault   | Line tripped due to transient fault   |
| 40      | 220kv sunase-Bansga                  | 20.08.23  | 20.08.23 | 20:34 | 1:04             | 20.08.23                      | 16:38      | DPR CN Zone-1, Distance= 5.671 km. Is=37.65 A.<br>R=33.57 A, Ise 10.81 kA   | Not                    | Line tripped due to transient fault   | Line tripped due to transient fault   |
| 41      | 132 KV Aeron- BANBANY-DSM+SMH        | 21.08.23  | 21.08.23 | 16:54 | 6:59             | 21.08.23                      | 17:23      | OC R, M, HSG  | Yes                    | Line tripped due to transient fault   | Line tripped due to transient fault   |
| 42      | 132 KV Aeron- RTP                    | 22.08.23  | 22.08.23 | 10:45 | 6:55             | 22.08.23                      | 11:59      | OC R, B, HSG  | Yes                    | Line tripped due to transient fault   | Line tripped due to transient fault   |
| 43      | 220 KV RTP-Kocher                    | 22.08.23  | 22.08.23 | 5:38  | 6:49             | 22.08.23                      | 11:24      | Is= 104 A, Ib= 3.402 kA, Ic= 0.096 kA, Zone-2, dis-<br>tance= 46.65 km  | Not                    | Due to outage at Tower no-1   | Due to outage at Tower no-1   |
| 44      | 132 KV repair-Nurnli RAILWAY         | 26.08.23  | 26.08.23 | 2:37  | 6:51             | 26.08.23                      | 2:58       | CN PHASE MASTER TRIP 2-1.09 KM  | Not                    | Line tripped due to transient fault   | Line tripped due to transient fault   |
| 45      | 132 KV RTP-Aeron                     | 26.08.23  | 26.08.23 | 9:28  | 6:51             | 26.08.23                      | 10:19      | No tripped  | Yes for 31 mins        | Due to heavy thunderstorm & rain.   | Due to heavy thunderstorm & rain.   |
| 46      | 132 KV ASIGON-RTP                    | 26.08.23  | 26.08.23 | 9:28  | 6:56             | 26.08.23                      | 11:24      | OC R, E/F   | Yes for 45 mins        | Due to heavy thunderstorm & rain.   | Due to heavy thunderstorm & rain.   |
| 47      | 132 KV Nalkiran-Nepar                | 26.08.23  | 26.08.23 | 9:30  | 6:50             | 26.08.23                      | 11:59      | DPR Z-2, O/C R-Ph, Y-Ph & E/F   | Yes for 45 mins        | Due to heavy thunderstorm & rain.   | Due to heavy thunderstorm & rain.   |
| 48      | 132 KV Nalkiran-Nalkiran power House | 26.08.23  | 26.08.23 | 9:30  | 6:45             | 26.08.23                      | 10:15      | No tripped  | Not                    | Line tripped due to transient fault   | Line tripped due to transient fault   |
| 49      | 132 KV Chambaour-Sunli Repair        | 26.08.23  | 26.08.23 | 09:30 | 6:45             | 26.08.23                      | 11:45      | OC Z-1 Phase AN, 25-48KM  | Yes for 42 mins        | Due to heavy thunderstorm & rain.   | Due to heavy thunderstorm & rain.   |
| 50      | 220kv Metnoli-Gangawli               | 28.08.23  | 28.08.23 | 9:21  | 6:53             | 28.08.23                      | 11:54      | Main 1 optd. auto reclose oped. PF, trip relay oped.<br>carrier send carrier receive<br>Main 2 started AN.<br>Main 1 Z-1, R phase, started AN. Distance= 24.48<br>kms   | Not                    | Due to heavy thunderstorm & rain.   | Due to heavy thunderstorm & rain.   |
| 51      | 220 kv Bhawan Dhuri Ak No 2          | 29.08.23  | 29.08.23 | 02:54 | 11:13            | 29.08.23                      | 14:45      | DPR-1 R phase to earth<br>fault. Dist=13.5 km.<br>Is=8.29kA, Ib=0.08kA, Ic=0.44kA. DPR-<br>1, Dpr-0/HIS Kms, IR-<br>fault trip CHN, 21.1 optd. Distance 14.5 km, IR-<br>phase=7.07kA, Phase=0.06kA, R phase=6.138<br>kms. | Not                    | After Patrolling & replacing the string<br>with new one by AOTL/Bhalwan line the<br>line was charged. | After Patrolling & replacing the string<br>with new one by AOTL/Bhalwan line the<br>line was charged. |

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| Sr. No | Name of the Line                 | From Date | Time  | To Date  | Time  | Duration HH:MM | Reay Indication This End  | That End  | Cause of Tripping / Breakdown                                      | Tripping Analysis/ Remedial Measures Taken   | Supply affected or Not   | Remarks |
|--------|----------------------------------|-----------|-------|----------|-------|----------------|---|---|--|--|--|---------|
|        |                                  |           |       |          |       |                |   |   |  |  |  |         |
| 52     | 220 kv Bhalwan Dhuri ckt No 2    | 29.08.23  | 19:56 | 30.08.23 | 11:04 | 15:08          | DPR-1 R phase to earth fault loop Dist=12 kms Ia=9.23KA, Ib=0.01KA, Ic=0.42KA   | DPR-1 R phase optd, Zone-1 Dist=10.71 kms, IR=7.507KA, Iy=17.7A, Ib=123.4A                                      | Disc Rashed of R Phase on tower No 53.                             | After Patrolling & replacing the string the line was charged.  | Not  |         |
| 53     | 220 kv RTP-Kharar                | 29.08.23  | 12:17 | 29.08.23 | 13:39 | 1:22           | Not tripped   | Ib=49461 A, Ib=7077 A, Ic=4216 A, ZONE-1, Dist=28.41 km   | No fault found   | Line tripped due to transient fault  | Yes (Black out occurred from 12:17-13:01 (44min) RTP Line tripped from RTP End & Mohali line under Shutdown from Kharar end) |         |
| 54     | 132 kv Ropar-Nokia 3             | 02.09.23  | 2:36  | 02.09.23 | 3:44  | 1:08           | DPR CN Phase 7 Km Z-1   | Phase CN Z-1 24.01 km   | No Fault found on patrolling                                       | Due to Transient Faults  | Not  |         |
| 55     | 132 kv Ropar-Nokia 3             | 07.09.23  | 13:38 | 07.09.23 | 13:57 | 0:19           | DPR AN Phase 12.6 km Z-1  | Phase AN Z-1 31.02 km   | No Fault found on patrolling                                       | Due to Transient Faults  | Not  |         |
| 56     | 132 kv Ropar-Ghudi               | 11.09.23  | 13:30 | 11.09.23 | 13:49 | 0:18           | Phase Y E/F 11.2 km Master trip   | Master Trip   | No Fault found on patrolling                                       | Due to Transient Faults  | Not  |         |
| 57     | 220 kv Bhalwan Chajji ckt No 1   | 11.09.23  | 00:30 | 11.09.23 | 09:47 | 9:17           | DPR-1 AR optd. R phase to earth fault Dist=25.2 kms Ia=57.7KA, DPR2, fault loop L1N, 21.1 optd, 21.2 Relay optd, fault loop R-phase=61.49A, Y-Phase =852.85A, B-phase = 841.91A, Dist=23.9 kms. A Auto reclosed | R Phase, Zone -1, Fault dist = 11.77 kms, Fault current Ib = 3.236 KA, Ib = 366.6 A, Ic = 828.3 A Auto reclosed | No visible fault found on patrolling. All the strings are found OK | Due to Transient Faults  | Not  |         |
| 58     | 132 kv Ropar-Nokia 1             | 15.09.23  | 2:34  | 15.09.23 | 3:26  | 0:52           | Phase E/E Z-1 10.2 km   | Phase E Z-1 25.36 km  | No Fault found on patrolling                                       | Due to Transient Faults  | Not  |         |
| 59     | 220kv Bhateri-Fuggan Majra ckt-2 | 15.09.23  | 9:50  | 15.09.23 | 16:27 | 7:37           | Distance protection Zone-1 4.732 Kms, R-Phase (546 A), Y-Ph (1030A) & B-Ph (7631A)  | N.A   | Due to Discs puncher on tower no. 41 near S/S Bhateri              | Line Charged after changing the discs by AETL 400 KV Rajpura Team.   | Not  |         |
| 60     | 132 kv Ropar-RTP                 | 16.09.23  | 11:20 | 16.09.23 | 11:39 | 0:19           | DPR Phase AN E/F 5.3 km master trip   | Phase R Z-1 Master trip 12.87 km  | No Fault found on patrolling                                       | Due to Transient Faults  | Not  |         |
| 61     | 220kv Mohali- Mehra              | 18.09.23  | 13:57 | 18.09.23 | 14:35 | 0:38           | Main 1, 21, Blue phase, distance= 8.6 Km, Main 2, 21, Started CN, Trip c. distance= 5.317 km  | Main 1, Phase CN, 21, Distance= 13.01 km<br>Main 2, CG, Distance= 13.4 kms Autoreclosed                         | Found nothing, line charged after instructions from FC PTA         | Due to Transient Faults  | Not  |         |
| 62     | 220kv Sandisar-Barnala           | 19.09.23  | 5:44  | 19.09.23 | 15:40 | 9:56           | DPR M-1, Z-1 R-phase Ib=5.686KA 20.76KM   | DPR M-2, Z-2 R-phase Ia 4.713KA 21.33KM   | Due to R-phase disc string problem at tower no.34                  | R-phase disc string replaced at tower no 34  | Not  |         |
| 63     | 220 kv Rajar-Abolwan Line (A-2)  | 20.09.23  | 10:58 | 20.09.23 | 13:05 | 2:07           | DPR Main-2, Zone-1 R Phase, Distance 11.52 Km, Fault Current 4.895 KA   | DPR main-1 Zone-1 R Phase Distance 20.25 Km, Fault Current 4.917 KA   | Bridge these been reported by Patrols/Local                        | line has been patrolled by AOTL Rajpura as per relay indications no visible fault found all the strings are found ok | Not  |         |
| 64     | 220 kv Bhalwan Chajji ckt No 2   | 22.09.23  | 4:10  | 22.09.23 | 10:50 | 6:40           | 21.1 relay optd, B/Yellow phase to earth fault loop, Dist= 9.5 kms, Ib=10.64 KA, Zone -1 Tripped 21.2 optd, Fault current=11.5 MA, Fault distance =9.81 kms   | Zone-1, Y-Phase Fault current =2.31 KA, Fault Dist. 23.62kms, A/R optd.   | No visible fault found on patrolling. All the strings are found OK | Due to Transient Faults  | Not  |         |
| 65     | 220kv Mohali- Se-60              | 22.09.23  | 15:47 | 22.09.23 | 18:47 | 3:00           | Main 1, R phase, 21, Distance= 2.0 km<br>Main 2, DPR, Started A/N, 21, Distance= 2.949 km   | Main 1 phase AN, 23, A/R  | Found nothing, line charged after instructions from FC PTA         | Due to Transient Faults  | Not  |         |

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| Sl. No | Name of the Line              | From Date | Time  | To Date  | Time  | Duration (H:MM) | Remarks   | Remarks  |
|--------|-------------------------------|-----------|-------|----------|-------|-----------------|---|--|
| 66     | 220KV Rajpara-Lahra CRT-1     | 23.09.23  | 09:02 | 23.09.23 | 09:59 | 0:57            | 21PICK UP AG, Is 4000KA, Fault distance 7.8km, AR Operated, Fault Distance 30172km                              | Due to heavy rain and wind storms. Not   |
| 67     | 132 KV RTP-ASSOK              | 23.09.23  | 08:38 | 23.09.23 | 11:07 | 3:09            | OC R 2.1 Master Trip, DPR 3.9155 km   | Due to Transient Faults, Not   |
| 68     | 132 KV Repair-RTP             | 23.09.23  | 08:31 | 23.09.23 | 08:56 | 0:25            | DPR II Phase 5/F Master Trip, No Fault found on postering, 9.40 km  | Due to Transient Faults, Not   |
| 69     | 220KV Nabha-Fugginmarjo Ckt-1 | 24.09.23  | 13:15 | 24.09.23 | 17:09 | 3:54            | 220KV Bus Bar Protection operated with K-phase Z, Circuit Breaker was not tripped                               | Control cables has been replaced. Supply outage of 220KV GST Nabha from 13:15hrs to 18:15hrs (24.09.23) as 66KV Bus Bar charges at 18:15hrs through 66KV Breakover (DC) circuit through Backfeeding. |
| 70     | 220KV Nabha-Bhawainagar Ckt-2 | 24.09.23  | 13:15 | 24.09.23 | 13:59 | 0:44            | 220KV Bus Bar Protection operated with K-phase Z, Circuit Breaker was not tripped                               | Control cables has been replaced.  |
| 71     | 220KV Nabha-Bhainwan          | 24.09.23  | 19:31 | 24.10.23 | 16:08 | 16:37:00        | FDN operated, tripped (GN from Bhainwan S end)  | Line has been changed after replacing breaker control cable and Protection cables. Clearance as per instructions of PC Patil.  |
| 72     | 220KV Sandaul-Barnala         | 28.09.23  | 10:41 | 28.09.23 | 16:30 | 7:49            | DPR W-1 Z-1 RY-Phase B-7.421KA B-7.527KA TR2L2012M2437PS, NPSNCSZ 363RW, DPR W-2 ZL R-Phase B, 3.562KA, 34.73KM | Due to RYB-phase disc string damaged at tower no 62, RYB-phase disc string replaced at tower no 62, Not  |

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**Subject: PSERC Directives in the Tariff Order of 2022-23 and 2023-24.**

**Directive 4.5 of Tariff Order 2022-23**

Hon'ble PSERC Comments & Directive

The Commission notes the reply given by PSTCL and observes that the steps intimated by PSTCL are only routine measures taken for preventive maintenance of lines. The Commission, however, observes that strict adherence to a duly prescribed schedule of such steps/activities is of paramount importance. Accordingly, the Commission directs as under:

b) The maintenance practices/schedules/technologies being used in other organisations in the country with high transmission availability be studied immediately by constituting a task force for the same and accordingly an action plan to adopt the same in PSTCL be shared with the Commission within six months from issuance of Tariff Order.

**Directive No. 5.5 of Tariff Order 2023-24**

Hon'ble PSERC while responding to PSTCL's reply has observed that PSTCL have not submitted the feedback regarding study of maintenance practices/ schedules/ technologies being used in other organizations in the country. PSTCL has been directed to furnish the above details within one month of issue of Tariff Order.

In context with the above, it is submitted that the task force constituted for studying the maintenance practices used in other organizations with high transmission availability so as to adopt the same in PSTCL had submitted its suggestions, which are brought out as here under:

- 1) "The transmission availability of 400KV transmission elements of P&M circle Bathinda and P&M circle Ludhiana is on lower side. The identified major reason is frequent tripping's on 400 KV lines (400KV Mukatsar-Talwandi D/C and 400KV Makhu-Amritsar D/C) due to failure of porcelain disc insulators installed at these 400 KV lines during harvesting seasons in months of October/November and April/May due to pollution caused by harvester combines, threshers and subsequent burning. It is proposed to install the polymer strings on one circuit each out of two circuits to strengthen the system initially in a phased manner. Further decision can be taken after studying other aspects of polymer strings i.e their life, storage issues, damage by birds etc.
- 2) During visit at HVPNL (Haryana Vidyut Prasaran Nigam Limited) office, It was learnt that they are using drone system of Haryana Govt. owned Drone Department



to identify the shortcoming of 400 KV Transmission Lines. Possibility of using drone system may be explored.

- 3) One and a half CB scheme of 400 KV system is highly complicated in comparison to 220 KV and 132 KV system. So It is suggested that highly skilled manpower on the pattern of PGCIL may be hired for maintenance of 400 KV system and separate circle should handle all 400 KV transmission system.
- 4) Presently, area covered by Muktsar & Makhu TL gangs is very vast because Bathinda circle having the largest geographical area has only two TL gangs against three in other circles. If we start from Muktsar in the direction of Ludhiana, the next gang is stationed at Ludhiana. This affects maintenance activities & also increase the restoration time during breakdown. So another gang is required at Moga.
- 5) Some posts of JE/LM/ALM's are lying vacant in TL Sub-divisions & sub-stations. Sometimes in the event of tripping of more than one element, the interruption time becomes more, which reduces the transmission availability because it becomes impossible to make 2 to three sub-teams. It is suggested that 100% posts in maintenance and T/L gangs may be filled on priority basis."

The suggestions brought out in the task force report are being addressed in the following manner:

1. An agenda note was put up in the Board's meeting for granting the administrative approval for the replacement of existing porcelain disc insulators with polymer long rod insulators on existing 400 KV Transmission lines for the improvement of transmission availability. Board in its meeting held on 24.06.2023 has considered the agenda. After the receipt of Board's decision, suitable action shall be taken accordingly.
2. A presentation was held in the office of Director/Technical on 18.06.2023 by M/s Garuda UAV Soft Solutions Pvt. Ltd. on drone-based transmission line visual and thermal inspection, asset digitization, asset health monitoring, defect analysis and line monitoring with cloud-based platform. It was decided that firstly 220 KV Mansa-HMEL D/C transmission line shall be got analysed for defects. HMEL has already requested for the replacement of porcelain disc insulators with polymer long rod insulators (PLRI) on the remaining circuit (one circuit already replaced with PLRI) as a deposit work. HMEL is agreeable to get the same done. Based on this pilot study, PSTCL shall consider utilization of the same for implementation on its 400 KV transmission lines. Drone based inspection helps in obtaining high-resolution aligned



images and (top to bottom, sidewise & 360 degree) videos for a better understanding of the asset health condition and the defects originating in transmission towers for the betterment of its operation and maintenance activities. UAV will thoroughly scan all four sides or faces of transmission line towers from stub level to earth peak level by hovering around the tower which will identify defects like missing/hanging/bent tower members, loose/missing nut bolts, missing joint plates and conditions of insulators, condition of jumper bolts, conditions of grading rings/corona rings etc. can be assessed.

- 3. The proposal for creating a separate circle for 400 KV system, hiring of highly skilled manpower on the pattern of PGCIL for maintenance of 400 KV system, creation of TL S/D at Moga is under consideration of the committee constituted to review the staffing norms and overall man power requirement of PSTCL after deliberating with all the HODs.

The interim reply is submitted to the Hon'ble Commission which shall be updated in due course of time as and when further progress is achieved.

The above reply may be submitted to the Hon'ble Commission.

*[Signature]*  
Director/Technical 27/6

CFO/PSTCL

*As above please.*

ASE/Comm.

*Sudhanshu*  
*27/06/2023*

Inventory No. 507  
DATE 27.06.2023

*[Handwritten mark]*






PUNJAB STATE TRANSMISSION CORPORATION LIMITED  
(Office: Chief Engineer/P&M PSTCL, Ludhiana)

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Certificate regarding maintenance of transmission lines

Inspite of shortage of staff, best possible efforts are being, made to adhere to the maintenance schedule (attached) approved by BOD's of PSTCL.

Director/Technical

  
Engineer-in-Chief,  
PSTCL, Ludhiana.



**GENERAL GUIDE LINES FOR MAINTENANCE OF TRANSMISSION LINES:-**  
(AS PER SCHEDULE ALREADY INVOGUE/ FOLLOWED IN ERSTWHILE PSEB)

| SN  | DESCRIPTION  | SD/<br>WSD | PERIODICITY   |           |            |                     |                     |
|-----|--|------------|---------------|-----------|------------|---------------------|---------------------|
|     |  |            | LINE<br>STAFF | JE/<br>TL | AEE/<br>TL | Sr XEN              | S.E                 |
| 1.  | TO CHECK THE NUMBER PLATES/<br>DANGER PLATES/ LADDER BOLTS/ ANTI-<br>CLIMBING DEVICES/ PHASE PLATES/<br>CIRCUIT NUMBER PLATES ETC  | WSD        | Q             | HY        | Y          | 60 TOWERS/<br>MONTH | 30 TOWERS/<br>MONTH |
| 2.  | TO CHECK VERTICLE AND HORIZONTAL<br>CLEARANCES OF EXISTING AND UP-<br>COMING TELEPHONE LINES, BUILDINGS,<br>OTHER LT/ HV/ EHV POWER LINES,<br>RAILWAY CROSSINGS, ROAD CROSSINGS,<br>BRIDGES ETC FROM THE EHV<br>TRANSMISSION LINES | WSD        | Q             | HY        | Y          | DO                  | DO                  |
| 3.  | TO CHECK BEIRD NESTS, IF ANY   | WSD        | Q             | HY        | Y          | DO                  | DO                  |
| 4.  | TO CHECK BRICK KLIN OR POLLUTING<br>INDUSTRIES NEAR THE LINE   | WSD        | Q             | HY        | Y          | DO                  | DO                  |
| 5.  | TO CHECK GROUND CONDITIONS OF<br>TOWERS  | WSD        | Q             | HY        | Y          | DO                  | DO                  |
| 6.  | TO CHECK ANY DAMAGE OF MAIN AND<br>OFF SHOOT STUBS AND RETAINING<br>WALLS  | WSD        | Q             | HY        | Y          | DO                  | DO                  |
| 7.  | TO CHECK MAIN STUBS/ OFF SHOOT<br>AND MEMBERS OF TOWER AGAINST<br>CORROSION  | WSD        | Q             | HY        | Y          | DO                  | DO                  |
| 8.  | TO CHECK MISSING MEMBERS, NUTS &<br>BOLTS OF TOWERS  | WSD        | Q             | HY        | Y          | DO                  | DO                  |
| 9.  | TO CHECK DISC INSULATORS AND<br>SUSPENSION CLAMPS  | WSD        | Q             | HY        | Y          | DO                  | DO                  |
| 10. | TO CHECK PROPER POSITIONING OF<br>DAMPERS/ CLEAT & TO SEE IF ANY<br>DAMPER/CLEAT IS MISSING  | WSD        | Q             | HY        | Y          | DO                  | DO                  |
| 11. | TO CHECK BIRD GUARDS   | WSD        | Q             | HY        | Y          | DO                  | DO                  |
| 12. | TO CHECK CONDITION OF JUMPERS AND<br>DEAD END CLAMPS WITH BINOCULARS   | WSD        | Q             | HY        | Y          | HY                  | Y                   |
| 13. | TO CHECK WILD GROWTH/TREES/<br>SHRUBS NEAR OR UNDER THE LINE   | WSD        | Q             | HY        | Y          | 30 TOWERS/<br>MONTH | 30 TOWERS/<br>MONTH |
| 14. | TO CHECK EARTH BONDS AND EARTH<br>DAMPERS  | WSD        | Q             | HY        | Y          | DO                  | DO                  |
| 15. | TO CHECK THE CONDITION OF<br>CONDUCTOR JOINTS WITH BINOCULARS  | WSD        | Q             | HY        | Y          | HY                  | Y                   |
| 16. | TO CHECK THE CONDITION OF EARTH<br>WIRE & EARTH JOINTS WITH<br>BINOCULARS  | WSD        | Q             | HY        | Y          | 30 TOWERS/<br>MONTH | 30 TOWERS/<br>MONTH |
| 17. | NIGHT PATROLLING IN MAY & OCTOBER  | WSD        | HY            | HY        | HY         | NA                  | NA                  |

| SN  | DESCRIPTION  | SD/<br>WSD | PERIODICITY   |           |            |                |                              |
|-----|--|------------|---------------|-----------|------------|----------------|------------------------------|
|     |  |            | LINE<br>STAFF | JE/<br>TL | AEE/<br>TL | Sr XEN         | S.E                          |
| 18. | TO CHECK DEAD END CLAMPS & CONDUCTOR JOINTS WITH THERMOVISION CAMERA                                   | WSD        | NA            | NA        | NA         | Y<br>(HOTLINE) | 10% - 20%<br>RANDOM<br>CHECK |
| 19. | TO CHECK DEAD END CLAMPS & CONDUCTOR JOINTS WITH THERMOVISION CAMERA AT ALL RAILWAY CROSSINGS          | WSD        | NA            | NA        | NA         | Q<br>(HOTLINE) | 10% - 20%<br>RANDOM<br>CHECK |
| 20. | TO CHECK DEAD END CLAMPS & CONDUCTOR JOINTS WITH THERMOVISION CAMERA AT ALL NATIONAL HIGHWAY CROSSINGS | WSD        | NA            | NA        | NA         | H<br>(HOTLINE) | 10% - 20%<br>RANDOM<br>CHECK |
| 21. | TO SCAN WITH FAULT LOCATER   | SD         | Y             | Y         | SOS        | SOS            | SOS                          |
| 22. | TO PATROL THE LINE THE LINE DURING THE MONTH OF MAY/JUNE TO CHECK THE SAG OF CONDUCTOR                 | WSD        | NA            | HY        | Y          | NA             | NA                           |
| 23. | EARTH RESISTANCE OF TOWERS   | WSD        | NA            | 2Y        | 2Y         | NA             | NA                           |
| 24. | TO CHECK VULNERABLE TOWERS (ESPECIALLY BEFORE MONSOON)   | WSD        | Q             | HY        | HY         | Y              | SOS                          |
| 25. | BREAKDOWN OF CONDUCTOR   | SD         | SOS           | SOS       | SOS        | SOS            | SOS                          |
| 26. | DAMAGING OF INSULATOR DISCS  | SD         | SOS           | SOS       | SOS        | SOS            | SOS                          |
| 27. | TO ATTEND HOT POINTS INTIMATED BY Sr XEN/HOTLINE   | SD         | SOS           | SOS       | SOS        | SOS            | SOS                          |
| 28. | TO MAKE PATHS TO REACH TOWERS LOCATED IN JUNGLES OR HILLY AREAS (BEFORE MONSOON)                       | WSD        | Y             | NA        | NA         | NA             | NA                           |
| 29. | TO ATTEND HOT POINTS OF WAVE TRAPS (PLC)   | SD         | SOS           | SOS       | SOS        | SOS            | SOS                          |
| 30. | TO CHECK DISPLACEMENT OF DAMPERS & TO SET RIGHT IT   | SD         | Y             | Y         | NA         | NA             | NA                           |
| 31. | TO REMOVE MUD FROM THE MUFFS & SHOOT OF TOWERS   | WSD        | Y             | Y         | NA         | NA             | NA                           |
| 32. | TO CHECK CLEARANCE OF CONDUCTOR AT CROSSINGS IN HOT SUMMER SEASON                                      | WSD        | Y             | Y         | Y          | SOS            | SOS                          |
| 33. | TO CLEAN DRAINS OF TOWERS  | WSD        | Y             | Y         | NA         | NA             | NA                           |
| 34. | TO REPAIR CONDUCTOR DAMAGED DUE TO KITE STRINGS  | SD         | SOS           | SOS       | SOS        | SOS            | NA                           |

## Appendix-II

### Procedure for Calculation of Transmission System

#### Availability Factor for a Month

1. Transmission system availability factor for  $n^{\text{th}}$  calendar month ("TAFP $n$ ") shall be calculated by the respective transmission licensee, got verified by the concerned Regional Load Dispatch Centre (RLDC) and certified by the Member-Secretary, Regional Power Committee of the region concerned, separately for each AC and HVDC transmission system and grouped according to sharing of transmission charges. In case of AC system, transmission System Availability shall be calculated separately for each Regional Transmission System and inter-regional transmission system. In case of HVDC system, transmission System Availability shall be calculated on consolidate basis for all inter-state HVDC system.

2. Transmission system availability factor for  $n^{\text{th}}$  calendar month ("TAFP $n$ ") shall be calculated by consider following:

- i) **AC transmission lines:** Each circuit of AC transmission line shall be considered as one element;
- ii) **Inter-Connecting Transformers (ICTs):** Each ICT bank (three single phase transformer together) shall form one element;
- iii) **Static VAR Compensator (SVC):** SVC along with SVC transformer shall form one element;
- iv) **Bus Reactors or Switchable line reactors:** Each Bus Reactors or Switchable line reactors shall be considered as one element;
- v) **HVDC Bi-pole links:** Each pole of HVDC link along with associated equipment at both ends shall be considered as one element;
- vi) **HVDC back-to-back station:** Each block of HVDC back-to-back station shall be considered as one element. If associated AC line (necessary for

transfer of inter- regional power through HVDC back-to-back station) is not available, the HVDC back-to-back station block shall also be considered as unavailable;

vii) **Static Synchronous Compensation ("STATCOM"):** Each STATCOM shall be considered as separate element.

3. The Availability of AC and HVDC portion of Transmission system shall be calculated by considering each category of transmission elements as under:

**TAFMn (in %) for AC system:**

$$= \frac{o \times AV_o + (p \times AV_p) + (q \times AV_q) + (r \times AV_r) + (u \times AV_u)}{(o + p + q + r + u)} \times 100$$

Where,

- o = Total number of AC lines.
- AV<sub>o</sub> = Availability of o number of AC lines.
- p = Total number of bus reactors/switchable line reactors
- AV<sub>p</sub> = Availability of p number of bus reactors/switchable line reactors
- q = Total number of ICTs.
- AV<sub>q</sub> = Availability of q number of ICTs.
- r = Total number of SVCs.
- AV<sub>r</sub> = Availability of r number of SVCs
- u = Total number of STATCOM.
- AV<sub>u</sub> = Availability of u number of STATCOMs

**TAFMn (in %) for HVDC System:**

$$= \frac{\sum_{x=1}^s C_{xpb}(\text{act}) \times AV_{xpb} + \sum_{y=1}^t C_{ybt}(\text{act}) \times AV_{ybt}}{\sum_{x=1}^s C_{xpb} + \sum_{y=1}^t C_{ybt}} \times 100$$

Where

- C<sub>xpb</sub>(act) = Total actual operated capacity of x<sup>th</sup> HVDC pole
- C<sub>xpb</sub> = Total rated capacity of x<sup>th</sup> HVDC pole

*24*

- AVx<sub>bp</sub> = Availability of x<sup>th</sup> HVDC pole
- Cy<sub>btb(act)</sub> = Total actual operated capacity of y<sup>th</sup> HVDC back-to-back station block
- Cy<sub>btb</sub> = Total rated capacity of y<sup>th</sup> HVDC back-to-back station block
- AVy<sub>btb</sub> = Availability of y<sup>th</sup> HVDC back-to-back station block
- s = Total no of HVDC poles
- t = Total no of HVDC Back to Back blocks

3. The availability for each category of transmission elements shall be calculated based on the weightage factor, total hours under consideration and non-available hours for each element of that category. The formulae for calculation of Availability of each category of the transmission elements are as per Appendix-III. The weightage factor for each category of transmission elements shall be considered as under:

- (a) For each circuit of AC line - Number of sub-conductors in the line multiplied by ckt-km;
- (b) For each HVDC pole- The rated MW capacity x ckt-km;
- (c) For each ICT bank - The rated MVA capacity;
- (d) For SVC- The rated MVAR capacity (inductive and capacitive);
- (e) For Bus Reactor/switchable line reactors - The rated MVAR capacity;
- (f) For HVDC back-to-back station connecting two Regional grids- Rated MW capacity of each block; and
- (g) For STATCOM - Total rated MVAR Capacity.

4. The transmission elements under outage due to following reasons shall be deemed to be available:

- i. Shut down availed for maintenance of another transmission scheme or construction of new element or renovation/upgradation/additional capitalization in existing system approved by the Commission. If the other transmission scheme belongs to the transmission licensee, the Member-

Secretary, RPC may restrict the deemed availability period to that considered reasonable by him for the work involved. In case of dispute regarding deemed availability, the matter may be referred to Chairperson, CEA within 30 days.

- ii. Switching off of a transmission line to restrict over voltage and manual tripping of switched reactors as per the directions of concerned RLDC.

5. For the following contingencies, outage period of transmission elements, as certified by the Member Secretary, RPC, shall be excluded from the total time of the element under period of consideration for the following contingencies:

- i) Outage of elements due to acts of God and force majeure events beyond the control of the transmission licensee. However, whether the same outage is due to force majeure (not design failure) will be verified by the Member Secretary, RPC. A reasonable restoration time for the element shall be considered by Member Secretary, RPC and any additional time taken by the transmission licensee for restoration of the element beyond the reasonable time shall be treated as outage time attributable to the transmission licensee. Member Secretary, RPC may consult the transmission licensee or any expert for estimation of reasonable restoration time. Circuits restored through ERS (Emergency Restoration System) shall be considered as available;
- ii) Outage caused by grid incident/disturbance not attributable to the transmission licensee, e.g. faults in substation or bays owned by other agency causing outage of the transmission licensee's elements, and tripping of lines, ICTs, HVDC, etc. due to grid disturbance. However, if the element is not restored on receipt of direction from RLDC while normalizing the system following grid incident/disturbance within reasonable time, the element will be considered not available for the period of outage after issuance of RLDC's direction for restoration;

Provided that in case of any disagreement with the transmission licensee regarding reason for outage, same may be referred to Chairperson, CEA within

30 days. The above need to be resolved within two months:

Provided further that where there is a difficulty or delay beyond sixty days, from the incidence in finalizing the recommendation, the Member Secretary of concerned RPC shall allow the outage hours on provisional basis till the final view.

6. Time frame for certification of transmission system availability: (1) Following schedule shall be followed for certification of availability by Member Secretary of concerned RPC:

- Submission of outage data by Transmission Licensees to RLDC/ constituents  
- By 5<sup>th</sup> of the following month;
- Review of the outage data by RLDC / constituents and forward the same to respective RPC - by 20<sup>th</sup> of the month;
- Issue of availability certificate by respective RPC - by 3<sup>rd</sup> of the next month.

### Appendix-III

## FORMULAE FOR CALCULATION OF AVAILABILITY OF EACH CATEGORY OF TRANSMISSION ELEMENTS

#### For AC transmission system

$$AV_o(\text{Availability of } o \text{ no. of AC lines}) = \frac{\sum_{i=1}^o W_i(T_i - T_{NAi})/T_i}{\sum_{i=1}^o W_i}$$

$$AV_q(\text{Availability of } q \text{ no. of ICTs}) = \frac{\sum_{k=1}^q W_k(T_k - T_{NAk})/T_k}{\sum_{k=1}^q W_k}$$

$$AV_r(\text{Availability of } r \text{ no. of SVCs}) = \frac{\sum_{l=1}^r W_l(T_l - T_{NAL})/T_l}{\sum_{l=1}^r W_l}$$

$$AV_p(\text{Availability of } p \text{ no. of Switched Bus reactors}) = \frac{\sum_{m=1}^p W_m(T_m - T_{NA_m})/T_m}{\sum_{m=1}^p W_m}$$

$$AV_u(\text{Availability of } u \text{ no. of STATCOMs}) = \frac{\sum_{n=1}^u W_n(T_n - T_{NAn})/T_n}{\sum_{n=1}^u W_n}$$

$$AV_{x_{bp}}(\text{Availability of an individual HVDC pole}) = \frac{(T_x - T_N)}{T_x}$$

$$AV_{y_{btb}}(\text{Availability of an individual HVDC Back-to-back Blocks}) = \frac{(T_y - T_{NAy})}{T_y}$$

#### For HVDC transmission system

For the new HVDC commissioned but not completed twelve months;

For first 12 months:  $[(AV_{x_{bp}} \text{ or } AV_{y_{btb}}) \times 95\% / 85\%]$ , subject to ceiling of 95%.

Where,

- $o$  = Total number of AC lines;
- $AV_o$  = Availability of  $o$  number of AC lines;
- $p$  = Total number of bus reactors/switchable line reactors;
- $AV_p$  = Availability of  $p$  number of bus reactors/switchable line reactors;
- $q$  = Total number of ICTs;
- $AV_q$  = Availability of  $q$  number of ICTs;
- $r$  = Total number of SVCs;
- $AV_r$  = Availability of  $r$  number of SVCs;
- $U$  = Total number of STATCOM;



|   |   |  |
|---|---|--|
| $AV_u$  | = | Availability of u number of STATCOMs;  |
| $W_i$   | = | Weightage factor for ith transmission line;  |
| $W_k$   | = | Weightage factor for kth ICT;  |
| $W_l$   | = | Weightage factors for inductive & capacitive operation of lth SVC;   |
| $W_m$   | = | Weightage factor for mth bus reactor;  |
| $W_n$   | = | Weightage factor for nth STATCOM.  |
| $T_i, T_k, T_l, T_m, T_n, T_x, T_y$                             | = | The total hours of ith AC line, kth ICT, lth SVC, mth Switched Bus Reactor & nth STATCOM, xth HVDC pole, yth HVDC back-to-back blocks during the period under consideration (excluding time period for outages not attributable to transmission licensee for reasons given in Para 5 of the procedure) |
| $T_{NAi}, T_{NAk}, T_{NAl}, T_{NAm}, T_{NAn}, T_{NAx}, T_{NAy}$ | = | The non-availability hours (excluding the time period for outages not attributable to transmission licensee taken as deemed availability as per Para 5 of the procedure) for ith AC line, kth ICT, lth SVC, mth Switched Bus Reactor, nth STATCOM, xth HVDC pole and yth HVDC back-to-back block.      |

*SP*



**PUNJAB STATE TRANSMISSION CORPORATION LIMITED**  
(Office: Chief Engineer/P&M PSTCL, Ludhiana)

To

Director/Technical,  
PSTCL, Patiala.

Memo No 4951 /DRPM-40 Dated 11/5/23.

Sub: - PSERC Directives 4.5 (b) in the Tariff Order FY 2022-23.

Ref:- This office memo no 1617 dated 15-02-2023.

In Continuation to above referred letter, It is intimated that a committee was constituted vide office order no.306 dated 12.12.2022 "for studying the maintenance practice's used in other organizations with high transmission availability, so as to adopt the same in PSTCL". The committee has submitted its report, which is enclosed here with for further necessary action please.


DA/ As Above

  
Engineer-in-Chief / P&M,  
PSTCL, Ludhiana.

CC:

CAO/F&A, PSTCL, Patiala.

4952  
11/5/23.





**Sub: Report regarding Transmission Availability of PSTCL.**

A committee of following officers was constituted vide CE/P&M(PSTCL), Ludhiana office order no. 306 dated 12/12/22 for studying the maintenance practices used in other organizations with high transmission availability so as to adopt same in PSTCL:-

1. Dy. Chief Engineer/P&M, PSTCL, Patiala.
2. Addl. SE/P&M Division, PSTCL, Mohali.
3. Sr. Xen/TS -I, PSTCL, Patiala.

The matter was deliberated upon in various meetings held amongst the committee members and the findings of the committee are as under:-

- 1) After unbundling major introduction in Punjab's transmission system was 400 KV sub-stations and transmission lines. Since 400 KV transmission system was constructed by PGCIL, so there was no exposure of state utility engineers to such EHV system. Partial or major failure of 400 KV system in foggy winter season was observed in initial years of inception of this system. In winter 2017 and 2018 selected washing of porcelain disc insulator strings of transmission lines (critical towers) was got done on 400 KV evacuating lines from TSPL but this was not successful. From winter season of 2019, with the approval of BODs of PSTCL all critical evacuating lines were got washed. In this case whole of line was covered and from that year onwards there is no major blackout of 400KV transmission system.
- 2) Apart from this to tackle with heavy crunch of maintenance staff, BODs of PSTCL allowed outsourcing of such activities for maintenance of transmission lines and sub-stations.
- 3) New techniques were employed to prevent outages where shutdowns were not possible. This led to introduction of concept of hot line maintenance. This is very useful in case of critical sub-station bus bars as any shutdown of bus bar will cause total blackout of all emanating bays of that bus-bar.
- 4) Comparison with other utilities:

Based on available data the transmission availability of other states was reviewed and comparison of Punjab's availability with other states is tabulated as under:-

| Sr No. | Name of Utility      | Availability during FY 2019-20 | Availability during FY 2020-21 | Availability during FY 2021-22 |
|--------|----------------------|--------------------------------|--------------------------------|--------------------------------|
| 1      | PSTCL                | 99.974                         | 99.832                         | 99.871                         |
| 2      | PGCIL                | 99.82                          | 99.82                          | 99.83                          |
| 3      | BBMB                 | 99.82                          | 99.47                          | 99.78                          |
| 4      | DTL (Delhi Trans.co) | 98.953                         | 99.305                         | 99.037                         |
| 5      | PTCUL (Uttarakhand)  | 99.22                          | 99.56                          | 99.55                          |
| 6      | HVPNL                | 99.853                         | 99.361                         | 99.577                         |

**Note:-** From the above table it is clear that Punjab has better transmission availability from other states. The higher transmission availability has been possible due to factors explained in above mentioned paras. However, for achieving the better availability in future also, comparison of transmission availability between various P&M circles within state has been done.



5) Comparison between circles within PSTCL:

The comparison of Transmission Availability of various P&M circles is as under:

| Name of P&M circle | FY 2019-20 | FY 2020-21 | FY 2021-22 |
|--------------------|------------|------------|------------|
| Patiala            | 99.981     | 99.975     | 99.974     |
| Bathinda           | 99.970     | 99.764     | 99.800     |
| Ludhiana           | 99.978     | 99.747     | 99.790     |
| Amritsar           | 99.974     | 99.838     | 99.873     |
| Jalandhar          | 99.928     | 99.897     | 99.942     |

From the above table it is clear that the availability of P&M circle Ludhiana & P&M circle Bathinda circles are comparatively on lower side. Accordingly, voltage wise availability comparison of various circles within PSTCL is analysed.

Voltage wise Comparison between circles within PSTCL:

The voltage wise comparison of transmission availability of various P&M circles is as under:-

a) **132KV System transmission availability:**

| Year    | Amritsar | Bathinda | Jalandhar | Ludhiana | Patiala |
|---------|----------|----------|-----------|----------|---------|
| 2019-20 | 99.972   | 99.932   | 99.867    | 99.850   | 99.985  |
| 2020-21 | 99.96    | 99.75    | 99.70     | 99.64    | 99.96   |
| 2021-22 | 99.97    | 99.71    | 99.70     | 99.91    | 99.97   |

b) **220KV System transmission availability:**

| Year    | Amritsar | Bathinda | Jalandhar | Ludhiana | Patiala |
|---------|----------|----------|-----------|----------|---------|
| 2019-20 | 99.974   | 99.974   | 99.956    | 99.984   | 99.990  |
| 2020-21 | 99.95    | 99.74    | 99.98     | 99.90    | 99.98   |
| 2021-22 | 99.97    | 99.88    | 99.98     | 99.84    | 99.97   |

c) **400KV System transmission availability:**

| Year    | Amritsar | Bathinda | Jalandhar | Ludhiana | Patiala |
|---------|----------|----------|-----------|----------|---------|
| 2019-20 | -        | 99.989   | 99.945    | 99.977   | 99.955  |
| 2020-21 | -        | 99.73    | 99.99     | 99.33    | 99.99   |
| 2021-22 | -        | 99.79    | 99.99     | 99.11    | 99.99   |

From the above tables of voltage wise comparison, it is evident that the transmission availability of 400KV system of Ludhiana & Bathinda area is on lower side as compared to other circles within PSTCL, which drags overall performance of PSTCL.

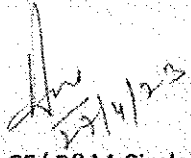
4) Reasons and remedial action :


The transmission availability for 2019-20 was calculated as per old formula due to which availability during 2019-20 showing higher value's than actual in comparison to 2020-21 & 2021-22.



The main reasons for lower transmission availability of PSTCL and its remedial actions are as under:-

- 1) The transmission availability of 400KV transmission elements of P&M circle Bathinda and P&M circle Ludhiana is on lower side. The identified major reason is frequent tripping's on 400 KV lines (400KV Mukatsar-Talwandi D/C and 400KV Makhu-Amritsar D/C) due to failure of porcelain disc insulators installed at these 400 KV lines during harvesting seasons in months of October/November and April/May due to pollution caused by harvester combines, threshers and subsequent burning. It is proposed to install the polymer strings on one circuit each out of two circuits to strengthen the system initially in a phased manner. Further decision can be taken after studying other aspects of polymer strings i.e their life, storage issues, damage by birds etc.
- 2) During visit at HVPNL (Haryana Vidyut Prasaran Nigam Limited) office, It was learnt that they are using drone system of Haryana Govt. owned Drone Department to identify the shortcoming of 400 KV Transmission Lines. Possibility of using drone system may be explored.
- 3) One and a half CB scheme of 400 KV system is highly complicated in comparison to 220 KV and 132 KV system. So It is suggested that highly skilled manpower on the pattern of PGCIL may be hired for maintenance of 400 KV system and separate circle should handle all 400 KV transmission system.
- 4) Presently area covered by Muktsar & Makhu TL gangs is very vast because Bathinda circle having the largest geographical area has only two TL gangs against three in other circles. If we start from Muktsar in the direction of Ludhiana, the next gang is stationed at Ludhiana. This affects maintenance activities & also increase the restoration time during breakdown. So another gang is required at Moga.
- 5) Some posts of JE/LM/ALM's are lying vacant in TL Sub-divisions & sub-stations. Sometimes in the event of tripping of more than one element, the interruption time becomes more, which reduces the transmission availability because it becomes impossible to make 2 to three sub-teams. It is suggested that 100% posts in maintenance and T/L gangs may be filled on priority basis.

  
Dy. CE/ P&M Circle,  
PSTCL, Patiala.

  
Addl. SE/ P&M Division,  
PSTCL, Mohali.

  
Sr. XEN/TS-I,  
PSTCL, Patiala.





Appendix-III

Availability factor for the year 2022-23

|                                      |            |
|--------------------------------------|------------|
| O is total no. of Transmission lines | 451        |
| Wt capacity of Transmission          | 14367.2960 |
| Avo                                  | 0.9966     |

|                             |            |
|-----------------------------|------------|
| Q total no. of Transformers | 655        |
| Wk capacity of Transformers | 41231.1700 |
| Avq                         | 0.9996     |

|                        |          |
|------------------------|----------|
| P total no. of Reactor | 5        |
| Wm capacity of Reactor | 390.0000 |
| Avp                    | 1.0000   |

|       |          |
|-------|----------|
| O*AVO | 449.4492 |
| Q*AVQ | 654.7162 |
| P*AVP | 5.0000   |

|       |      |
|-------|------|
| O+Q+P | 1111 |
|-------|------|

|   |         |
|---|---------|
| FINAL TAFM%=<br>((O*AVO+Q*AVQ+P*AVP)/(Q+O+P))*100 | 99.8349 |
|---|---------|

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Procedure for Calculation of Transmission System  
Availability Factor for a Month

1. Transmission system availability factor for a calendar month (TAFM) shall be calculated by the respective transmission licensee, got verified by the concerned RLDC and certified by the Member-Secretary, Regional Power Committee of the region concerned, separately for each AC and HVDC transmission system and grouped according to sharing of transmission charges.
2. TAFM, in percent, shall be equal to  $(100 - 100 \times \text{NAFM})$ , where NAFM is the non-availability factor in per unit for the month, for the transmission system / sub-system.
3. NAFM for A.C. systems / sub-systems shall be calculated as follows :

$$\text{NAFM} = \frac{\sum_{l=1}^L (\text{OH}_l \times \text{Cktkm}_l \times \text{NSC}_l) + \sum_{t=1}^T (\text{OH}_t \times \text{MVA}_t \times 2.5)}{\sum_{r=1}^R (\text{OH}_r \times \text{MVAR}_r \times 4)} \div \text{THM} \times \left[ \sum_{l=1}^L (\text{Cktkm}_l \times \text{NSC}_l) + \sum_{t=1}^T (\text{MVA}_t \times 2.5) + \sum_{r=1}^R (\text{MVAR}_r \times 4) \right]$$

Where

l identifies a transmission line circuit

t identifies a transformer / ICT

r identifies a bus reactor, switchable line reactor or SVC

L = total number of line circuits

T = total number of transformers and ICTs

R = total number of bus reactors, switchable line reactors and  
SVCs

OH = Outage hours or hours of non-availability in the month,  
excluding the duration of outages not attributable to the  
transmission licensee, if any, as per clause (5).

Cktkm = Length of a transmission line circuit in km

NSC = Number of sub-conductors per phase

MVA = MVA rating of a transformer / ICT

MVAR = MVAR rating of a bus reactor, switchable line reactor or  
an SVC (in which case it would be the sum of inductive and  
capacitive capabilities).

THM = Total hours in the month.

4 NAFM for each HVDC system shall be calculated separately, as follows :

$$\text{NAFM} = [ \sum (\text{TCR} \times \text{hours}) ] \div [ \text{THM} \times \text{RC} ]$$

Where

TCR = Transmission capability reduction of the system in MW

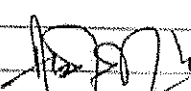
RC = Rated capacity of the system in MW.

For the above purpose, the HVDC terminals and directly associated EHV /  
HVDC lines of an HVDC system shall be taken as one integrated system.

5. The transmission elements under outage due to following reasons shall be deemed to be available:
- i. Shut down availed for maintenance or construction of elements of another transmission scheme. If the other transmission scheme belongs to the transmission licensee, the Member-Secretary, RPC may restrict the deemed availability period to that considered reasonable by him for the work involved.
  - ii. Switching off of a transmission line to restrict over voltage and manual tripping of switched reactors as per the directions of RLDC.
6. Outage time of transmission elements for the following contingencies shall be excluded from the total time of the element under period of consideration.
- i) Outage of elements due to acts of God and force majeure events beyond the control of the transmission licensee. However, onus of satisfying the Member Secretary, RPC that element outage was due to aforesaid events and not due to design failure shall rest with the transmission licensee. A reasonable restoration time for the element shall be considered by Member Secretary, RPC and any additional time taken by the transmission licensee for restoration of the element beyond the reasonable time shall be treated as outage time attributable to the transmission licensee. Member Secretary, RPC may consult the transmission licensee or any expert for estimation of reasonable restoration time. Circuits restored through ERS (Emergency Restoration System) shall be considered as available.
  - ii) Outage caused by grid incident/disturbance not attributable to the transmission licensee, e.g. faults in substation or bays owned by other agency causing outage of the transmission licensee's elements, and tripping of lines, ICTs, HVDC, etc. due to grid disturbance. However, if the element is not restored on receipt of direction from RLDC while normalizing the system following grid incident/disturbance within reasonable time, the element will be considered not available for the period of outage after issuance of RLDC's direction for restoration.

## Annexure-D

| Monthly Status of SAMAST Project as on 29.09.2023 |   |                          |  |   |   |
|---|---|--------------------------|--|---|---|
| Project Start Date: 04.03.2022                    |   |                          |  |   |   |
| Project End Date: 04.03.2023                      |   |                          |  |   |   |
| Sr. No.   | Activity  | As per Approved Timeline | As per latest Timeline submitted by firm | Status  | Remarks   |
| 1   | Signing of Contract Agreement   | 29.03.2022               | 29.03.2022                               | Signed on 29.03.2022  | As per schedule   |
| 2   | Survey  | 01.04.2022 - 15.08.2022  | 01.04.2022 - 15.10.2022                  | Survey of all stations completed.   | Survey of all 278 No. stations completed including 172 No. PSTCL Substations, 14 No. State Generating Stations, 03 No. IPPs, 56 No. RE Generators, 16 No. Open Access Customers, 01 No. Open Access Generator & 18 No. Interstate Locations.  |
| 3   | Submission & Approval of Drawings, Detailed Requirement Specification etc.                                      | 04.03.2022 - 20.05.2022  | 04.03.2022 - 30.09.2022                  | Activity Completed  |   |
| 4   | Manufacturing and Inspection  | 15.07.2022 - 20.10.2022  | 15.09.2022 - 20.06.2023                  | Lot 1 of 3 has been supplied, Lot 2 of 3 has been supplied, Lot 3 of 3 is under production  | The firm has been asked to expedite the production of 3rd Lot.  |
| 5   | Supply  | 15.07.2022 - 20.10.2022  | 15-09-2022 - 20-06-2023                  | Lot 1 of 3 has been supplied, Lot 2 of 3 has been supplied, Lot 3 of 3 is under production  |   |
| 6   | Establishment of Data-Centre  | 05.08.2022 - 25.08.2022  | 25-11-2022 - 25-12-2022                  | Activity Completed  | Data Centre is operational since December 2022.   |
| 7   | Installation & Commissioning of Substation End Equipments   | 01.09.2022 - 28.02.2023  | 20-12-2022 - 10-08-2023                  | Installation of energy meters has been started from 21.02.23 and 779 out of 1481 Energy Meters have been Installed till date.   | Installation activity at all RE sites, IPPs, State Thermal Generating Stations, Railways (11 out of 14) have been completed.  |
| 8   | Development, Testing & Commissioning of Software Modules Phase-1 (Scheduling, Forecasting & Open Access Module) | 11.03.2022 - 22.09.2022  | 11.03.2022 - 22.10.2022                  | As on date, Forecasting and Scheduling of RE(Solar) entities is operational as per Punjab State Electricity Regulatory Commission (Forecasting, Scheduling, Deviation Settlement and Related Matters of Solar and Wind Generation Sources) Regulations, 2019 through SAMAST software modules w.e.f 01.09.2023. The SAMAST system is ready for calculation of DSM bills of RE (solar) entities through software module using data received through Automated Meter Reading at Data Center. Accordingly, DSM Accounting of Solar Generators (PSS wise) will be started by SLDC after notification by Hon'ble PSERC. | After the intervention of Hon'ble PSERC, all 05 Nos. PSPCL Hydel Projects have got their registrations completed. Last registration was done on 28.9.23. However scheduling for IPP's and state owned generating stations could not be started due to categorical denial of PSPCL to provide schedule revisions from 4th block as per State Grid Code sighting reasons like Grid stability, huge DSM cost and interruption in supply to the consumers. Matter again taken up with PSPCL in this regard. |
| 9   | Development, Testing & Commissioning of remaining Software Modules  | 26.08.2022 - 01.03.2023  | 26.08.2022 - 01.03.2023                  | DSM Module for RE (Solar) has been deployed. Transmission Outage Planning module has been deployed by the firm and is under operation. Data migration and Integration Module has been deployed and is operational. Energy Accounting Module and Financial Accounting Module has also been developed by the firm and is under testing by end users.  | Open Access Management Module is under development and is likely to be finalized by November 2023.  |
| 10  | Pre-commissioning & Testing of complete project   | 13.02.2023 - 20.02.2023  | 10-08-2023 - 20-08-2023                  | Not yet started   | Not yet started   |
| 11  | Completion of Project and Handover  | 04.03.2023               | 31-08-2023                               | Not yet started   | Not yet started   |
| 12  | Financial Closing with NLDC, POSOCO   | ---                      | 30.09.2023                               | Not yet started   | Not yet started   |

  
 Chief Engineer/SLDC,  
 PSTCL, Abfowal, Patiala.

# Annexure-E

## Detail of Capital Expenditure and Capitalisation upto 30.09.2023

| Scheme  | 2022-23         |                 |                 | Upto 30.09.2023 |                |                 |
|---|-----------------|-----------------|-----------------|-----------------|----------------|-----------------|
|   | Dr              | Cr              | Net             | Dr              | Cr             | Net             |
| TWA-8th(34)   |                 |                 |                 | -54671382       |                | 0               |
|   |                 |                 |                 |                 |                | -54671382       |
| SLDC(42)  | 986615          | 986615          | 0               | 54676232        |                | 0               |
|   |                 |                 |                 |                 |                | 54676232        |
| 47 no. RTUs(80)   | 208373          |                 | 208373          | 208373          |                | 0               |
|   |                 |                 |                 |                 |                | 208373*         |
| Boundary Metering(81)                                     |                 |                 |                 | -4850           |                | 0               |
|   |                 |                 |                 |                 |                | -4850           |
| 47 no. RTUs-2019(93)                                      | 3818023         |                 | 3818023         | 23268061        |                | 0               |
|   |                 |                 |                 |                 |                | 23268061        |
| 45 Nos. RTUs Synergy Make (82)                            | 847394          | 47829167        | -46981773       | 4540851         |                | 0               |
|   |                 |                 |                 |                 |                | 4540851         |
| 80 Nos. Interface Energy Meters -ABT Type of 02s accuracy |                 |                 |                 |                 |                | 0               |
|   |                 |                 |                 | 667375          |                | 0               |
| PSDF Scheme 6-SMAST-90% Govt. Grant(99)                   | 53574879        |                 | 53574879        | 53574879        | 7207334        | 7207334         |
|   |                 |                 |                 |                 |                | 60782213        |
| 9 No. Synergy make RTUs procured through PGCIL(96)        |                 |                 |                 |                 |                | 0               |
|   |                 |                 |                 |                 |                | 0***            |
| <b>Total</b>  | <b>59435284</b> | <b>48815782</b> | <b>10619502</b> | <b>82259539</b> | <b>7207334</b> | <b>0</b>        |
|   |                 |                 |                 |                 |                | <b>7207334</b>  |
|   |                 |                 |                 |                 |                | <b>89466873</b> |

\*Agenda 2/CE/ISO&C/SLDC(P)/SCADA-1072 03.05.2011

\*\*Agenda 02/SCADA/104 31.03.21

\*\*\*Agenda 02/SCADA-1080 18.07.2018

As per TB GH 14  
Diff

89466873

0

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**Annexure-F**

**Capital Expenditure & Capitalization of Quarter ending September-2023**

| <b>Sr. No.</b> | <b>Item Name</b>        | <b>Name of Office</b>          | <b>Amount (In Rs.)</b> |
|----------------|-------------------------|--------------------------------|------------------------|
| 1              | Furniture & Fixture     | Camp Office of Director/Admin. | 2,50,000.00            |
| 2              | Furniture & Fixture     | Camp Office of Director/Tech.  | 2,41,200.00            |
| 3              | 01 No. Coloured Printer | Director/Tech. Office          | 9,980.00               |
| 4              | 01 No. UPS              | Camp Office of Director/Tech.  | 2,500.00               |
| 5              | 300 No. Laser Printers  | Dy. CE/IT, PSTCL, Patiala      | 34,69,200.00           |
| 6              | 2 No. AC                | Dy. CE/IT, PSTCL, Patiala      | 68,000.00              |

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## Annexure-G (I)

**Details of Capital work in progress (CWIP)/Contract in progress as on 30.09.2023 (as per GH 14 - 132/220 KV works) in respect of  
CIVIL CIRCLE, JALANDHAR**

**Work wise detail of CWIP as on 30.09.2023:- (Other than Contribution/Govt. Grant cases)**

| Sr. No. | Name of Work   | Estimate no.  | Date of Commencement of work | Opening balance as on 01.07.2023 | Jul-23        | Aug-23         | Sep-23        | Additions made during FY 2023-24 (July23-Sept23) | Transfer to Fixed Asset during FY 2023-24 (July-Sept23) | Closing balance as on 30.09.2023 | Remarks   |
|---------|--|---------------|------------------------------|----------------------------------|---------------|----------------|---------------|--|---|----------------------------------|---|
|         |  | 3             | 4                            | 5                                | 6             | 7              | 8             | 9  | 10  |                                  |   |
| 1       | 2<br>Const of RCC Road at 132KV S/Strn.,<br>Bhogpur        | 22032/2022-23 | 02-02-2023                   | 431513                           | 172556        | 0              | 208676        | 381232   | 0   | 812745                           |   |
| 2       | Const of RCC Road at 220KV S/Strn.,<br>Mandi Gobindgarh-2  | 22034/2022-23 | 02-02-2023                   | 394809                           | 46585         | 1310180        | -19210        | 1337555  | 1732364   | 0                                |   |
| 3       | Const of RCC Road at 132KV S/Strn.,<br>Dasuya              | 22033/2022-23 | 12-06-2022                   | 0                                | 0             | 107584         | 348052        | 455636   | 0   | 455636                           |   |
| 4       | the yard area at 220KV S/Strn.,<br>Sultanpur Lodhi         | 12047/2021-22 | 01-01-2022                   | 722994                           | 0             | 0              | 0             | 0  | 0   | 722994                           |   |
| 5       | Construction of RCC Road at 132 kv ss<br>Sri Muktsar Sahib | 12023/21-22   | 20-01-2023                   | 2110077                          | 63512         | 429371         | 0             | 492883   |   | 2602960                          |   |
| 6       | Construction of RCC Road at 220 kv ss<br>Rajpura           | 22048/22-23   | 25-11-2022                   | 4789521                          | 7833          | 526612         | 62530         | 596975   | 5386496   | 0                                |   |
| 7       | Construction of RCC Road at 220 kv ss<br>Mohali-1          | 22030/22-23   | 25-11-2022                   | 2852961                          | 0             | 0              | 0             | 0  | 2852961   | 0                                |   |
| 8       | Construction of RCC Road at 220 kv ss<br>Botanwala         | 22041/22-23   | 25-11-2022                   | 3803289                          | 0             | 0              | 0             | 0  | 3803289   | 0                                |   |
| 9       | Construction of RCC Road at 220 kv ss<br>Jhunjir           | 22045/22-23   | 18-01-2023                   | 1403326                          | 136449        | 1003137        | 0             | 1139586  | 2676243   | -133331                          | Work capitalised,<br>employee cost wrongly<br>booked in GH 14.245 in<br>Aug 23 but corrected in<br>Oct. 23 , Amount 133331. |
| 10      | Construction of RCC Road at 132 kv ss<br>IGC Bathinda      | 22046/22-23   | 20-02-2023                   | 1999102                          | 109979        | 702388         | 0             | 812367   | 2811469   | 0                                |   |
| 11      | Construction of RCC Road at 220 kv ss<br>Bajkhana          | 22036/22-23   | 02-08-2023                   | 0                                | 0             | 1449514        | 0             | 1449514  | 0   | 1449514                          |   |
| 12      | Construction of RCC Road at 220 kv ss<br>Sediq             | 22052/22-23   | 22-02-2023                   | 348821                           | 73708         | 0              | 0             | 73708  | 0   | 422529                           |   |
| 13      | Construction of RCC Road at 132 kv ss<br>Jalalabad         | 22050/22-23   | 07-12-2022                   | 267022                           | 0             | 1009081        | 0             | 1009081  | 0   | 1276103                          |   |
| 14      | Construction of RCC Road at 220 kv ss<br>Katorewala        | 22053/22-23   | 25-02-2023                   | 1167418                          | 172038        | 0              | 0             | 172038   | 0   | 1339456                          |   |
| 15      | Construction of RCC Road at 220 kv ss<br>Parigrahi         | 22037/22-23   | 05-01-2023                   | 2,16,549                         | 0             | 0              | 0             | 0  | 0   | 216549                           |   |
| 16      | Construction of RCC Road at 220 kv ss<br>Ferozshah         | 22035/22-23   | 20-01-2023                   | 6,20,986                         | 0             | 0              | 0             | 0  | 0   | 620986                           |   |
|         | <b>TOTAL</b>   |               |                              | <b>21128388</b>                  | <b>782660</b> | <b>6537867</b> | <b>600048</b> | <b>7920575</b>                                   | <b>19262822</b>   | <b>9786141</b>                   |   |

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Annexure-G (II)

PSERC Directives in the Tariff Order for FY: 2023-24 - Q2 Ending September-2023

| Sr. No. | LC  | 132/220 KV works/ 400 KV works Contribution/ Govt. Grant | Approving Authority of Work | MYT Approval Sub Group                         | MYT Work Serial No. | MYT WORK NAME  | Name Of Work  | Opening Balance as on 01.07.2023 | Addition made during Q2 of FY 2023-24 | Transfer to Fixed Asset during Q2 of FY 2023-24 | Closing Balance as on 30.09.2023 |
|---------|-----|--|-----------------------------|--|---------------------|--|---|----------------------------------|---------------------------------------|---|----------------------------------|
| 1       | 221 | 132/220 KV   | 2ND MYT                     | Schemes approved for SLDC (1st MYT)            | 1                   | Procurement of additional RTUs for remaining/ upcoming substations of PSTCL  | Estimate for Installation and commissioning of 45 Nos remote terminal unit(RTU)   | 2601886                          | -26,01,886                            | 0   | 0                                |
| 2       | 221 | 132/220 KV   | 2ND MYT                     | Table 13 Scheme outside the first MYT approval | 4                   | 220 KV S/S Beas (new)  | Estimate Providing for protection cable at 220 kv butari direction 220 kv jalandhar protection coupler for new panels [104731]                                | 39368                            | 0                                     | 0   | 39,368                           |
| 3       | 221 | Others_132_220_KV  | 2ND MYT                     | Table 17 (Scheme New planned for 2020-23)      | 71                  | Second source of battery at various 220/132 KV S/s of PSTCL  | Estimate for replacement battery at 132 KV bataia 200 Ah with new 100 Ah  | 54873                            | 0                                     | 0   | 54,873                           |
| 4       | 221 | Others_132_220_KV  | 2ND MYT                     | Table 17 (Scheme New planned for 2020-23)      | 71                  | Second source of battery at various 220/132 KV S/s of PSTCL  | Estimate for replacement battery at Hargobindpur 100 Ah with new 100 Ah   | 54873                            | 0                                     | 0   | 54,873                           |
| 5       | 221 | Others_132_220_KV  | 2ND MYT                     | Schemes approved for SLDC (2nd MYT)            | 1                   | Scheme for providing 45 nos. Remote Terminal Units for SCADA/EMS system at 220 & 132 KV Substations of PSTCL in Punjab | 2022-23 , ASR/PLC-22320 , ASR/PLC-22320/2022-23 ESTIMATE FOR PROVIDING DATA BETWEEN 132 KV POWER COLONY AND 132 KV VERKA INSTALLATION OF TERMINALS WITHOLT BC | 497846                           | 0                                     | 0   | 4,97,846                         |
| 6       | 221 | Others_132_220_KV  | 2ND MYT                     | Schemes approved for SLDC (2nd MYT)            | 1                   | Scheme for providing 45 nos. Remote Terminal Units for SCADA/EMS system at 220 & 132 KV                                | ESTIMATE FOR PROVIDING DATA BETWEEN 132 KV Mail Mandi   | 832036                           | -3,72,443                             | 0   | 4,59,593                         |
| 7       | 221 | Govt. Grant_132_220_KV                                   | 2ND MYT                     | Table 13 Scheme outside the first MYT approval | 7                   | OPGW   | Sterile project 2022-23 for supply of erection testing and communication  | 10793736                         | 0                                     | 0   | 1,07,93,736                      |

*[Handwritten signature]*

| Sr. No. | LC  | 132/220 KV works/ 400 KV works Contribution/ Govt. Grant | Approving Authority of Work | MYT Approval Sub Group                         | MYT Work Serial No. | MYT WORK NAME  | Name Of Work   | Opening Balance as on 01.07.2023 | Addition made during Q2 of FY 2023-24 | Transfer to Fixed Asset during Q2 of FY 2023-24 | Closing Balance as on 30.09.2023 |
|---------|-----|--|-----------------------------|--|---------------------|--|--|----------------------------------|---------------------------------------|---|----------------------------------|
| 8       | 221 | Others_132_220_KV  | 2ND MYT                     | Schemes approved for SLDC (2nd MYT)            | 1                   | "Scheme for providing 45 nos. Remote Terminal Units for SCADA/EMS system at 220 & 132 KV Substations of PSTCL in Punjab" | 2022-23, ASR/PLC 22325, ASR/PLC 22325/2022-23 ESTIMATE FOR PROVIDING DATA BETWEEN 132 KV G.T. ROAD AND 132 KV MALL MAND INSTALLATION OF PL-9500-01, 2 NO. TERMINALS WITHOUT PC           | 0                                | 3,72,443                              | 0   | 3,72,443                         |
| 9       | 223 | 132/220 KV   | 1ST MYT                     | Schemes approved for STU (182 works) (1st MYT) | 47                  | LILO of one ckt. of 220 KV S/Sin BBMB, Jalandhar - 220 KV S/Sin Pong DC line (ckt-3) at 220 KV S/Sin Alawalpur           | 220 KV BBMB JAL DIR 220 KV DASUYA  | 960995                           | 0                                     | 0   | 9,60,995                         |
| 10      | 223 | 132/220 KV   | 1ST MYT                     | Schemes approved for STU (182 works) (1st MYT) | 45                  | LILO of 220 KV line from 400 KV S/Sin Moga to 220 KV S/Sin Himmattapura at 220 KV S/Sin Badhmi Kalan                     | 132 KV BADHNI KALAN DIR 220 KV MOGA  | 10011                            | 0                                     | 0   | 10,011                           |
| 11      | 223 | Others_132_220_KV  | 2ND MYT                     | Table No. 11 (Spill over Works) (27 Schemes)   | 16                  | (i) 400 KV Bays<br>(ii) 220 KV Bays<br>at 400 KV S/SinDoraha   | 220 KV Ferozepur Dir 132 KV Faridkot PLC terminal w/o PC   | 248922                           | 0                                     | 0   | 2,48,922                         |
| 12      | 223 | Others_132_220_KV  | 2ND MYT                     | Table No. 11 (Spill over Works) (27 Schemes)   | 16                  | (i) 400 KV Bays<br>(ii) 220 KV Bays<br>at 400 KV S/SinDoraha   | 132 KV Sosan Providing Data  | 497846                           | 0                                     | 0   | 4,97,846                         |
| 13      | 223 | Others_132_220_KV  | 2ND MYT                     | Table No. 11 (Spill over Works) (27 Schemes)   | 16                  | (i) 400 KV Bays<br>(ii) 220 KV Bays<br>at 400 KV S/SinDoraha   | 220 KV Moga Dir 132 KV Panj Garaiyan PLC terminal w/o PC   | 248922                           | 0                                     | 0   | 2,48,922                         |
| 14      | 223 | Govt_Grant_132_220_KV                                    | 2ND MYT                     | Table 13 Scheme outside the first MYT approval | 7                   | OPGW   | Supply erection Testing and Communication of OPGW along with its terminal equipment on 132/220/400 KV transmission line and sub station of PSTCL system Sterlite Power Transmission Ltd. | 51382457                         | 12,832                                | 0   | 5,13,95,289                      |

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| Sr. No. | LC  | 132/220 KV works/ 400 KV works Contribution/ Govt. Grant | Approving Authority of Work | MYT Approval Sub Group                         | MYT Work Serial No. | MYT WORK NAME  | Name of Work   | Opening Balance as on 01.07.2023 | Addition made during Q2 of FY 2023-24 | Transfer to Fixed Asset during Q2 of FY 2023-24 | Closing Balance as on 30.09.2023 |
|---------|-----|--|-----------------------------|--|---------------------|--|--|----------------------------------|---------------------------------------|---|----------------------------------|
| 15      | 223 | Others_132_220_KV  | 2ND MYT                     | Table No. 11 (Spill over Works) (8 Schemes)    | 8                   | 220 KV DC line from 400 KV Jalandhar (PGCIL) to 220 KV Kartarpur   | 220 KV Kartarpur Dir 132 KV Bias PLC terminal w/o PC   | 248922                           | 0                                     | 0   | 2,48,922                         |
| 16      | 224 | Govt. Grant_132_220_KV                                   | 2ND MYT                     | Table 13 Scheme outside the first MYT approval | 7                   | 2022-23, PM07/CAP/STERL, Erection, Testing and Commissioning of OPGW along with its Terminal Equipment on 132KV/220KV/400KV Transmission Lines of PSTCL System | 2022-23, PM07/CAP/STERL, Erection, Testing and Commissioning of OPGW along with its Terminal Equipment on 132KV/220KV/400KV Transmission Lines of PSTCL System | 28500872                         | 0                                     | 0   | 2,85,00,872                      |
| 17      | 224 | 220  | 2ND MYT                     | Table 17 (Scheme New planned for 2020-23)      | 136                 | Provision of protection of 220 KV Mansa direction Sunam L10 400  | Provision of protection 220kv mansa direction sunam lilo 400 kv patran   | 920421                           | 8,700                                 | 0   | 9,29,121                         |
| 18      | 224 | 220  | 2ND MYT                     | Table 17 (Scheme New planned for 2020-23)      | 136                 | Provision of protection of 220 KV Sunam at 400 KV Patran L10   | estimate 220 kv sunam dir mansa 400 kv patran lilo sunam for protection  | 687096                           | 525                                   | 0   | 6,87,621                         |
| 19      | 224 | 220  | 2ND MYT                     | Table 17 (Scheme New planned for 2020-23)      | 136                 | Provision of protection of 400 KV Patran Sunam direction Mansa   | Provision of protection 220kv sunam direction mansa lilo 440 kv patran   | 897427                           | 0                                     | 0   | 8,97,427                         |
| 20      | 224 | 132  | 2ND MYT                     | Table 13 Scheme outside the first MYT approval | 2                   | Provision of protection of 132 KV Sub station Seha direction 220 KV Ghulal   | उधमील बाघड 132 बेवी म/म में दिने दिमा 220 बेवी म/म यूलाळ नू बमनीवेसन मरुळउ देह मंघी  | 559704                           | 44,447                                | 0   | 6,04,151                         |
| 21      | 224 | 132  | 2ND MYT                     | Table 13 Scheme outside the first MYT approval | 2                   | Provision of protection of 132 KV Ghulala direction Seha 132 KV provision of equipment   | उधमील बाघड 132 बेवी म/म यूलाळ दिने दिमा 132 बेवी म/म में दिने दिमा 132 बेवी म/म यूलाळ नू बमनीवेसन मरुळउ देह मंघी   | 248922                           | 0                                     | 0   | 2,48,922                         |
| 22      | 224 | 132  | 2ND MYT                     | Table 13 Scheme outside the first MYT approval | 2                   | Provision of protection of 132 KV Sehora direction 132 KV bilaspur   | उधमील बाघड 132 बेवी म/म मिनेन दिने दिमा 132 बेवी म/म बिलासपुर नू बमनीवेसन मरुळउ देह मंघी   | 664941                           | 63,193                                | 0   | 7,28,134                         |
| 23      | 224 | 400  | 2ND MYT                     | Table 13 Scheme outside the first MYT approval | 5                   | Data route for 400 KV Rajpura direction rajpura thermal plant  | Data route for 400 Kv s/s Rajpura direction Rajpura thermal (NPL)  | 3046400                          | 0                                     | 0   | 30,46,400                        |
| 24      | 224 | Others_132_220_KV  | 2ND MYT                     | Table 13 Scheme outside the first MYT approval | 2                   | Purchase of new digital level meter ropar  | Purchase of new digital level meter ropar  | 0                                | 10,60,277                             | 0   | 10,60,277                        |
|         |     |  |                             |  |                     | Total  | Total  | 103998476                        | -1,41,1912                            | 0   | 1075866564                       |

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Detail of Capital Expenditure & Capitalization for 2nd Control Period i.e. from FY 2020-21 to FY 2022-23 (Rs. in Crore) (Abstract)

| Sl No. | Sr. No./Ref No. of Respective CIP Plan of 1st or 2nd Control Period | Particulars   | Opening Capital Expenditure 01.04.2020 (Actual) |      |       | Capitalization during FY 2020-21 |      |       | Closing Capital Expenditure as on 31.03.2021 |      |       | Capital Expenditure during FY 2021-22 |      |       | Closing Capital Expenditure as on 31.03.2022 |      |       | Capital Expenditure during FY 2022-23 |      |       | Capitalization during FY 2022-23 |      |       | Closing Capital Expenditure as on 31.03.2023 |      |       |   |
|--------|---|---|---|------|-------|----------------------------------|------|-------|--|------|-------|---------------------------------------|------|-------|--|------|-------|---------------------------------------|------|-------|----------------------------------|------|-------|--|------|-------|---|
|        |   |   | Hard Cost                                       | IEDC | Total | Hard Cost                        | IEDC | Total | Hard Cost                                    | IEDC | Total | Hard Cost                             | IEDC | Total | Hard Cost                                    | IEDC | Total | Hard Cost                             | IEDC | Total | Hard Cost                        | IEDC | Total | Hard Cost                                    | IEDC | Total |   |
| I      |   | Old Schemes :- (Works Started Prior to 01.04.2020 i.e. Spill Over Works of 1st MYT) | 0   |      | 0     | 0                                |      | 0     | 0  | 0    | 0     |                                       | 0    | 0     | 0  | 0    |       | 0                                     | 0    | 0     |                                  | 0    | 0     | 0  | 0    | 0     | 0 |
| 1      |   | Contributory works  |   |      |       |                                  |      |       |  |      |       |                                       |      |       |  |      |       |                                       |      |       |                                  |      |       |  |      |       |   |
| 2      |   | PSDF Works  |   |      |       |                                  |      |       |  |      |       |                                       |      |       |  |      |       |                                       |      |       |                                  |      |       |  |      |       |   |
| 2a     |   | - 50% Grant schemes   |   |      |       |                                  |      |       |  |      |       |                                       |      |       |  |      |       |                                       |      |       |                                  |      |       |  |      |       |   |
| 2b     |   | - 75% Grant schemes   |   |      |       |                                  |      |       |  |      |       |                                       |      |       |  |      |       |                                       |      |       |                                  |      |       |  |      |       |   |
| 2c     |   | - 50% Grant schemes   |   |      |       |                                  |      |       |  |      |       |                                       |      |       |  |      |       |                                       |      |       |                                  |      |       |  |      |       |   |
| 2d     |   | PSDF Works Total  |   |      |       |                                  |      |       |  |      |       |                                       |      |       |  |      |       |                                       |      |       |                                  |      |       |  |      |       |   |
| 3      |   | Others  |   |      |       | 6490000                          |      |       | 6490000                                      |      |       |                                       |      |       |  |      |       |                                       |      |       |                                  |      |       |  |      |       |   |
| 3a     |   | Sr No-136, 1st MYT (FD) Sr Annex-10)  |   |      |       | 6490000                          |      |       | 6490000                                      |      |       |                                       |      |       |  |      |       |                                       |      |       |                                  |      |       |  |      |       |   |
| 3b     |   | - Works carried as per BOD's approval (Copy of BoD approval attached)               |   |      |       |                                  |      |       |  |      |       |                                       |      |       |  |      |       |                                       |      |       |                                  |      |       |  |      |       |   |
| 3c     |   | Works Started Before 01.04.2017 i.e. Spill Over Works Started Prior to First CIP.   |   |      |       |                                  |      |       |  |      |       |                                       |      |       |  |      |       |                                       |      |       |                                  |      |       |  |      |       |   |
| 3d     |   | - Any other works not covered above (with detailed list)                            |   |      |       | 6490000                          |      |       | 6490000                                      |      |       |                                       |      |       |  |      |       |                                       |      |       |                                  |      |       |  |      |       |   |
| 3      |   | Others Total (3a + 3b + 3c + 3d)  |   |      |       | 6490000                          |      |       | 6490000                                      |      |       |                                       |      |       |  |      |       |                                       |      |       |                                  |      |       |  |      |       |   |
|        |   | Total of Old Schemes (I)  |   |      |       |                                  |      |       |  |      |       |                                       |      |       |  |      |       |                                       |      |       |                                  |      |       |  |      |       |   |
| II     |   | New Schemes :- (Works Started after 01.04.2020 i.e. Works of 2nd Control Period)    |   |      |       |                                  |      |       |  |      |       |                                       |      |       |  |      |       |                                       |      |       |                                  |      |       |  |      |       |   |
| 1      |   | Contributory works  |   |      |       |                                  |      |       |  |      |       |                                       |      |       |  |      |       |                                       |      |       |                                  |      |       |  |      |       |   |
| 2      |   | PSDF Works  |   |      |       |                                  |      |       |  |      |       |                                       |      |       |  |      |       |                                       |      |       |                                  |      |       |  |      |       |   |
| 2a     |   | - 90% Grant schemes   |   |      |       |                                  |      |       |  |      |       |                                       |      |       |  |      |       |                                       |      |       |                                  |      |       |  |      |       |   |
| 2b     |   | - 75% Grant schemes   |   |      |       |                                  |      |       |  |      |       |                                       |      |       |  |      |       |                                       |      |       |                                  |      |       |  |      |       |   |
| 2c     |   | - 50% Grant schemes   |   |      |       |                                  |      |       |  |      |       |                                       |      |       |  |      |       |                                       |      |       |                                  |      |       |  |      |       |   |
| 2d     |   | PSDF Works Total  |   |      |       |                                  |      |       |  |      |       |                                       |      |       |  |      |       |                                       |      |       |                                  |      |       |  |      |       |   |
| 3      |   | Others  |   |      |       | 3065727                          |      |       | 3065727                                      |      |       |                                       |      |       |  |      |       |                                       |      |       |                                  |      |       |  |      |       |   |
| 3a     |   | Sr no-4,5,6,12 2nd MYT Period (Annex-1,6)   |   |      |       | 3065727                          |      |       | 3065727                                      |      |       |                                       |      |       |  |      |       |                                       |      |       |                                  |      |       |  |      |       |   |
| 3b     |   | Dry air plant (Annex-1 & 3)   |   |      |       |                                  |      |       |  |      |       |                                       |      |       |  |      |       |                                       |      |       |                                  |      |       |  |      |       |   |
| 3c     |   | Sr no-1,3,spill over 1st MYT) 2nd MYT Period (Annex-A)                              |   |      |       |                                  |      |       |  |      |       |                                       |      |       |  |      |       |                                       |      |       |                                  |      |       |  |      |       |   |
| 3d     |   | - Works approved in 1st MYT but started in 2nd MYT Period                           |   |      |       |                                  |      |       |  |      |       |                                       |      |       |  |      |       |                                       |      |       |                                  |      |       |  |      |       |   |
|        |   | - Any other works not covered above (with detailed list)                            |   |      |       |                                  |      |       |  |      |       |                                       |      |       |  |      |       |                                       |      |       |                                  |      |       |  |      |       |   |
| 3      |   | Others Total (3a + 3b + 3c + 3d)  |   |      |       | 3065727                          |      |       | 3065727                                      |      |       |                                       |      |       |  |      |       |                                       |      |       |                                  |      |       |  |      |       |   |
|        |   | Total of New Schemes (II)   |   |      |       |                                  |      |       |  |      |       |                                       |      |       |  |      |       |                                       |      |       |                                  |      |       |  |      |       |   |
|        |   | Grand Total (I + II) tally with accounts  |   |      |       |                                  |      |       |  |      |       |                                       |      |       |  |      |       |                                       |      |       |                                  |      |       |  |      |       |   |

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# Annexure-H

| Sr.No.  | Sr.No. as per CIP Order | Particulars   | Network Addition/ Scope of Work   | CAPEX 2023-24 ending Sept.-23 |       |        |        | CAPITALISATION 2023-24 ending Sept.-23 |       |       |       |
|---|-------------------------|---|---|-------------------------------|-------|--------|--------|--|-------|-------|-------|
|   |                         |   |   | GRID                          | TLSC  | CIVIL  | Total  | GRID                                   | TLSC  | CIVIL | Total |
| <b>Spill Over Works of 1st Control Period (From FY 2017-18 to FY 2019-20)</b>                           |                         |   |   |                               |       |        |        |  |       |       |       |
| 1   | 120                     | 220 kV S/Strin Sherpur (Focal Point) (UG from 66 kV grid with 220 kV side GIS and 66 kV side Conventional)  |   |                               |       | 0.117  | 0.117  |  |       |       | 0.000 |
| 2   | 121                     | LILO of both ends of 220 kV S/Strin Jamalpur - 220 kV S/Strin Dhandari Katan-1 line at 220 kV S/Strin Sherpur (Focal Point)(Amendment 25 2018-19) |   |                               | 0.090 | 0.000  | 0.090  |  |       |       | 0.000 |
| 3   | 123                     | 220 kV S/StrinBudhlada (UG from 66 kV)  | 1x160 MVA, 220/66 kV T/F  | 0.390                         |       | 0.004  | 0.394  |  |       |       | 0.000 |
| 4   | 124                     | 220 kV S/Strin Mansa - 220 kV S/Strin Budhlada DC Line  |   |                               | 0.750 | 0.000  | 0.750  |  |       |       | 0.000 |
| 5   | 128                     | 400 kV S/Strin Doraha (New at Village Dhanansu)   | 2x315 MVA, 400/220 kV T/Fs  |                               |       | 1.424  | 1.424  |  |       | 3.232 | 3.232 |
| 6   | 130                     | (i) 400 kV Bays<br>(ii) 220 kV Bays at 400 kV S/Strin Doraha  | (i) 4 Nos.<br>(ii) 6 Nos.   |                               |       | 0.000  | 0.000  |  |       |       | 0.000 |
| 7   | 132                     | 400 kV Grid Dhanansu (near Doraha)  | LILO of 220 kV Kohara-Sahnewal (S/C) line at 400 kV Dhanansu  |                               |       | 0.260  | 0.000  | 0.260                                  |       |       | 0.000 |
|   |                         |   | 220 kV D/C line on D/C towers (1.837 km) line length (with Dhanansu-Sahnewal conductor of Moose, 0.5 sq" and Dhanansu Kohara conductor of HTLS of Moose equivalent)   |                               |       | 0.000  | 0.000  |  |       |       | 0.000 |
|   |                         |   | 220 kV D/C line on Multi-ckt towers (5.026 km) line length up to LILO point of existing Kohara-Sahnewal line (approx 0.5 km from Kohara) (with Dhanansu-Sahnewal conductor of Moose, 0.5 sq" and Dhanansu-Kohara conductor of HTLS of Moose equivalent) |                               |       | 0.000  | 0.000  |  |       |       | 0.000 |
|   |                         |   | Replacement of existing conductor of Kohara upto LILo point section with HTLS conductor of Moose equivalent (0.957 km)  |                               |       | 0.000  | 0.000  |  |       |       | 0.000 |
|   |                         |   | 220 kV D/C line on Multi-ckt towers (only stringing for changing route of LILo of GGSSTP-Kohara line (0.5 sq") at Gauragarh, on Mict towers (5.026 km approx) line length (Moose 0.5 sq" cond)  |                               |       | 0.000  | 0.000  |  |       |       | 0.000 |
| 8   | 133                     |   | 220 kV D/C line on D/C towers (21.957 km approx) line length/420 sq mm ACSR Zebra) (out of the total line length of 28.437 km, 6.811 km of already existing line shall be used)   |                               |       | 0.240  | 0.000  | 0.240                                  |       |       | 0.000 |
| 9   | 134 (e)                 |   | LILo of 1 circuit of 220 kV Jamalpur (BBMB)-Gangawal line at 220 kV bus of 400 kV Dhanansu, approx. LILo length-8km (0.4 sq"), D/C on D/C towers. (New work)  |                               |       | 0.000  | 0.000  |  |       |       | 0.000 |
| 10  | 135                     |   | 220 kV Bays (2 Nos. at Doraha, 2Nos. at Kohara including double bus erection of 220 kV and 2 no. ICT bays at Dhanansu   |                               |       | 0.008  | 0.008  |  |       |       | 0.000 |
| 11  | 136                     | LILo of 220 kV S/Strin Mansa - Sunam (S/C) at 400 kV S/StrinPatren (220 kV bus).  | 40 km (approx.) Line Length / 1xDC with 420 sq mm ACSR (Zebra)  |                               |       | 0.920  | 0.000  | 0.920                                  |       |       | 0.000 |
| 12  | 177                     | 220 kV S/Strin Fazilka (UG from 66 kV)  | 220 kV S/Strin Fazilka (UG from 66 kV)  |                               |       | 0.000  | 0.000  |  |       |       | 0.000 |
| 13  | 178                     |   | 400 kV S/Strin Mukatsar - 220 kV S/Strin Fazilka 220 kV DC line   |                               |       | 0.000  | 0.000  |  |       |       | 0.000 |
| 14  | 179                     |   | 220 kV Bays   |                               |       | 0.000  | 0.000  |  |       |       | 0.000 |
|   |                         | <b>Total (A)</b>  |   | 0.390                         | 2.280 | 1.554  | 4.224  | 0.000                                  | 0.000 | 3.232 | 3.232 |
| <b>Table No. 13 Spill Over Works approved by the Board In FY 2019-20 outside the first MYT approval</b> |                         |   |   |                               |       |        |        |  |       |       |       |
| 15  | 1a                      | 132 kV Faridkot - Kotkapur-2 SC link (Amendment no. 16 / 2018-19)   | 30 Kms  |                               |       | 0.230  | 0.000  | 0.230                                  |       |       | 0.000 |
| 16  | 1b                      |   | 2 no. 132 kV line bays (one at each end)  |                               |       | 0.000  | 0.000  |  |       |       | 0.000 |
| 17  | 2a                      | 132 kV Sitorra-132 kV Seh SC line   | 31 Kms  |                               |       | 3.280  | 0.000  | 3.280                                  |       |       | 0.000 |
| 18  | 4                       | 220 kV S/S Beas (new)   | 2x100 MVA 220/132 kV Auto T/F   |                               |       | 0.000  | 0.000  |  |       |       | 0.000 |
|   |                         |   | 6x132kV line bays (Existing 3 and additional 3)   |                               |       | 0.000  | 0.000  |  |       |       | 0.000 |
|   |                         | 132kV S/S system at Butari will be dismantled.  | LILo of Butari - BBMB Jalandhar at PGCIL. Jalandhar 2.5Km 0.45sq" and subsequently LILo of PGCIL Jalandhar- Butari at Beas 22.5Km 0.45sq"   |                               |       | 0.030  | 0.000  | 0.030                                  |       |       | 0.000 |
|   |                         | Bypassing 132 kV Beas line to Tangra & Dhillwan-Beas/Butari to Ekaigadda after LILo of Dhillwan-Butari at Beas (new)                              | Shifting of 132kV system from 220kV Butari (1 Km length) by LILo of 132 kV Dhillwan - Butari at Beas 1.5 Kms with some portion on Modern Techniques Total Length 2.5 Km   |                               |       | 0.000  | 0.000  |  |       |       | 0.000 |
|   |                         |   | 2x132kV towers dismantlement & 3nos. Towers to be erected   |                               |       | 0.000  | 0.000  |  |       |       | 0.000 |
|   |                         |   | Conversion of 132kV Term taran -Butari-Ekaigadda T-off to LILo 15Km 0.2 Sq"   |                               |       | 0.000  | 0.000  |  |       |       | 0.000 |
|   |                         |   | 132kV D/C Beas - Ekaigadda Line 30 Kms 0.2 Sq"  |                               |       | 0.000  | 0.000  |  |       |       | 0.000 |
| 19  | 7                       | OPGW  |   |                               |       | 5.120  | 0.000  | 5.120                                  |       |       | 0.000 |
| 20  | 10                      | 220 kV Dhandari Katan - 2   | 2x160 MVA, 220/66 kV T/F at new location to be added (with complete new ICT bays  |                               |       | 0.000  | 0.000  |  |       |       | 0.000 |
| 21  | 11                      |   | dismantlement of 2x100 MVA T/F for creating space for double bus bar  |                               |       | 0.000  | 0.000  |  |       |       | 0.000 |
| 22  | 12                      |   | interconnecting 66 kV double bus bar of dhandarkalan 1 - dhandarkalan 2   |                               |       | -0.013 | -0.013 |  |       |       | 0.000 |
|   |                         | <b>Total (B)</b>  |   | 0.000                         | 8.660 | -0.013 | 8.647  | 0.000                                  | 0.000 | 0.000 | 0.000 |
| <b>Table 17 : Spill over of New Works planned for the 2nd Control Period from FY 2020-21 to 2022-23</b> |                         |   |   |                               |       |        |        |  |       |       |       |
| 23  | 1                       | 400 kV S/S Ropar New Grid (in the premises of GGSSTP)   | Establishment of 400 kV AIS station along with auxiliary, control room building, Gantry structure, extension provision etc.   | 4.228                         |       | 2.499  | 6.727  |  |       |       | 0.000 |
| 24  | 2                       |   | 400 kV S/S with 2x500 MVA, 400/220 kV ICTs  |                               |       | 0.000  | 0.000  |  |       |       | 0.000 |
| 25  | 3                       |   | 400 kV bays = 4 Nos   |                               |       | 0.000  | 0.000  |  |       |       | 0.000 |
| 26  | 4                       |   | 220 kV bays = 10 Nos  |                               |       | 0.000  | 0.000  |  |       |       | 0.000 |

*[Handwritten Signature]*



| Sr.No.  | Sr No. as per CIP Order  | Particulars  | Network Addition/ Scope of Work   | CAPEX 2023-24 ending Sept.-23 |        |       |        | CAPITALISATION 2023-24 ending Sept.-23 |        |       |        |
|---|--------------------------|--|---|-------------------------------|--------|-------|--------|--|--------|-------|--------|
|   |                          |  |   | GRID                          | TLSC   | CIVIL | Total  | GRID                                   | TLSC   | CIVIL | Total  |
| 60  | 69                       | Augmentation of bus bars, extension in control room building, providing room for second source for station battery etc.                                | For strengthening of bus - bar arrangement, extension in control room building for the existing 220/132 KV grids of PSTCL, as per the requirement of P&M from time to time, a provision of about 20 Cr.s (i.e. 7.76 Cr. s per year) has been made.  | 0.101                         |        | 0.000 | 0.101  | 0.570                                  |        |       | 0.570  |
| 61  | 70                       | Additional 220/132/66 KV line bays related with feasibility cases or as per PSPCL requirement.   | As per the requirement of PSPCL, for the load released through feasibility cases, a provision of about 25 Cr. s per year has been made for erection of 66/132/220 KV bays at various grids of PSTCL (i.e. 8.8,9 Cr. s per year)   | 2.063                         |        | 0.000 | 2.063  | 2.739                                  |        |       | 2.739  |
| 62  | 71                       | Second source of battery at various 220/132 KV S/s of PSTCL  | Balance work for 49 Nos grids (out of these 31 Nos are 220 KV & remaining 18 Nos are 132 KV S/s) Total cost = 15 Cr. s (with 70% PSDF funding & remaining to be arranged through capital investment)  |                               |        | 0.000 | 0.000  |  |        |       | 0.000  |
| 63  | 72                       | 90 nos PSTCL grids (220 KV) to be provided with SAS. Report already sent for PSDF funding if approved, these stations will be upgraded.                | Cost of one station for SAS provision is Rs 4 Cr. s out of this 70% is PSDF funding & balance 30% shall be through capital investment.  |                               |        | 0.000 | 0.000  |  |        |       | 0.000  |
| 64  | 74                       | Replacement of existing conductor of 220 KV Gobindgarh - 400KV Rajpura (DC) with HTLS of suitable capacity.  | L.S. Provision in @ Rs. 40 Cr.. per year  |                               |        | 6.900 | 0.000  | 6.900                                  | 16.300 |       | 16.300 |
| 65  | 75                       | Additional of 14 No T/F on account of making (N-1) complaint system for those grids where only one T/F existing (Annexure-C).                          | A provision of Rs. 25 Cr. for 2020-21, Rs 25 Cr. for 2021-22 & Rs 20 Cr. For 2022-23 have been made. Augmentation shall be made for grid stations as per the space availability & loading conditions  |                               |        | 0.000 | 0.000  |  |        |       | 0.000  |
| 66  | 77                       | 132 KV works Bilaspur  | Replacement of 1x12.5 MVA, 132/11 KV with 1x20 MVA, 132/11 KV T/F   |                               |        | 0.000 | 0.000  |  |        |       | 0.000  |
| 67  | 78                       | 132 KV Navanshahar.  | Add. 1x20 MVA, 132/11 KV T/F  |                               |        | 0.000 | 0.000  |  |        |       | 0.000  |
| 68  | 87                       | Augmentation of 132 KV GGSSTP - Asonj 6 KM @ 2sq" and 132 KV GGSSTP - Ropar (19.76 KM) @ 2sq".   | Replacement of existing conductor of line with suitable HTLS conductor (on same towers) having a capacity of at least 000A.   |                               |        | 0.000 | 0.000  |  |        |       | 0.000  |
| 69  | 88                       | CE/P&M Agenda No. 145/2017-18 dtd 20.09.17. Best Practices recommended by Protection Sub Committee of NRPC in operation & construction of Sub Stations | Installation of 999 Nos. CVTs at various 220 KV lines for Distance Relay protection   |                               |        | 0.000 | 0.000  |  |        |       | 0.000  |
| 70  | 91                       | OPGW link between SKPP- RSD- 220 KV Sarma & SKPP- 220 KV Sarma   |   |                               |        | 0.000 | 0.000  |  |        |       | 0.000  |
|   |                          | Total (C)  |   | 29.052                        | 10.820 | 2.508 | 42.440 | 28.069                                 | 16.300 | 0.000 | 42.369 |
|   |                          | Total Spill Over (A+B+C)=D   |   | 29.402                        | 21.860 | 4.049 | 55.311 | 28.069                                 | 18.300 | 3.232 | 48.601 |
| Spill over of Works approved outside 2nd MYT 2020-23 by Petition/BOD approval |                          |  |   |                               |        |       |        |  |        |       |        |
| 1   | Amendment No. 21/2020-21 | 400 kv S/S Nakodar   | Replacement of 1x315 MVA, 400/220 KV ICT with 1x500 MVA, 400/220 KV ICT<br>Cost of dismantlement of 1x315 MVA, 400/220 KV ICT at 400 KV Nakodar<br>Construction of 1 No. ICT bay and 1 No. 220 KV bay at 400 KV Nakodar with interlinking link of 220 KV<br>Replacement of 2nd 315 MVA, 400/220 KV ICT with 2nd 500 MVA, 400/220 KV ICT<br>Cost of dismantlement of 2nd 315 MVA, 400/220 KV ICT at 400 KV Nakodar | 0.945                         |        | 0.000 | 0.945  | 0.950                                  |        | 0.000 | 0.950  |
|   |                          |  |   |                               |        | 0.000 | 0.000  |  |        | 0.000 | 0.000  |
|   |                          |  |   |                               |        | 0.049 | 0.049  |  |        | 0.000 | 0.000  |
|   |                          |  |   |                               |        | 0.000 | 0.000  |  |        | 0.000 | 0.000  |
|   |                          |  |   | 0.030                         |        | 0.000 | 0.030  | 0.030                                  |        | 0.000 | 0.030  |
| 2   | Amendments No.09/2021-22 | 220KV S/S Baghapurana  | 1 No. bus coupler between 220 bus bar-1 & bus-bar-2   |                               |        | 0.000 | 0.000  |  |        | 0.000 | 0.000  |
|   |                          | 220KV S/S Jhuni  | 1 No. bus coupler between 220 bus bar-1 & bus-bar-2   |                               |        | 0.000 | 0.000  |  |        | 0.000 | 0.000  |
|   |                          | 220KV S/S Talwandi Sabo  | 1 No. bus coupler between 220 bus bar-1 & bus-bar-2   | 0.198                         |        | 0.000 | 0.201  |  |        | 0.000 | 0.000  |
|   |                          | 220KV S/S Sandhwan   | 1 No. bus coupler between 220 bus bar-1 & bus-bar-2   |                               |        | 0.000 | 0.000  |  |        | 0.000 | 0.000  |
|   |                          | 220KV S/S Katorewala   | 1 No. bus coupler between 220 bus bar-1 & bus-bar-2   |                               |        | 0.000 | 0.000  |  |        | 0.000 | 0.000  |
|   |                          | 220KV S/S Kotkaror   | 1 No. bus coupler between 220 bus bar-1 & bus-bar-2   |                               |        | 0.000 | 0.000  |  |        | 0.000 | 0.000  |
|   |                          | 220KV S/S Botian Wala  | 1 No. bus coupler between 220 bus bar-1 & bus-bar-2   |                               |        | 0.000 | 0.000  |  |        | 0.000 | 0.000  |
|   |                          | 220KV S/S Himmelpura   | 1 No. bus coupler between 220 bus bar-1 & bus-bar-2   | 0.214                         |        | 0.000 | 0.214  | 0.820                                  |        | 0.000 | 0.820  |
|   |                          | 220KV S/S Abohar   | 1 No. bus coupler between 220 bus bar-1 & bus-bar-2   |                               |        | 0.000 | 0.000  |  |        | 0.000 | 0.000  |
|   |                          | 220KV S/S Dharamkot  | 1 No. bus coupler between 220 bus bar-1 & bus-bar-2   | -0.015                        |        | 0.000 | -0.015 | 0.010                                  |        | 0.010 | 0.020  |
|   |                          | 220KV S/S Rehans Jattan  | 1 No. bus coupler between 220 bus bar-1 & bus-bar-2   |                               |        | 0.000 | 0.000  |  |        | 0.000 | 0.000  |
|   |                          | 220KV S/S Katorewala   | 1 No. bus coupler between 66 KV bus bar-1 & bus-bar-2   |                               |        | 0.000 | 0.000  |  |        | 0.000 | 0.000  |
|   |                          | 220KV S/S Botian Wala  | 1 No. bus coupler between 66 KV bus bar-1 & bus-bar-2   |                               |        | 0.000 | 0.000  |  |        | 0.000 | 0.000  |
|   |                          | 220KV S/S Talwandi Sabo  | 1 No. bus coupler between 66 KV bus bar-1 & bus-bar-2   | 0.170                         |        | 0.000 | 0.170  |  |        | 0.000 | 0.000  |
|   |                          | 220KV S/S Mansa  | 1 No. bus coupler between 66 KV bus bar-1 & bus-bar-2   |                               |        | 0.000 | 0.000  |  |        | 0.000 | 0.000  |
|   |                          | 220KV S/S Himmelpura   | 1 No. bus coupler between 66 KV bus bar-1 & bus-bar-2   |                               |        | 0.000 | 0.000  |  |        | 0.000 | 0.000  |
|   |                          | 220KV S/S Jagraon  | 1 No. bus coupler between 66 KV bus bar-1 & bus-bar-2   |                               |        | 0.000 | 0.000  |  |        | 0.000 | 0.000  |

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| Sr.No. | Sr.No. as per CIP Order   | Particulars   | Network Addition   | Scope of Work | CAPEX 2023-24 ending Sept.-23 |        |       |        | CAPITALISATION 2023-24 ending Sept.-23 |      |       |       |        |
|--------|---------------------------|---|--|---------------|-------------------------------|--------|-------|--------|--|------|-------|-------|--------|
|        |                           |   |  |               | GRID                          | TLSC   | CIVIL | Total  | GRID                                   | TLSC | CIVIL | Total |        |
|        |                           | 220KV S/S Mastiwala   | 1 No. bus coupler between 69 KV bus bar-1 & bus-bar-2  |               |                               |        | 0.000 | 0.000  |  |      |       | 0.000 | 0.000  |
|        |                           | 220KV S/S Lafon Kalan   | 1 No. bus coupler between 66 KV bus bar-1 & bus-bar-2  |               |                               | -0.917 | 0.000 | -0.917 |  |      |       | 0.000 | 0.000  |
|        |                           | 220KV S/S Dharamkot   | 1 No. bus coupler between 66 KV bus bar-1 & bus-bar-2  |               |                               |        | 0.000 | 0.000  |  |      |       | 0.000 | 0.000  |
|        |                           | 220KV S/S Mandi Gobindgarh G-1  | 1 No. bus coupler between 69 KV bus bar-1 & bus-bar-2  |               |                               | 0.001  | 0.000 | 0.001  |  |      |       | 0.001 | 0.001  |
|        |                           | 220KV S/S Chajji  | 1 No. bus coupler between 66 KV bus bar-1 & bus-bar-2  |               |                               | 0.130  | 0.000 | 0.130  |  |      |       | 0.000 | 0.000  |
|        |                           | 220KV S/S Dhuri   | 1 No. bus coupler between 66 KV bus bar-1 & bus-bar-2  |               |                               |        | 0.000 | 0.000  |  |      |       | 0.000 | 0.000  |
|        |                           | 220KV S/S Mehal Kalan   | 1 No. bus coupler between 66 KV bus bar-1 & bus-bar-2  |               |                               |        | 0.000 | 0.000  |  |      |       | 0.000 | 0.000  |
|        |                           | 220KV S/S Badshahpur  | 1 No. bus coupler between 66 KV bus bar-1 & bus-bar-2  |               |                               | 0.140  | 0.000 | 0.140  | 0.190                                  |      |       | 0.023 | 0.213  |
|        |                           | 132KV S/S Moga-2 (Dhakoke)  | 1 No. bus coupler between 15/20 MVA 132/11 KV T-1 & 20 MVA 132/11 KV T-2   |               |                               | 1.830  | 0.000 | 1.830  | 1.840                                  |      |       | 0.000 | 1.840  |
|        |                           | 132KV S/S Samadh Bhai   | 1 No. bus coupler between 20 MVA 132/11 KV T-1 & 16/20 MVA 132/11 KV   |               |                               |        | 0.000 | 0.000  |  |      |       | 0.000 | 0.000  |
|        |                           | 220 KV S/S Katorewala   | 1 No. bus coupler between 20 MVA 69/11 KV T-2 & 10/12.5 MVA 69/11 KV T-4   |               |                               |        | 0.000 | 0.000  |  |      |       | 0.000 | 0.000  |
|        |                           | 220 KV S/S Passiana   | 1 No. 11 KV bus coupler  |               |                               |        | 0.000 | 0.000  |  |      |       | 0.000 | 0.000  |
|        |                           | 220 KV S/S Majitha  | 1 No. 11 KV bus coupler  |               |                               |        | 0.000 | 0.000  |  |      |       | 0.000 | 0.000  |
| 3      | Amendments No.18/2021-22  | Upgradation of 66 KV substation Old Patiala to 220 KV substation.           | 2X100 MVA, 220/66 KV T/F With 2 No. 220 KV line bays, 2 No. T/F bays and 1 No. Bus coupler bay   |               |                               |        | 0.000 | 0.000  |  |      |       | 0.000 | 0.000  |
|        |                           |   | LILO of one Ckt. of 220 KV Bahadurgarh-Devgarh line (DC on DC 19 km Zebra conductor 420 mm <sup>2</sup> )  |               |                               |        | 0.000 | 0.000  |  |      |       | 0.000 | 0.000  |
| 4      | Amendments No.19/2021-22  | 500 KV S/Srn. Dhanansu.   | 1x500 MVA, additional 400/220 KV ICT at 400 KV Dhanansu along with 400 KV ICT Bay, 2 nos. 400 KV line Bays, 2 nos. 400 kv Trio Bays, 400 kv Future Bay, 220 kv ICT Bay   |               |                               | 1.246  | 0.000 | 1.246  | 27.330                                 |      |       | 0.000 | 27.330 |
|        |                           |   | LILO of 400 kv Nakodar-Kurukshetra line at 400 Kv Dhanansu with Quad Moose Conductor   |               |                               |        | 0.000 | 0.000  |  |      |       | 0.000 | 0.000  |
| 5      | Amendment No. 19/2021-22  | Evacuation system of Shahpur Kandi Hydel Project                            | 220 kv RSD to 220 kv Shahpur Kandi PH-I (SC on DC, 0.5 sq.in, line length 16 km, LILo length 0.5 km approx)  |               |                               |        | 0.000 | 0.000  |  |      |       | 0.000 | 0.000  |
|        |                           |   | 220 kv Shahpur Kandi PH-II to 220 kv Sama (SC on DC, HTLS of 1200 A capacity, line length 18 km approx)  |               |                               |        | 0.000 | 0.000  |  |      |       | 0.000 | 0.000  |
| 6      | Amendments No.23/2021-22  | 220KV S/S Jhordan (New) including Substation Automation System SAS of 1 ct. | 2x100MVA, 220/66KV T/F with 2 no. 220KV line bays and 1 no. Bus coupler bay including SAS and Civil works.   |               |                               |        | 0.000 | 0.000  |  |      |       | 0.000 | 0.000  |
|        |                           |   | LILO of one ckt. Of 220KV Pakhowal Mehal Kalan transmission line (9x4 Zebra conductor 420 mm <sup>2</sup> ) at 220KV Jhordan (New).  |               |                               |        | 0.000 | 0.000  |  |      |       | 0.000 | 0.000  |
|        |                           |   | 4 nos 66KV line bays   |               |                               |        | 0.000 | 0.000  |  |      |       | 0.000 | 0.000  |
| 7      | Amendments No.24/2021-22. | 400 KV S/S Behman Jassa Singh   | 2x500 MVA, additional 400/220 KV ICT at 400 KV Behman Jassa Singh along with 2 no. 400 KV ICT Bays, 2 nos. 400 KV line Bays, 2 nos. 400 kv Trio Bays, 400 kv Future Bay, 2 no. 220 kv ICT Bays, 220 KV Bus coupler bay, 220 KV Transfer bus coupler bay, 8 nos 220 kv line bays. |               |                               |        | 0.000 | 0.000  | 0.500                                  |      |       | 1.002 | 1.502  |
|        |                           |   | LILo of 400 kv Talwandi Sabo- Nakodar line at 400 Kv Behman Jassa Singh, line length-16 km. Twin Moose conductor (Work and review)   |               |                               |        | 0.000 | 0.000  |  |      |       | 0.000 | 0.000  |
|        |                           |   | 220 KV DIC line (with OPGW) from 400 KV Behman Jassa Singh to 220KV Talwandi Sabo (Line length-8km, 0.4 sq)  |               |                               |        | 0.000 | 0.000  |  |      |       | 0.000 | 0.000  |
|        |                           |   | LILo of 220 KV Mansa-Talwandi Sabo at 220 KV Mansa (Line length-9km, 0.4 sq)   |               |                               |        | 0.000 | 0.000  |  |      |       | 0.000 | 0.000  |
|        |                           |   | LILo of both circuits of HPCL, Mittal-220 KV Mansa at 220 KV bus of 400 KV Behman Jassa Singh(3x2 KM DC on DC, 0.4sq)  |               |                               |        | 0.000 | 0.000  |  |      |       | 0.000 | 0.000  |
|        |                           |   | 220 KV DIC line on DIC towers from 400 kv Behman Jassa Singh to GNDTP Bathinda with multi circuit towers in GNDTP premises (Line length-35km, 0.4 sq)  |               |                               |        | 0.000 | 0.000  |  |      |       | 0.000 | 0.000  |
|        |                           |   | 6 nos 220 kv bays 2 each at 220 kv Talwandi sabo, Mansur & GNDTP.  |               |                               |        | 0.000 | 0.000  |  |      |       | 0.000 | 0.000  |
| 8      | Amendments No.25/2021-22  | 220 KV S/S Kharar.  | Augmentation of 1 No. 100 MVA T/F at 220KV S/S Kharar to 160 MVA.  |               |                               |        | 0.000 | 0.000  |  |      |       | 0.000 | 0.000  |
| 9      | Amendments No.26/2021-22  | 220 KV Line Verpal-Pati   | Shifting of 220 KV S/C Patti-Verpal line from 220 KV Verpal to 400 KV Amritsar (3km, 0.4 sq)   |               |                               |        | 1.300 | 0.000  | 1.300                                  |      |       | 0.000 | 0.000  |
| 10     | Amendments No.27/2021-22  | 220 KV S/S Mahali-2.  | 220 KV 2 No. Bays  |               |                               |        | 0.023 | 0.023  |  |      |       | 0.000 | 0.000  |
| 11     | Amendments No.28/2021-22  | 220 KV S/S Wadala Grantilian.   | Additional 3rd 220/132 kv, 100 MVA Auto T/F  |               |                               |        | 0.000 | 0.000  |  |      |       | 0.000 | 0.000  |
| 12     | Amendments No.29/2021-22  | Installation of capacitor banks at Various S/Ss                             |  |               |                               |        | 0.000 | 0.000  |  |      |       | 0.000 | 0.000  |
|        |                           | 220K S/S Doraha   | 4X10 860 MVAR, 66 KV Capacitor Bank at 220K S/S Doraha   |               |                               |        | 0.000 | 0.000  |  |      |       | 0.000 | 0.000  |

| Sr.No. | Sr No. as per CIP Order  | Particulars  | Network Addition/ Scope of Work   | CAPEX 2023-24 ending Sept.-23 |       |       |        | CAPITALISATION 2023-24 ending Sept.-23 |      |       |       |
|--------|--------------------------|--|---|-------------------------------|-------|-------|--------|--|------|-------|-------|
|        |                          |  |   | GRID                          | TLSC  | CIVIL | Total  | GRID                                   | TLSC | CIVIL | Total |
|        |                          | 220KV S/S Sandhwan                                     | 2X10.860 MVAR, 66 KV Capacitor Bank   |                               |       | 0.000 | 0.000  |  |      | 0.000 | 0.000 |
|        |                          | 220KV S/S Dharamkot                                    | 2X10.860 MVAR, 66 KV Capacitor Bank   | -0.020                        |       | 0.000 | -0.020 |  |      | 0.000 | 0.000 |
|        |                          | 220KV S/S Banur  | 2X10.860 MVAR, 66 KV Capacitor Bank   |                               |       | 0.000 | 0.000  |  |      | 0.000 | 0.000 |
|        |                          | 220KV S/S Daauya                                       | 2X10.860 MVAR, 66 KV Capacitor Bank   |                               |       | 0.000 | 0.000  |  |      | 0.000 | 0.000 |
|        |                          | 220KV S/S Tibber                                       | 2X10.860 MVAR, 66 KV Capacitor Bank   |                               |       | 0.000 | 0.000  |  |      | 0.000 | 0.000 |
|        |                          | 220KV S/S Chogwen                                      | 2X10.860 MVAR, 66 KV Capacitor Bank   |                               |       | 0.000 | 0.000  |  |      | 0.000 | 0.000 |
|        |                          | 220KV S/S Chola Sahib                                  | 2X10.860 MVAR, 66 KV Capacitor Bank   |                               |       | 0.000 | 0.000  |  |      | 0.000 | 0.000 |
|        |                          | 220KV S/S Bange  | 2X10.860 MVAR, 132 KV Capacitor Bank  |                               |       | 0.000 | 0.000  |  |      | 0.000 | 0.000 |
|        |                          | 220KV S/S Butari                                       | 2X10.860 MVAR, 132 KV Capacitor Bank  |                               |       | 0.000 | 0.000  | 0.400                                  |      | 0.000 | 0.400 |
|        |                          | 220KV S/S Hoshiarpur                                   | 6X10.860 MVAR, 66 KV Capacitor Bank   |                               |       | 0.000 | 0.000  |  |      | 0.000 | 0.000 |
|        |                          | 220 kV S/S Kolla Janga                                 | 3X10.860 MVAR, 132KV Capacitor Bank   |                               |       | 0.000 | 0.000  |  |      | 0.000 | 0.000 |
| 13     | Amendment No. 01/2022-23 | 220 kV Mubankpur (U/G from 66 kV substation Mubankpur) | U/G of 66 kV Mubankpur to 220 kV with installation of 2X160 MVA, 220/66 kV transformer (including 2 Nos. line bays, 2 No. T/F bays and 1 No. B/C bay) |                               |       | 0.000 | 0.000  |  |      | 0.000 | 0.000 |
|        |                          |  | a. L.I.L.O of 220 kV Mohali-2 – Derabassi line at 220 kV Mubankpur (U/G from 66 kV) (L.I.L.O Length: 3.5 km approx., 0.4", D/C on D/C)                |                               | 0.010 | 0.000 | 0.010  |  |      | 0.000 | 0.000 |
|        |                          |  | b. Substation Automation System (SAS) for Rs. 1 Crore.  |                               |       | 0.000 | 0.000  |  |      | 0.000 | 0.000 |
| 14     | Amendment No. 02/2022-23 | 220K S/S Banur   | Augmentation of 1 no. 100 MVA Transformer at 220 kV Sub-station Banur to 160 MVA  |                               |       | 0.000 | 0.000  |  |      | 0.000 | 0.000 |
| 15     | Amend 04/22-23           | 400 KV FGCL, Amritsar                                  | Shifting of 220KV S/C Rashiana-Verpal line from 220KV Verpal to 400KV Amritsar (3 K.M., 0.4sq")   |                               |       | 0.000 | 0.000  |  |      | 0.000 | 0.000 |
| 16     | Amend 06/22-23           | 220K S/S MGG-1   | Augmentation of 2 no. 100 MVA Transformer at 220 kV Sub-station MGG-1 to 160 MVA  |                               |       | 0.000 | 0.000  |  |      | 0.000 | 0.000 |
| 17     | Amend 07/22-23           | 220K S/S Chhri (U/G from 66 KV)                        | Creation of 220 KV Chhri with: 1 x 160 MVA T/F (fed from L.I.L.O of 220 KV SC line, (2 line bays, 1 T/F bay and 1 B/C bay).                           |                               |       | 0.000 | 0.000  |  |      | 0.000 | 0.000 |
|        |                          |  | L.I.L.O of one ckt. of 400 KV Nakodar – Kartarpur D/C line at 220 KV Chhri (L.I.L.O length -- 2.5 km, 0.4sq")   |                               |       | 0.000 | 0.000  |  |      | 0.000 | 0.000 |
| 18     | Amendment no. 8/22-23    | 132 KV Nakodar   | 1 No. 3rd Additional 20 MVA, 132/11 KV T/F  |                               |       | 0.000 | 0.000  |  |      | 0.000 | 0.000 |
|        |                          | 220 KV S/S Bange                                       | 1 No. 3rd Additional 20 MVA 132/11 KV T/F   |                               |       | 0.000 | 0.000  |  |      | 0.000 | 0.000 |
|        |                          | 220 KV Goraya  | 1 No. 3rd Additional 20 MVA 132/11 KV T/F   |                               |       | 0.000 | 0.000  |  |      | 0.000 | 0.000 |
|        |                          | 220 KV Singhwala (Moga)                                | 1 No. 20 MVA 66/11 KV T/F   |                               |       | 0.000 | 0.000  |  |      | 0.000 | 0.000 |
|        |                          | 132 Moga-2 (Dhaleke)                                   | 1 No. 3rd Additional 20 MVA 132/11 KV T/F   |                               |       | 0.000 | 0.000  |  |      | 0.000 | 0.000 |
|        |                          | 132 KV Moga-1  | 1 No. 3rd Additional 20 MVA 132/11 KV T/F   |                               |       | 0.000 | 0.000  |  |      | 0.000 | 0.000 |
|        |                          | 220 KV Gounsarh  | 1 No. 4th Additional 20 MVA 66/11 KV T/F  |                               |       | 0.000 | 0.000  |  |      | 0.000 | 0.000 |
|        |                          | 220 KV Bassi Pathana                                   | 1 No. 3rd Additional 20 MVA 66/11 KV T/F  |                               |       | 0.000 | 0.000  |  |      | 0.000 | 0.000 |
|        |                          | 220 KV Humbran   | 1 No. 3rd Additional 20 MVA 66/11 KV T/F  |                               | 0.046 | 0.000 | 0.046  |  |      | 0.000 | 0.000 |
|        |                          | 220 KV Ajitwal   | 1 No. 3rd Addl. 66/11 KV 12.5 MVA T/F (spare T/F from system to be used).   |                               |       | 0.000 | 0.000  |  |      | 0.000 | 0.000 |
|        |                          | 220 KV Ghubaya   | Aug. of 1 no. 20 MVA with 31.5 MVA, 66/11 KV  |                               |       | 0.000 | 0.000  |  |      | 0.000 | 0.000 |
|        |                          | 220 KV Anloh   | 1 No. 4th Additional 20 MVA 66/11 KV T/F  |                               |       | 0.000 | 0.000  |  |      | 0.000 | 0.000 |
|        |                          | 220 KV Seidpura (Dera Bassi)                           | Aug. of 1 no. 20 MVA with 31.5 MVA, 66/11 KV  |                               | 2.970 | 0.000 | 2.970  |  |      | 0.000 | 0.000 |
|        |                          | 220 KV Kharar  | 1 No. 4th Additional 20 MVA 66/11 KV T/F  |                               |       | 0.000 | 0.000  |  |      | 0.000 | 0.000 |
|        |                          | 220 KV Chogawan  | 1 No. 3rd Additional 20 MVA 66/11 KV T/F  |                               |       | 0.000 | 0.000  |  |      | 0.000 | 0.000 |
|        |                          | 220 KV Kohara  | Aug. of 1 no. 20 MVA with 31.5 MVA, 66/11 KV (Additional 12.5 MVA, 66/11 KV T/F planned in NYT2020-23 Sr. No. 55 may be considered as deleted)        |                               |       | 0.000 | 0.000  |  |      | 0.000 | 0.000 |
|        |                          | 220 KV Civil Lines Amritsar                            | 1 No. 3rd Addl. 66/11 KV 12.5 MVA T/F (spare T/F from system to be used).   |                               |       | 0.000 | 0.000  |  |      | 0.000 | 0.000 |

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*[Handwritten Signature]*

| Sr.No.             | Sr.No. as per CIP Order | Particulars   | Network Addition/ Scope of Work  | CAPEX 2023-24 ending Sept.-23 |               |              |               | CAPITALISATION 2023-24 ending Sept.-23 |               |               |               |
|--------------------|-------------------------|---|--|-------------------------------|---------------|--------------|---------------|--|---------------|---------------|---------------|
|                    |                         |   |  | GRID                          | TLSC          | CIVIL        | Total         | GRID                                   | TLSC          | CIVIL         | Total         |
| 15                 | Amendment 10/23-23      | Rearrangement of connectivity of Transmission lines in Falota Circle to control the existing overloading of certain lines | a. Termination of 220 kV Rajpura - 400 kV Fagga Majra circuit at 220 kV Bahadurgarh  |                               | 0.190         | 0.000        | 0.190         | 0.170                                  | 0.000         | 0.170         |               |
|                    |                         |   | b. Connecting 220 kV Davighar to 220 kV Rajpura  |                               | 0.720         | 0.000        | 0.720         | 0.570                                  | 0.000         | 0.570         |               |
|                    |                         |   | c. Connecting 400 kV Rajpura to 220 kV Rajpura (including new trns of approx. 5 km length, D/C on D/C)   |                               | 0.010         | 0.000        | 0.010         |  | 0.000         | 0.000         |               |
|                    |                         |   | d. Connecting 400 kV Rajpura to 220 kV Mahali-1 (one circuit direct and one circuit via 220 kV Banur, on D/C line, including new trns of approx. 7km length, D/C on D/C) |                               | 0.010         | 0.000        | 0.010         |  | 0.000         | 0.000         |               |
|                    |                         |   | e. 2 Nos. 220 kV bays at 400 kV Rajpura  |                               |               | 0.000        | 0.000         |  | 0.000         | 0.000         |               |
|                    |                         |   | f. 220 kV Side bus extension arrangement to be made at 400 kV Rajpura for providing suitable space for 2 Nos 220 kV Bays   |                               |               | 0.000        | 0.000         |  | 0.000         | 0.000         |               |
|                    |                         |   | <b>Total (D)</b>   |                               |               | <b>7.868</b> | <b>2.240</b>  | <b>0.001</b>                           | <b>10.188</b> | <b>32.070</b> | <b>0.740</b>  |
| <b>GRAND TOTAL</b> |                         |   |  | <b>37.270</b>                 | <b>24.100</b> | <b>4.129</b> | <b>65.499</b> | <b>68.139</b>                          | <b>17.040</b> | <b>4.354</b>  | <b>79.513</b> |

| NEW Transmission works |  |   |   |  |  |       |       |  |       |       |
|------------------------|--|---|---|--|--|-------|-------|--|-------|-------|
| Sr. No.                | Substation Name  | Scope of work   | Remarks   |  |  |       |       |  |       |       |
| <b>TS Works</b>        |  |   |   |  |  |       |       |  |       |       |
| 1                      | 220 kV S/S GNDTP   | Additional 160 MVA, 220/66 kV transformer including 66kV busbar extension (2x50MVA 132/66kV will be spared)   | The local Bahinda-Gidderbaha- Malout area is primarily fed from 220 kV Maur, Muktsar and GNDTP substations via 132 kV sub-stations of this area. In case of failure of any one source, the total supply fails, leading to blackout. So to give relief to 132 kV system, 66 kV loads are planned to be shifted from 132 kV system to 220 kV system. This will also eliminate one additional step of 132/66 kV transformers thereby reducing transformation losses.   |  |  | 0.000 | 0.000 |  | 0.000 | 0.000 |
| 2                      | Upgradation of 66 kV Bhalaisana to 220 kV sub-station.                           | Creation of 220kV Bhalaisana with 2x100MVA, 220/66kV T/F (2 line bays, 2 T/F bays & 1no. Bus Coupler bay)   | This S/S has been proposed by PSPCL & is situated in the center of Muktsar & Bahinder. This S/S will give relief to 132kV Muktsar, GNDTP, Malout & 220kV Muktsar. PSPCL will connect 66 kV line from Bhalaisana to Doda and Kauri to de-load 3X100 MVA, 220/132 kV auto transformers at 220 kV Muktsar along with 132 kV link lines between 220 kV Muktsar and 132 kV Muktsar. At this S/S the 2nd 100 MVA T/F will be installed after sparing 100 MVA Power T/F from some other work where the augmentation of 100MVA to 160MVA is planned.  |  |  | 0.000 | 0.000 |  | 0.000 | 0.000 |
|                        |  | L/LO of S/S 220 kV Muktsar - 220 kV Malout line (L/LO length 1km, 0.4Sq)  |   |  |  | 0.000 | 0.000 |  | 0.000 | 0.000 |
| 3                      | Upgradation of 66 kV Guru Hari Sahai to 220 kV sub-station                       | Creation of 220kV Guru Hari-sahai with 2x100MVA, 220/66kV T/F (4 line bays at Guru Hari Sahai, 2bays each at Ghubaya & Jheke Hari Har, 2 T/F bays & 1no. bus coupler bay) | PSPCL had proposed upgradation of 66 kV S/S Jivan Anjan to 220 kV S/S to de-load 220 kV S/S Ghubaya but as the transfer of land owned by Village Panchayat has not materialized for upgradation of 220 kV S/S Jivan Anjan so nearby 66 kV Guru Harsahai was agreed upon for upgradation to a 220 kV S/S by both PSTCL and PSPCL to de-load Ghubaya and Sadq in TPC meeting dated 19.07.2022. This S/S would be connected by D/C from 220 kV Ghubaya and 220 kV Jheke Harihar. At this S/S the 2nd 100 MVA T/F will be installed after sparing 100 MVA Power T/F from some other work where the augmentation of 100MVA to 160MVA is planned. The initial towers at Guru Harsahai will be multi circuit towers to address the issue of ROW. As per PPERC notification dated 5/11/2018 (Annexure-A) intra-state-transmission project costing more than Rs. 50Cr. are to be developed through TFCB. Cost of this project is more than 50Cr. but work being a brown field project and technical upgradation as such exemption may be given from TFCB in line with Ministry of Power, Govt. of India Letter no. 15/2/2017-Trans-P(1) dated 15.3.2021 (Annexure-B) |  |  | 0.000 | 0.000 |  | 0.000 | 0.000 |
|                        |  | D/C line from 220 kV Ghubaya and D/C line from 220 kV Jheke Hari Har (Line length 35km & 30km, 0.4Sq)   |   |  |  | 0.000 | 0.000 |  | 0.000 | 0.000 |
| 4                      | Upgradation of 132 kV Sansadh Bhai to 220 kV level                               | Creation of 220kV Sansadh Bhai with 2x100MVA, 220/132kV T/F (4 line bays, 1 T/F bay & 1no. Bus Coupler Bay)   | This S/S will give relief to 220 kV Himmatpura by shifting of load of 66 kV Deena Sahib and 66 kV Patlo Hira. In addition, it will provide second source of supply to 132 kV Chohan Kalan and Sansadh Bhai, which are now radially fed from 220 kV Moga and face blackout in case of tripping of 132 kV S/S line from 220 kV Moga.  |  |  | 0.000 | 0.000 |  | 0.000 | 0.000 |
|                        |  | L/LO of both circuits of 220 kV Baghapurana - Bagrahans line (L/LO Length - 6km, 0.4Sq)   |   |  |  | 0.000 | 0.000 |  | 0.000 | 0.000 |
| 5                      | Upgradation of 66 kV Chaherhu to 220 kV level (2nd 100MVA, 220/66kV T/F for N-1) | Creation of 220kV Chaherhu with 2x100MVA, 220/66kV T/F (4 line bays, 2 T/F bays & 1no. Bus coupler bay)   | This S/S is proposed by PSPCL to cater load growth and to give relief to Jansher, Phagwara and Rehana Jattan as agreed upon in the TPC meeting (Sr. no. 8 of Table-15). At this S/S the 2nd 100 MVA T/F will be installed after sparing 100 MVA Power T/F from some other work where the augmentation of 100MVA to 160MVA is planned.   |  |  | 0.000 | 0.000 |  | 0.000 | 0.000 |
|                        |  | L/LO of 400 kV Nakodar - 220 kV Hoshiarpur and Nakodar - Rehana Jattan 220 kV Cts at Proposed 220 kV S/S Chaherhu (L/LO Length - 6km & 6km, 0.4 Sq)                       |   |  |  | 0.000 | 0.000 |  | 0.000 | 0.000 |

| Sr.No. | Sr.No. as per CIP Order   | Particulars   | Network Addition/ Scope of Work   | CAPEX 2023-24 ending Sept-23 |      |       |       | CAPITALISATION 2023-24 ending Sept-23 |      |       |       |
|--------|---|---|---|------------------------------|------|-------|-------|---------------------------------------|------|-------|-------|
|        |   |   |   | GRID                         | TLSC | CIVIL | Total | GRID                                  | TLSC | CIVIL | Total |
| 6      | Upgradation of 66 KV Gill Road Ludhiana to 220 KV level (Under Study) | Creation of 220KV Gill Road Ludhiana with 2x160MVA, 220/66KV T/F (4 line bays (2 at Proposed Gill road and 2 at Ferozepur road), 2 T/F bays & 1no. bus coupler bay) | PSPCL proposed up-gradation of 66 KV Gill Road to 220 KV S/S which will give relief to overloaded 66 KV Laiton Kalan-Gill road D/C lines as up-gradation of conductor of these lines to HTLS is not possible as line passes over very thickly populated areas and it was agreed upon in the TPC meeting (Sr. No. 7 of Table-12) to include the work in 3rd CP of MYT 23-26 subject to the demolition of the 1912 complaint center and offices of DS organisation.<br><br>Under study due to complication of ROW. Route is being studied by using modern technology like monopoles/multi-circuit towers. Once the route is finalised, PSERC will be approached through petition during the course of next MYT.   |                              |      | 0.000 | 0.000 |                                       |      | 0.000 | 0.000 |
|        |   | D/C line (6km, 0.48sq") from 220 KV Ferozepur Road Ludhiana on multi circuit towers/modern techniques.  |   |                              |      |       | 0.000 | 0.000                                 |      |       | 0.000 |
| 7      | Upgradation of 66 KV Bija/Chawa to 220 KV level                       | Creation of 220KV Bija/Chawa with 2x100MVA, 220/66KV T/F (2 nos. line bays, 2 T/F bays & 1no. Bus Coupler bay)  | Proposal of this substation was received from PSPCL for upcoming loads in and around Sahnewal/ Doraha to cater to the industry in the TPC meeting. Loads to be shifted on 220 KV Bija are 66 KV Bija, Bahonajia, Raison & Apparel Park to give relief to 220KV Doraha S/S and cater to the upcoming loads in the area.<br><br>At this S/S the 2nd 100 MVA T/F will be installed after sparing 100 MVA Power T/F from some other work where the augmentation of 100MVA to 160MVA is planned.   |                              |      | 0.000 | 0.000 |                                       |      | 0.000 | 0.000 |
|        |   | LILO of one circuit of upcoming Dhanasu - Doraha 220 KV line at Bija (12km, 0.45sq")  |   |                              |      |       | 0.000 | 0.000                                 |      |       | 0.000 |
| 8      | Upgradation of 66 KV Bhadsan to 220 KV level.                         | Creation of 220KV Bhadsan with 2x100MVA, 220/66KV T/F (6 line bays (2 at Amloh and 4 at Bhadsan), 2 T/F bays & 1no. Bus Coupler Bay)                                | Proposed by PSPCL to give relief to 220KV Amloh by shifting of 66 KV loads from 220 KV Amloh to Bhadsan. Upcoming connections can be released by PSPCL from Amloh. It will also provide new source of power evacuation from 400 KV PGCIL Patala where new 500 MVA ICT is being installed, this will give relief to existing sources of power in Amloh area, i.e. 400 KV Malerkotla and 400 KV Rajpura<br><br>At this S/S the 2nd 100 MVA T/F will be installed after sparing 100 MVA Power T/F from some other work where the augmentation of 100MVA to 160MVA is planned.<br><br>As per PSERC notification dated 5/11/2018 (Annexure-A) intra-state-transmission project costing more than Rs. 50Cr. are to be developed through TBCB. Cost of this project is more than 50Cr. but work being a brown field project and technical upgradation as such exemption may be given from TBCB Mode in line with Ministry of Power, Govt. of India Letter no. 15/2/2017-Trans-Pt(1) dated 15.3.2021 (Annexure-B) |                              |      | 0.001 | 0.001 |                                       |      | 0.000 | 0.000 |
|        |   | D/C line from 400 KV PGCIL Patala (16km, 0.45sq") and D/C line from 220 KV Amloh (12km, 0.45sq").   |   |                              |      |       | 0.045 | 0.045                                 |      |       | 0.000 |
| 9      | Upgradation of 66 KV Chourwala to 220 KV level                        | Creation of 220KV Chourwala with 2x160MVA, 220/66KV T/F (4 line bays, 2 T/F bays & 1no. Bus Coupler Bay)  | This substation has been proposed by PSPCL to give relief to 220 KV substation G-1 to facilitate the release of load connections in Mandi Gobindgarh area from G-1 as no further expansion of G-1 S/S is possible. Currently Chourwala/Sirhind areas are fed from G-1/G-4 S/Ss and one these areas are shifted to Chourwala a relief of about 100 MVA would be available at G-1 S/s.<br><br>As per PSERC notification dated 5/11/2018 (Annexure-A) intra-state-transmission project costing more than Rs. 50Cr. are to be developed through TBCB. Cost of this project is more than 50Cr. but work being a brown field project and technical upgradation as such exemption may be given from TBCB mode in line with Ministry of Power, Govt. of India Letter no. 15/2/2017-Trans-Pt(1) dated 15.3.2021 (Annexure-B)   |                              |      | 0.000 | 0.000 |                                       |      | 0.000 | 0.000 |
|        |   | LILO of both circuits of 400 KV Rajpura - 220 KV Gobindgarh-1 line (HTLS) (6 km, 0.45sq" HTLS equivalent)   |   |                              |      |       | 0.000 | 0.000                                 |      |       | 0.000 |
| 10     | Upgradation of 66 KV Toot to 220 KV level.                            | Creation of 220KV Toot with 2x100MVA, 220/66KV T/F (2 line bays, 2 T/F bay & 1no. Bus Coupler Bay)  | Proposed by PSPCL to give relief to 220KV Patti and additionally no space is available at 220 KV Patti to establish a 66 KV bay for second circuit to 66 KV Toot from 220 KV Patti S/S. The proposal was agreed upon in the in the TPC meeting by both PSPCL and PSTCL (Sr. No. 12 of Table-4)<br><br>At this S/S the 2nd 100 MVA T/F will be installed after sparing 100 MVA Power T/F from some other work where the augmentation of 100MVA to 160MVA is planned.   |                              |      | 0.000 | 0.000 |                                       |      | 0.000 | 0.000 |
|        |   | LILO of one circuit of 400 KV Malhu - 220 KV Algon line at Proposed 220KV w/s Toot (7km, 0.45sq")   |   |                              |      |       | 0.000 | 0.000                                 |      |       | 0.000 |

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| Sr.No. | Sr.No. as per CIP Order  | Particulars  | Network Addition/ Scope of Work  | CAPEX 2023-24 ending Sept.-23 |      |       |       | CAPITALISATION 2023-24 ending Sept.-23 |      |       |       |
|--------|--|--|--|-------------------------------|------|-------|-------|--|------|-------|-------|
|        |  |  |  | GRID                          | TLSC | CIVIL | Total | GRID                                   | TLSC | CIVIL | Total |
| 11     | Double bus arrangement at 220 KV Mandi Gobindgarh-2  |  | Proposed by Chief Engineer/P&M, PSTCL to provide reliability of supply to industrial consumers by providing a 220 KV double bus bar as per the CEA norms as a core of future of single available bus there as a complete back-up.  |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 12     | Upgrade of 132 KV Jandala Guru to 220 KV level   | Creation of 220KV Jandala Guru with 2x100MVA, 220/132KV T/F (2 line bays, 2 T/F bays & 1no. Bus Coupler Bay)   | To address the problems in the walled city of Amritsar a committee was constituted by DirectorT. As per recommendation of committee to give reliable supply to Amritsar city it was proposed to upgrade Jandala by shifting auto transformer 220/132 KV 100 MVA being spered from Butari to inject power at Verka to provide reliable supply in event of constraints in Batala-Verka D/C line or 132 KV bus at Verpal. PSTCL & PSPCL agreed to the proposal in the TPC meeting (Sr. No. 6 of Table-B of MOM).  |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
|        |  | L.I.O of 220 KV Butari - Varsal circuit on multi-circuit Tower/Modern techniques at Jandala Guru (4km, 0.49sq)   | In this case the 1 No. 220/132 KV auto T/F will be shifted from Butari, after the commissioning of 220 KV Buss.  |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 13     | Upgrade of 132 KV Tarda to 220 KV level  | Creation of 220KV Tarda with 1x100MVA, 220/132KV T/F and 1x100MVA, 220/66KV T/F (2 line bays, 2 T/F bays & 1no. Bus Coupler Bay)   | Proposed by P&M, PSTCL with one 220/132 KV auto-transformer, to provide cushioning effect to the sharp drop in voltage at MHP/Tanda/Bhogpur areas. This voltage drop sometimes leads to tripping of machines causing blackout. In addition to it, it will give relief to the 132 KV system in Tanda/Bhogpur belt when there is no generation at MHP as being a run of the river plant. It faces frequent problems of sat. Apart from it other two sources feeding this area are almost fully loaded i.e BBMB Jalandhar and 132 KV Hamirpur-Chahal line. PSPCL appraised that 132/66 KV transformers at Bhogpur are fully loaded i.e more than 90% and two 66KV stations Kandhala Jatan and Kalyanpur will be shifted from 132 KV Bhogpur to 132 KV Tarda, for which one 100 MVA, 220/66 KV T/F is also required. |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
|        |  | L.I.O of 6/3 220 KV BBMB Jalandhar-Dasuya Sro (4.5Km, 0.48sq)  |  |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 14     | Upgrade of 132 KV Sri Hargobindpur to 220 KV level (1X100 MVA 220/132 KV > 1x100 220/66 KV - already planned 3rd 220/132 KV Auto transformer at Wadala Granthian be dropped) (132 KV line from WG and 132/66 KV T/Fs will be spered) | Creation of 220KV Sri Hargobindpur with 1x100MVA, 220/132KV & 1x100MVA, 220/66KV T/Fs (2 line bays, 2 T/F bays & 1no. Bus Coupler Bay)   | This work is required for evacuation of downstream network of 400 KV Wadala Granthian. In addition it will address the problems of constraints at MHP when all the machines are shut due to low water or high sat as MHP is a run off the river project. PSTCL & PSPCL agreed on this as per Sr. no. 2 of Table-B and Sr. No 5 of supplementary agenda in MOM of TPC. Apart from this auto-transformers at Wadala granthian are fully loaded.  |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
|        |  | 220 KV D/C Line From Proposed 400 KV S/S Wadala Granthian (28km, 0.45sq)   | Keeping in view the ROW issues, some towers near the SIS will be multi-circuit towers and the work of sub-station shall be taken in hand when major work of transmission line is complete.<br><br>As per PSERC notification dated 5/11/2016 (Annexure-A) ultra-state-transmission project costing more than Rs. 50Cr. are to be developed through TBCB. Cost of this project is more than 50Cr. but work being a brown field project and technical upgradation as such exemption may be given from TBCB Mode in line with Ministry of Power, Govt. of India Letter no. 15/2/2017-Trans-Pt(1) dated 15.3.2021 (Annexure-B)  |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 15     | Re-arrangement to provide 2nd connectivity to 220 KV S/S Naraingarh  | Double circuit from 220KV Khassa-Chogawan, 12 Km, 0.4 Sq   | As per report of Committee constituted to provide reliable supply to the city of Amritsar, the committee recommended to provide second source of supply to 220 KV Naraingarh which is now a radial station because in case towers of the existing line fail, there will be complete black out in major part of Amritsar city. So a re-arrangement has been proposed to further link Naraingarh to Chogawan/Civil Lines.  |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
|        |  | Disconnecting 220KV Khassa - Civil Line ASR circuit and Chogawan-Khassa circuits from Khassa and diverting them to Naraingarh  |  |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
|        |  | 1 no. circuit between 220KV Chogawan - Naraingarh and 1no. circuit between 220KV Civil Line ASR - Naraingarh, D/c line with 12.5 Km 0.49sq   |  |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 16     | 220 KV S/S Bajakhana   | Double bus arrangement at Bajakhana  | Bajakhana evacuates power from GHTP and PGCIL Mega, so to provide reliability of supply, double busbar of 220 KV is proposed as per the requirement of Chief Engineer/P&M, PSTCL.  |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 17     | 220KV SIS Garaya (Addl 220/66KV 100MVA T/F for N-1 compliance)   | Connectivity of 220KV Nurmehal with 220KV Garaya with D/C line (length- 25km, 0.45sq)<br>(L.I.O of both circuits of BBMB Jalandhar-Jamapur line at Garaya subject to approval of Power Subcommittee of BBMB) | To provide 2nd source of supply to Nurmehal as now it is fed radially from 400 KV Nakodar. In case towers of the existing line fail, there will be complete black out in Nurmehal area. Apart from this when GGSSTP Roper is down, Garaya is fed from Jamsher via Kotu Jurga-Kartarpur-PGCIL Jalandhar. If Nurmehal is connected to 400KV Nakodar via Nurmehal, flows from Jamsher will reduce and it will give relief to 220 KV PGCIL Jalandhar-Kartarpur D/C line. L.I.O of both circuits of BBMB Jalandhar-Jamapur line at Garaya (if approved by Power Subcommittee of BBMB) will give relief to both Jalandhar and Ludhiana local point/industrial belts when generation of BBMB in lean period is down i.e at Pang, Bhakra, Gangwal and Dehar.   |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |

| Sr.No. | Sr.No. as per CIP Order  | Particulars  | Network Addition/ Scope of Work  | CAPEX 2023-24 ending Sept.-23 |      |       |       | CAPITALISATION 2023-24 ending Sept.-23 |      |       |       |
|--------|--|--|--|-------------------------------|------|-------|-------|--|------|-------|-------|
|        |  |  |  | GRID                          | TLSC | CIVIL | Total | GRID                                   | TLSC | CIVIL | Total |
| 18     | 400KV Wadala Granthian   | <p><b>Stage 1:</b><br/>Creation of 400KV Wadala Granthian with 2x500MVA, 400/220KV ICTs (2 no. 400 KV line bays, 2 no. 400 KV ICT bays, 2 no. 400 KV Tie Bays, 4 no. 220 KV Line bays, 4 no. 220 KV bus interconnection bay, 2 no. 220 KV ICT bays, 1 no. 220 KV TBC Bay, 1 no. 220 KV BC Bay)</p> <p>LILO of 1 circuit of 400 KV Moga - Kishanpur line (20km, Quad Moose)</p> <p><b>Stage 2:</b><br/>Addl. 1X500 MVA, 400/220 KV ICT (2 line bays, 1 ICT bays &amp; 2 no. Tie Bays)</p> <p>LILO of 2nd circuit of 400 KV Moga - Kishanpur line (20km, Quad moose)</p> | <p>To enhance ATC/ITC limit of Punjab.</p> <p>Cost of this project is more than 50 Cr. but work being a brown field project (land of existing 220KV S/S Wadala Granthian is to be used) and technical upgradation as such exemption may be given from competitive bidding in line with Ministry of Power, Govt. of India Letter no. 16/22011-Trans-P11) dated 15.3.2021 (Annexure-B)</p> <p>(Expenditure: 25% in 2024-25; 25% in 2025-26 and balance 50% to split over in 26-27.)</p>                                    |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 19     | 400 kv Makhu   | To give second ISTS connectivity   | Under Study  |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 20     | 220 kv Sultanpur   | LILO of one circuit 220 KV Kanjli - Science city at 220 KV Sultanpur with Moose conductor (28Kms, 0.5 Sq")   | To provide 2nd source of supply to 220 KV Science city as now it is fed radially from 220 KV Kanjli. In case towers of the existing line fall, there will be complete black out in some areas of Jaisindhar.   |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 21     | To provide second source to 220 kv S/S Badhni Kalan  |  | Under study  |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 22     | 220 KV Jadla   | LILO of MISS Ganguwali- Dhanansu of Jadla (2 km, 0.4")   | When GGSSTP Roper is down Goraya/Banga/Jadla are fed from Jamsheer via Kola Junga- Kantarpur- PGCIL Jalandhar, thereby overloading the system. This will give additional source of power especially to Jadla/ Banga S/Ss from Ganguwali and 400 KV Dhanansu  |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 23     | 220KV PGCIL Panchkula (Bawalga) - Derabassi Line   | 220KV PGCIL Panchkula (Bawalga)- Derabassi Line (DIC) (14km, 0.4Sq")   | To feed upcoming loads in Lattu, Mubarkpur, Dera Bassi belt, additional source of supply is required to give relief to 400 KV Rajpura-Lattu circuits and Nalagarh-Mohali circuits. Tripping of Mohali-2 to Lattu circuit will cause constraint on Lattu-Dera Bassi-Mubarakpur-Mohali2 S/C line.  |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
|        |  |  | Subject to the approval of NRPC.   |                               |      |       |       |  |      |       |       |
| 24     | Strengthening of Verka-Mal Mandi Link and to establish link with Civil Lines ASR               | <p>(A) Disconnecting 132 KV Verka - Mal Mandi link and 132 KV Verka - Jayantipura link.</p> <p>(B) Connecting 132 kv Mal Mandi with 132 KV Jayantipur.</p> <p>(C) Connecting 132 kv Civil Lines ASR with 132 KV Verka. (overhead 15 km + 1 km modern techniques)</p> <p>(D) Connecting 132 kv Civil Lines ASR with 132 kv Mal Mandi. (overhead 26 km + 1 km underground)</p>   | In case of failure of supply from Verpal, additional source of power from spare available capacity at 220 KV Civil Lines Amritsar not only to Mal Mandi but also Kalhanganal and Jayantipur to de-load 132 KV Sarana-Gurdaspur Line.   |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 25     | Requirement of Capacitor bank at various S/Ss as per CPRI report.                              | Under study as per CPRI report   | Final CPRI report on system studies of capacitor requirement in Northern region for the year 2019-20 has been received wherein additional net capacitor banks for Punjab at various sub-stations has been recommended. In view of this, PSTCL is working to finalise the net requirement of capacitor banks to meet with the requirement of above recommendations. Further, PSTCL has started the installation of available 132 KV capacitor banks at various substations of PSTCL. PSDF funding shall also be explored. |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 26     | 400 kv Rajpura   | 4th 500 MVA additional TF  | To achieve ATC/ITC limit of 10000/10900 MW   | 0.311                         |      | 0.000 | 0.311 | 4.700                                  |      | 0.000 | 4.700 |
| 27     | To curtail overloading during N-1 conditions of Shanan-Kangra- Pathankot corridor              | Under Study  | PSDF funding, if permissible shall be availed.   |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 28     | S/C on DIC line from 400 KV Dhuri to 220 KV Bhawanigarh. Bay available at 400 KV Dhuri (18 km) |  | To provide 2nd source of supply to 220 KV Bhawanigarh as now it is fed radially from 220 KV Nabha. To avoid any blackout at Bhawanigarh due to exigency on existing Bhawanigarh-Nabha circuit.   |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 29     | 220 kv Hoshiarpur  | 2nd source connectivity to Hoshiarpur via DIC on DIC line 220 KV Dasuya-Hoshiarpur (40 km, 0.4 sq") & using existing MGCL Towers   | To provide 2nd source of supply to Hoshiarpur as now it is fed radially from 400 KV Nabha. In case towers any exigency on existing line, there will be complete blackout in areas of Hoshiarpur. Existing multi circuit towers will be used at entry point of Hoshiarpur and 132 KV Bhogpur line will be bypassed to Mahipur by using one circuit of Mahipur DIC line. Similarly 132 KV Chohal circuit will be bypassed to Mahipur by using second circuit of Mahipur DIC line.  |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
|        |  |  | The work being specific to the PSTCL needs, required to be executed urgently to maintain continuity of supply, exemption may be given from TRCB Mode.  |                               |      |       |       |  |      |       |       |
| 30     | 220 kv Banga (Nawashaher)  | Replacement of 2x50MVA 132/66 KV transformers with 2x100MVA 220/66 KV transformers   | As per requirement of PSPCL, because 1X50 MVA+1X40 MVA, 132/66 KV T/Fs are overloaded. So work has been agreed upon as per Sr. no. 4 of Table-6 of MOM of TPC meeting. 66 KV buses will be connected through U/G Power Cable   |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 31     | 220 kv S/S Chajji  | Augmentation of 66 kv single bus bar from double conductor to quadruple conductor  | Proposal received from CEPSM, PSTCL to increase the loading capacity   |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 32     | 400KV Dhuri to 400KV Patran  | To increase ISTS point of drawl for ATC/ITC and injection of nuclear Power from Fatehabad via TBCB Patran  | Under study  |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 33     | Double bus bar arrangement at 220 kv Butari  | Making 220 kv Bus of Butari as double and shifting of 220/132 kv T/F of Butari to 220 kv Jandiala  | For reliability of supply to consumers and Railways  |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 34     | 220 kv DIC link between 220 kv S/S Butari and 400 kv S/S Wadala Granthian                      | 220 kv DIC Link between 220 kv S/S Butari and 400 kv S/S Wadala Granthian, (35 km, 0.4 Sq" conductor)  | To provide N-1 reliability in case of tripping of proposed 220 KV Jandiala-Verpal section or 220 KV PGCIL Jalandhar-Beas section and for downstream evacuation plan of 400 KV substation Wadala Granthian  |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |

| Sr.No. | Sr No. as per CIP Order  | Particulars  | Network Addition/ Scope of Work   | CAPEX 2023-24 ending Sept.-23 |      |       |       | CAPITALISATION 2023-24 ending Sept.-23 |      |       |       |
|--------|--|--|---|-------------------------------|------|-------|-------|--|------|-------|-------|
|        |  |  |   | GRID                          | TLSC | CIVIL | Total | GRID                                   | TLSC | CIVIL | Total |
| 35     | Upgradation of 66 KV Ajnala to 220 KV level                                      | Creation of 220 KV Ajnala with 1X160MVA + 1X100 MVA, 220/66 KV T/Fs (2 line bays, 2 T/F bays & 1 no. Bus Coupler Bay)<br><br>L.I.L.O of S/C line 220 KV Fatehgarh Chauran - 220 KV Cvt Lines Amritsar (L.I.L.O length 18 km, 0.45sq)                       | Proposed by PSPCL for reliable supply to consumers in the border areas of Amritsar District and to de-load 220 KV Fatehgarh Chauran, upgradation of 66 KV Ajnala was agreed upon by both PSPCL and PSTCL as per Table 4, Sr. No. 3 of TPC meeting held on dated 19.07.2022. At this S/S, the 2nd 100 MVA T/F will be installed after spacing 100 MVA Power T/F from some other work where the augmentation of 100MVA to 160MVA is planned.  |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 36     | Upgradation of 66 KV Bhagta Bhai ka to 220 KV level                              | Creation of 220KV Bhagta Bhai Ka with 1X160MVA + 1X100MVA, 220/66KV T/Fs (4 line bays, 2 T/F bays & 1 no. Bus Coupler Bay)<br><br>L.I.L.O of both circuits of 220 KV Hirmatpura - GHTP Line (Line length 24 km, 0.45sq)                                    | Up-gradation of Bhagatbhai Ka to 220 kv proposed by PSPCL to give relief to 2X160 MVA overloaded power T/Fs at GHTP Lehra Mohabbat. PSPCL plans to shift from GHTP two 66 kv S/S/ins to Bhagta Bhai ka and one 66 kv S/S/ins to Bajakhana as per proposal submitted by CE/P&M PSPCL & CE/DS (West). PSTCL agreed for the same in the TPC meeting as this will also give relief to 220 KV Bajakhana.<br><br>At this S/S the 2nd 100 MVA T/F will be installed after spacing 100 MVA Power T/F from some other work where the augmentation of 100MVA to 160MVA is planned.<br><br>As per PSERC notification dated 5/11/2018 (Annexure-A) intra-state transmission project costing more than Rs. 50Cr. are to be developed through TBCB. Cost of this project is more than 50Cr. but work being a brown field project and technical upgradation as such exemption may be given from TBCB mode in line with Ministry of Power, Govt. of India Letter no. 15/2/2017-Trans-Pj(1) dated 15.3.2021 (Annexure-B) |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 37     | Upgradation of 66 KV Arocity to 220 KV level (GIS substation)                    | Under Study  | Proposed by PSPCL to feed upcoming loads in Mohali area as per MOM of TPC Meeting at Sr. no. 10 of Table-9  |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 38     | Upgradation of 66 KV Kurah to 220 KV level                                       | Under Study  | Proposed by PSPCL in TPC Meeting to de-load 220 KV Khasar by shifting Morinda S/S to Kurah Table 15   |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 39     | Upgradation of 66 KV Bhabat to 220 KV level                                      | Under Study  | As proposed by PSPCL in TPC meeting held on 19.7.2022   |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 40     | 220 kv MGG-3   | Aug. of 2x100 220/66 kv T/F with 2x160MVA 220/66 kv T/F  | As per Sr. No. 8 of Table-14 of MOM of TPC Meeting and due to % loading as discussed in FCC meeting on 26.7.2022  |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 41     | 220 kv Maun  | Addl. 220/66 kv 100 MVA T/F  | Proposed by PSPCL as per sr. no. 5 of Table-3 of MOM of TPC meeting as loading has crossed 80% and violation of N-1 condition being a single transformer  |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 42     | 220 kv Kastarpur   | Aug. of 100 MVA, 220/66 kv T/F to 160 MVA  | As per sr. no. 7 of Table-4 of MOM of TPC Meeting held on 19.07.2022 loading has crossed 80%  |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 43     | 220 kv S/S Jhota hantar (Amesal No. 11/2021-22)                                  | 1 No. Additional 220/66 kv 100 MVA T/F   |   |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 44     | 220 kv Maun  | Addl. 66/11 kv, 20 MVA T/F   | Proposed by PSPCL as per sr. no. 11 of Table-2 of MOM of TPC Meeting as loading has crossed 80%   |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 45     | 220 kv Talwandi sabo   | Aug. of 66/11 kv, 12.5 MVA T/F to 20 MVA   | Proposed by PSPCL as per sr. no. 3 of Table-2 of MOM of TPC Meeting held on 19.07.2022 as loading has crossed 80%   |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 46     | 220 kv Bettiarwala   | Aug. of 66/11 kv, 12.5 MVA T/F to 20 MVA   | P&M/PSTCL proposal as loading has crossed 80%   |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 47     | 220 kv Baghapurana   | Aug. of 66/11 kv, 12.5 MVA T/F to 20 MVA   | P&M/PSTCL proposal as loading has crossed 80%   |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 48     | 132 kv Bhogpur   | Aug. of 132/11 kv, 12.5 MVA to 20 MVA  | Proposed by PSPCL as per sr. no. 8 of Table-5 of MOM of TPC Meeting as loading has crossed 80%  |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 49     | 132 kv Sosan   | Addl. 12.5 MVA, 132/11 V T/F with CR Extension   | As per sr. no. 13 of Table-2 of MOM of TPC Meeting, installation of additional 132/11 kv, 10/12.5 MVA instead of already planned augmentation of single 12.5 MVA T/F to 20 MVA should be installed to meet with N-1 contingency conditions  |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 50     | 220 kv Davgarh   | Addl. 66/11 kv, 12.5 MVA T/F with CR Extension   | As per sr. no. 1 of Table-10 of MOM of TPC Meeting as loading has crossed 80%   |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 51     | 132 kv Chamkaur Sabo   | 1 No. 12.5 MVA, 66/11 kv T/F with CR extension   | As per sr. no. 8 of Table-10 of MOM of TPC Meeting as loading has crossed 80%   |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 52     | 132 kv Kotakpura-1   | Aug. of 12.5 MVA, 132/11 kv T/F to 20 MVA, 66/11 kv T/F  | As per Sr. No. 8 of Table-2 of MOM of TPC Meeting held on 19.07.2022  |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 53     | 220 kv Kohsar  | Addl. 66/11 kv, 12.5 MVA T/F including CR Extension  | As per Sr. No. 12 of Table-2 of MOM of TPC Meeting held on 19.07.2022   |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 54     | 220 kv Badmi Kalan   | Addl. 66/11 kv, 20 MVA T/F including CR Extension  | As per Sr. No. 3 of Table-13 of MOM of TPC Meeting  |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 55     | 220 kv Barnala (Handiaya)  | Addl. 10/12.5MVA, 66/11 kv T/F   | As per Sr. No. 8 of Table-9 of MOM of TPC Meeting   |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 56     | 220 kv Dhanaua   | Addl. 10/12.5 MVA, 66/11 kv T/F with CR extension  | As per Sr. No. 4 of Table-10 of MOM of TPC Meeting  |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 57     | 220 kv Pakhowal  | Aug. of 10/12.5 MVA, 66/11 kv with 20 MVA, 66/11 kv T/F  | As per Sr. No. 9 of Table-13 of MOM of TPC Meeting  |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 58     | 220 kv Hoshiarpur (Hoshiarpur-Chohal Loading)                                    | To replace 12.5 MVA and 20 MVA, 132/11 kv T/Fs with 2X20 MVA, 66/11 kv T/Fs  | To control loading of 132 kv Hoshiarpur- Chohal section   |                               |      | 0.121 | 0.121 |  |      | 0.000 | 0.000 |
| 59     | 132 kv Swadi Kalan   | extension in Control room  | As per Sr. No. 4 of Table-13 of MOM of TPC Meeting  |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 60     | 220 kv Malerkotla  | extension in Control room  | As per Sr. No. 9 of Table-9 of MOM of TPC Meeting   |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 61     | 3 No. Truck mounted hydraulic cranes i.e. Loader 05 Ton Capacity                 | Loaders are used for Loading/unloading of various equipment of transmission system, erection of various electrical substation equipment including Power transformers. The same vehicle may also be utilised as truck for shifting of material and T&P etc. | Proposal received from Dy. CE/Grid construction circle, PSTCL, Ludhiana   |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 62     | 3 No. Filteration set 6000 LPH capacity with operating voltage of 415V (3 Phase) | The filtration sets are used for dehydration and filtration of transformer oil, required during erection of all Power transformers.  | Proposal received from Dy. CE/Grid construction circle, PSTCL, Ludhiana   |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |
| 63     | 1 No. Vacuum drying Plant/Oven For 100MVA P/T/Fs                                 | The Vacuum Drying Plant is suitable for drying the active parts of transformers in an Autoclave by using the classical drying method   | Proposal received from Dy. CE/Grid construction circle, PSTCL, Ludhiana   |                               |      | 0.000 | 0.000 |  |      | 0.000 | 0.000 |

| Sr.No.             | Sr No. as per CIP Order  | Particulars   | Network Addition/ Scope of Work  | CAPEX 2023-24 ending Sept-23 |              |              |               | CAPITALISATION 2023-24 ending Sept-23 |              |              |               |
|--------------------|--|---|--|------------------------------|--------------|--------------|---------------|---------------------------------------|--------------|--------------|---------------|
|                    |  |   |  | GRID                         | TLSC         | CIVIL        | Total         | GRID                                  | TLSC         | CIVIL        | Total         |
| 64                 | 220 kV S/S Sainawal  | To make 66 kV double bus bar arrangement (remaining part of existing 66 kV lines) needs to be shifted to newly erected/ to be erected 66 kV line bays. Due to involvement of shifting of 66 kV lines the expenditure needs to be revised. | The scope of work also needs to be revised. So, the work at Sr. 90 of 2nd MYT shall be foreclosed and new work with revised scope of work has been added in new MYT 2023-26. |                              |              | 0.000        | 0.000         |                                       |              | 0.023        | 0.023         |
| 65                 | 400 kV Dhanasu   | Sub-station Capacity enhancement  | To increase in ATC/ITC (limits as per load growth requirement)<br>(Under Study)  |                              |              | 0.000        | 0.000         |                                       |              | 0.000        | 0.000         |
| 66                 | Replacement of Disc Insulators of 400 KV PSTCL lines with Polymer Insulators |   |  |                              |              | 0.000        | 0.000         |                                       |              | 0.000        | 0.000         |
| 67                 | Makhu, Rajpura, Mukatear/ Behman Jassa Singh (Malkane), and Dhananaru        | 4nos. 400 KV, 125 MVAR Reactors   | To Control Over voltages in Northern region, matter is being deliberated in CMETS Meetings. PSDF Funding shall also be explored.   |                              |              | 0.000        | 0.000         |                                       |              | 0.000        | 0.000         |
| 68                 | Miscellaneous  | Augmentation of bus bars, extension in control room building, providing room for second source for station halterry etc.  | Miscellaneous  |                              |              | 0.191        | 0.191         |                                       |              | 0.124        | 0.124         |
| 69                 | Miscellaneous  | Augmentation/additions of Tifs at 220/132/66 kV KV S/Sins of PSTCL.   | Miscellaneous  | 51.058                       |              | 0.000        | 51.058        | 56.020                                |              | 0.000        | 56.020        |
| 70                 | Miscellaneous  | Additional 220/132/66 kV line bays related with feasibility cases or as per PSPCL/PSTCL Requirement   | Miscellaneous  |                              |              | 0.000        | 0.000         |                                       |              | 0.000        | 0.000         |
| 71                 | Miscellaneous  | Unforeseen emergency works  | Miscellaneous  | 0.340                        |              | 0.000        | 0.340         | 4.350                                 |              | 0.000        | 4.350         |
| <b>Total (A)</b>   |  |   |  | <b>51.708</b>                |              | <b>0.000</b> | <b>52.067</b> | <b>67.070</b>                         |              | <b>0.000</b> | <b>67.217</b> |
| Sr.No.             | Sr No. as per CIP Order  | Particulars   | Network Addition/ Scope of Work  | CAPEX 2023-24 ending Sept-23 |              |              |               | CAPITALISATION 2023-24 ending Sept-23 |              |              |               |
|                    |  |   |  | GRID                         | TLSC         | CIVIL        | Total         | GRID                                  | TLSC         | CIVIL        | Total         |
| Spill Over Works   |  |   |  | 37.27                        | 24.10        | 4.13         | 65.50         | 56.14                                 | 17.04        | 4.33         | 79.51         |
| New Works          |  |   |  | 51.71                        | 0.00         | 0.36         | 52.07         | 67.07                                 | 0.00         | 0.16         | 67.22         |
| CIC Works          |  |   |  | 2.47                         | 0.79         | 2.43         | 5.69          | 26.29                                 | 33.06        | 4.16         | 63.51         |
| Contributory Works |  |   |  | 4.69                         | 0.66         | 0.45         | 5.80          | 3.94                                  | 13.47        | 0.08         | 17.49         |
| <b>TS Total</b>    |  |   |  | <b>96.13</b>                 | <b>25.55</b> | <b>7.37</b>  | <b>129.05</b> | <b>157.44</b>                         | <b>63.67</b> | <b>8.72</b>  | <b>226.73</b> |

*Yak*





## Annexure-X



### PUNJAB STATE TRANSMISSION CORPORATION LIMITED

Regd. Office: PSEB Head Office, The Mall Patiala-147001, Punjab, India.

Corporate Identity Number: U40109PB2010SGC033814 ([www.pstcl.org](http://www.pstcl.org))

(O/o CAO/Finance & Audit(Commercial & Regulatory Cell, 3<sup>rd</sup> Floor, Shakti Sadan Patiala.)

Fax/Ph.No.0175-2970183 Email : [fa@pstcl.org](mailto:fa@pstcl.org)

To

The Registrar,  
Punjab State Electricity Regulatory Commission,  
Site No. 3, Sector 18-A, Madhya Marg,  
Chandigarh, Pincode-160018.

Memo No. 621 /FA/Comml.-23/Vol.-13

Dated 21/08/23

Sub:- Regarding exemption of the Directive no. 5.3 – Maintenance of Voltage wise and Categories wise details of Fixed Asset.

On the subject cited above, it is requested that Hon'ble Commission issued 7 No. directives in the tariff order of FY 2023-24, for the overall development of an efficient and economical system of the Transmission Lines & Sub-Stations along with further directives for the compliance by PSTCL.

Regarding Directive No. 5.3 - Maintenance of voltage wise and category wise details of fixed assets. On this issue efforts were made to get the software developed through outsourcing but during various discussions, the solution of calculating voltage wise asset still could not be worked out and developed as the EHT network at 132kv, 220kv and 400kv is operated in ring mode or interconnected mode resulting in loop flows.

During meetings, report of Joint Group constituted by Andhra Pradesh Transco Utility on Voltage wise Tariffs, in which they studied the Tariff orders and Methodology in fixing Tariff of Different States and concluded that, technically it is not possible to segregate the assets at 132 kv, 220 kv and 400 kv as the system is integrated and the power flow is either way i.e. High voltage to Low voltage or Low voltage to High voltage and if at all it is assessed based on certain assumptions, it will be arbitrary and not supported by any technical and commercial principals and methodology. (Copy Attached – Link:- <https://aperc.gov.in/admin/upload/VoltagewiseTariffs.pdf>) was also deliberated.

Based upon the deliberations held with the software developers and report of Andhra Pradesh Transco Utility and keeping in view that PSTCL is already maintaining Fixed Assets Register Asset wise, Account wise, Head wise and Division wise. It is requested to exempt the Directive no. 5.3 - Maintenance of Fixed Assets Voltage wise for the economic & efficient working system of utility.

  
CAO/Finance & Audit,  
PSTCL, Patiala.

-464-





**PUNJAB STATE TRANSMISSION CORPORATION LIMITED**  
(Regd. Office: PSEB Head Office, The Mall, Patiala-147001, Punjab, India)  
Corporate Identity Number: U40109PB2010SGC033814  
**Office of the Chief Accounts Officer/F&A**  
3<sup>rd</sup> Floor, Opp. Kali Mata Mandir, Shakti Sadan, Patiala.  
[www.pstcl.org](http://www.pstcl.org) Fax/Ph. No.0175-2970183 Email: [fa@pstcl.org](mailto:fa@pstcl.org)

To

The Registrar,  
Punjab State Electricity Regulatory Commission  
Site No. 3, Madhya Marg, Sector – 18A  
Chandigarh, 160018

Memo No. 877 /CAO(F&A)/MYT-III/APR-I

Dated: 15/12/2023

**Subject: ARR Petition for FY 2024-25 including True up of ARR for FY 2022-23 and True up of CAPEX for 2<sup>nd</sup> Control Period i.e. from FY 2020-21 to FY 2022-23 – Deficiencies thereof:**

**Ref: Hon'ble Commission's Order dated 07.12.2023 in Petition no. 63 of 2023.**

Hon'ble Commission has pointed out some deficiencies in subject cited petition vide order under reference. In compliance with the said order, please find enclosed herewith 12 copies of the reply for further necessary action.

The soft copy of the submissions (in MS excel/word) has been sent separately through email dated 15.12.2023.

DA/As above

Chief Accounts Officer (F&A)  
PSTCL, Patiala.



## Replies to Deficiencies

### 1. Audited/Provisional Accounts:

Complete annual audited accounts for FY 2022-23 (Annexure-1 to the Petition) signed/certified by the auditor in MS Excel format including Trial Balance for FY 2022-23).

#### PSTCL's Reply:

Complete annual audited accounts for FY 2022-23 including Trial Balance for FY 2022-23 in MS Excel format have been sent through email dated 15.12.2023.

### 2. Depreciation:

- i) As per MYT Regulations, Depreciation shall be calculated annually as per straight line method over the useful life of the asset. Provided that the remaining depreciable value as on 31st March of the year closing after a period of 12 years from date of commercial operation/ put in use of the asset shall be spread over the balance useful life of the assets. The details of depreciation for FY 2022-23 be provided in light of the aforesaid regulation incorporating the following:

- a) Details may be prepared head-wise for all assets with further break up of each asset to account codes.

#### PSTCL's Reply:

Head-wise details for all assets with further break up of each asset to account codes for FY 2022-23 have been sent through email dated 15.12.2023.

- b) The details may kindly be furnished separately for Transmission Business & SLDC Business.

#### PSTCL's Reply:

Separate details for Transmission Business & SLDC Business for FY 2022-23 have been sent through email dated 15.12.2023.

- ii) PSTCL to submit the detailed list of assets completing 90% of depreciation for FY 2021-22 (actuals), FY 2022-23 (estimated) and FY 2023-26 (estimated).

**PSTCL's Reply:**

List of assets completing 90% of depreciation has been sent through email dated 15.12.2023.

3. **Rate of Interest:** Details of Calculation of average rate of interest of 8.71% and 8.38% be provided for Transmission and SLDC business giving details of loan wise opening, closing, repayment and interest in MS excel format.

**PSTCL's Reply:**

Calculation sheet of average rate of interest for Transmission and SLDC business respectively with loan wise details has been sent through email dated 15.12.2023.

4. **Number of employees:** PSPCL to submit grade-wise average salary of employee in MS Excel format and the number of employees retired and recruited during FY 2022-23 (actual).

**PSTCL's Reply:**

Details for number of employees retired and recruited during FY 2022-23 is attached herewith as **Annexure – A**.

5. **Inventive:** Calculation of Incentive on account of Transmission system availability of Rs. 11.69 crore be provided in MS Excel format.

**PSTCL's Reply:**

Calculation of Incentive on account of Transmission system availability of Rs. 11.69 crore has been sent in MS excel format through email dated 15.12.2023.

6. **Gain:** Calculation of Gain on account of Over achievement of Rs. 30.72 crores be provided in MS excel format.

**PSTCL's Reply:**

Calculation of Gain on account of Over achievement of Rs. 30.72 crores have been sent in MS excel format through email dated 15.12.2023.

**7. Capital Expenditure and Capitalization**

- i) The Capital Expenditure submitted by PSTCL in the petition is not matching with the Capital Expenditure submitted in Format T14 & T15. PSTCL to reconcile the same.

**PSTCL's Reply:**

Difference in Capital Expenditure submitted by PSTCL in Table no. 3 of Petition and Format T-14 & T-15 is on account of PSDF (Own Funding). Format T-14 & T-15 does not include the works under PSDF Schemes. However, while claiming the CAPEX in Table no. 3, PSTCL has included the part of Capital Expenditure for PSDF Schemes subject to own funding. Reconciliation Statement of Capital Expenditure submitted in the Table no. 3 of petition with CAPEX as submitted in format T-14 & T-15 has been sent through email dated 15.12.2023.

- ii) In format T14 and T15, PSTCL has not submitted the description of works carried out against each scheme. Further from perusal of works, it is gathered that the list includes the works which are not even approved by the Commission during 2nd MYT Control period. Further in some columns expenditure is shown without mentioning any name of the work. PSTCL is directed to submit the scheme wise detailed list of approved works citing capital investment approved vis-à-vis actual capital expenditure against each



scheme/work. PSTCL also needs to provide the reasons in respect of the schemes in which actual expenditure is more than the approved. Also, PSTCL to provide details of works under head mentioned "Aug/Strengthening of bus bars" and "Approved by CE/TS" etc. Further PSTCL needs to submit either the approval of the Commission for these works which are not approved by the Commission during 2nd MYT Control period or specify whether these schemes are of emergent nature duly approved by BoDs.

**PSTCL's Reply:**

Detailed list of works of actual Capital Expenditure with Name of works duly tallied with Financial Accounts of PSTCL during 2<sup>nd</sup> MYT Control Period has been sent through email dated 15.12.2023. Further, reconciled list as desired by Hon'ble Commission will be submitted subsequently.

- iii) PSTCL to provide details of contributory works and PSDF works carried out during 2<sup>nd</sup> MYT Control Period.

**PSTCL's Reply:**

Detailed list of work/schemes funded through PSDF Schemes and Contributory have been sent through email dated 15.12.2023.

- iv) PSTCL to submit the details of assets directly transferred to GFA during the 2<sup>nd</sup> Control Period as submitted in Table 3 of Petition.

**PSTCL's Reply:**

Details of assets directly transferred to GFA during the 2<sup>nd</sup> Control Period have been sent through email dated 15.12.2023.

- v) PSTCL to submit a detailed list of assets decapitalized in FY 2022-23.

**PSTCL's Reply:**

Asset decapitalized during FY 2022-23 have been sent through email dated 15.05.2023.

## **8. Input and Output Energy**

i) With regard to Transmission Availability and Losses, in Annexure-II, PSTCL has submitted the details of energy. PSTCL to further submit the following:

a) The detailed calculations of the energy inflow into PSTCL system and Energy outflow from PSTCL system clearly indicating energy inflow and outflow from/to various generators, PSPCL, inter-state points and other such points.

### **PSTCL's Reply:**

Detailed calculations of the energy inflow into PSTCL system and outflow have been sent through email dated 15.05.2023.

b) Submit the reconciled/validated energy inflow/outflow from PSPCL.

### **PSTCL's Reply:**

Reconciled/validated energy inflow/outflow have been sent through email dated 15.05.2023.

c) PSTCL to submit the detailed calculations of transmission system availability.

### **PSTCL's Reply:**

Detailed calculations of transmission system availability have been sent through email dated 15.12.2023.

d) PSTCL to provide list of substations (400kV/220kV/132kV) added/being added along with increase in its inter-state power draw limit (ATC/TTC) during FY 2022-23 to FY 2024-25.

**PSTCL's Reply:**

Required information is attached as **Annexure - B**

- e) PSTCL to provide the methodology used to calculate voltage wise losses in format T34.

**PSTCL's Reply:**

Voltage wise losses in format T34 have been sent through email dated 15.12.2023.

- f) PSTCL to submit actual transmission loss for FY 2023-24 (H1).

**PSTCL's Reply:**

Actual transmission loss for FY 2023-24 (H1) is attached herewith as **Annexure - C**

**9. Transmission Capacity:**

In format T22, PSTCL has submitted the details of transmission capacity for FY 2024-25 as 16243.46 MW whereas in Table 62, for calculation of transmission charges, it has been taken as 14667.85MW. PSTCL to check the difference. Further the same be got reconciled with/validated from PSPCL.

**PSTCL's Reply:**

For calculation of transmission charges, PSTCL has taken the Transmission Capacity as 14667.85MW (16243.46 – 1575.61) by reducing the 1575.61 MW of energy on account of NRSE Private Projects mentioned at point no. 5(iv) in Format T-22 of Petition.

- 10.** In format T24, PSTCL has submitted energy sales to long term, medium term and short-term open access. PSTCL to provide list of the consumers availing open access in Punjab.

**PSTCL's Reply:**

List of the consumers availing open access in Punjab have been sent through email dated 15.12.2023.

- 11.** In para 3.10 and para 4.11, PSTCL has indicated ULDC Charges for SLDC own state, BBMB share and NRLDC fee and charges. PSPCL to check whether the BBMB share paid by him is not included in O&M charges being paid by PSPCL to BBMB. Also, PSTCL to provide details of these charges.

**PSTCL's Reply:**

In this regard, it is submitted here that BBMB Charges are being claimed by PSTCL on actual basis as per Audited Accounts of PSTCL for FY 2022-23. Details of BBMB Charges have been sent through email dated 15.12.2023.

- 12.** PSPCL in its reply to directive 5.15 in ARR petition No. 64 of 2023 has submitted a list of interstate transmission lines used for transmitting energy to neighboring states for which PSTCL is not levying transmission charges. PSTCL to provide a list of such transmission lines to the Commission along with the reasons for not levying the transmission charges for those lines.

**PSTCL's Reply:**

Details of Interstate Transmission lines of PSTCL is attached herewith as **Annexure – D.**

DA/As above

  
CAO (Finance & Audit)  
PSTCL, Patiala



Annexure - 'A'  
Point no. 04



**PUNJAB STATE TRANSMISSION CORPORATION LIMITED**

(Regd. Office: PSEB, Head Office, The Mall, Patiala-147001, Punjab, India)

Corporate Identity Number: U40109PB2010SGC033814

Office of SE/HR & ADMN., SHAKTI SADAN, PATIALA

Website: www.pstcl.org

Email ID - se-admin@pstcl.org

ਵੱਲ

**ACCOUNT OFFICER/ARR,  
PSTCL, PATIALA.**

ਮੀਮੋ ਨੰ. 17114

ਮਿਤੀ: 15/12/20

ਵਿਸ਼ਾ: ਮਿਤੀ 01.04.2022 ਤੋਂ 31.03.2023 ਤੱਕ PSTCL ਵਿੱਚ ਭਰਤੀ ਹੋਏ  
ਅਧਿਕਾਰੀਆਂ/ਕਰਮਚਾਰੀਆਂ ਦੀ ਸੂਚਨਾ ਭੇਜਣ ਸਬੰਧੀ।

ਹਵਾਲਾ: ਆਪ ਜੀ ਦੇ ਦਫਤਰ ਦੀ ਈ-ਮੇਲ ਮਿਤੀ 14.12.2023 ਦੇ ਸਬੰਧ ਵਿੱਚ।

ਉਪਰੋਕਤ ਵਿਸ਼ੇ ਅਤੇ ਹਵਾਲੇ ਅਧੀਨ ਦਰਸਾਈ ਈ-ਮੇਲ ਦੇ ਸਬੰਧ ਵਿੱਚ ਮਿਤੀ 01.04.2022 ਤੋਂ  
31.03.2023 ਤੱਕ PSTCL ਵਿੱਚ ਭਰਤੀ ਹੋਏ ਅਧਿਕਾਰੀਆਂ/ਕਰਮਚਾਰੀਆਂ ਦੀ ਸੂਚਨਾ ਨੱਥੀ ਪ੍ਰਦੇਸ਼ ਤੇ ਤਿਆਰ  
ਕਰਕੇ ਆਪ ਜੀ ਦੇ ਦਫਤਰ ਨੂੰ ਅਗਲੇਰੀ ਕਾਰਵਾਈ ਹਿੱਤ ਭੇਜੀ ਜਾਂਦੀ ਹੈ ਜੀ।

ਇਥੇ ਇਹ ਸੂਚਿਤ ਕੀਤਾ ਜਾਦਾ ਹੈ ਕਿ PSTCL ਸੰਸਥਾ ਵੱਲੋਂ ਭਰਤੀ ਕੀਤਾ ਕੋਈ ਵੀ  
ਅਧਿਕਾਰੀ/ਕਰਮਚਾਰੀ ਸਾਲ 2022-23 ਰਿਟਾਇਰ ਨਹੀਂ ਹੋਇਆ ਹੈ ਜੀ।

ਨੱਥੀ :- ਉਪਰੋਕਤ ਅਨੁਸਾਰ।

ਉੱਪ ਸਕੱਤਰ/ਅਮਲਾ (ਭਰਤੀ),  
ਪੀ.ਐਸ.ਟੀ.ਸੀ.ਐਲ.ਪਟਿਆਲਾ।

(Period 01.04.2022 to 31.03.2023)

| S. No. | Name of Deptt./ Sub-Deptt. | Regular Rectt. | Recruitment through Outsourcing | Contractual Employment | Compassionate Ground | Any Other | Total |
|--------|----------------------------|----------------|---------------------------------|------------------------|----------------------|-----------|-------|
| 1      | PSTCL                      | 680            | 10                              | -                      | 1                    | -         | 691   |

| Detail of posts are as under |                            |                                 |               |                                    |               |                                |               |  |                     |             |                  |
|------------------------------|----------------------------|---------------------------------|---------------|------------------------------------|---------------|--------------------------------|---------------|--|---------------------|-------------|------------------|
| S. No.                       | Name of Deptt./ Sub-Deptt. | Name of Recruitment/ Employment | Group -A      |                                    | Group -B      |                                | Group -C      |  | Group -D            |             |                  |
|                              |                            |                                 | No. of Rectt. | Designation                        | No. of Rectt. | Designation                    | No. of Rectt. | Designation                            | No. of Rectt.       | Designation |                  |
| 1.                           | PSTCL                      | Regular Rectt.                  | 36            | Assistant Engineer/OT (Electrical) | 10            | Divisional Accountant          | 88            | LDC/Typist                             | -                   | -           |                  |
|                              |                            |                                 | 5             | Assistant Engineer/OT (Civil)      | 9             | Junior Engineer/Civil          | 37            | LDC/Accounts                           | -                   | -           |                  |
|                              |                            |                                 | 2             | Assistant Manager/HR               | 146           | Junior Engineer/Sub Station    | 216           | Assistant Lineman (ALM)                | -                   | -           |                  |
|                              |                            |                                 | 1             | Assistant Manager /IT              | 11            | Junior Engineer/ Communication | 105           | Assistant Sub Station Attendant (ASSA) | -                   | -           |                  |
|                              |                            |                                 | 4             | Account Officer                    | -             | -                              | 10            | Telephone Mechanic                     | -                   | -           |                  |
|                              |                            | Recruitment through Outsourcing | -             | -                                  | -             | -                              | -             | 1                                      | Skilled Worker      | 3           | Unskilled worker |
|                              |                            |                                 | -             | -                                  | -             | -                              | -             | 2                                      | Data Entry Operator | -           | -                |
|                              |                            |                                 | -             | -                                  | -             | -                              | -             | 4                                      | Driver              | -           | -                |
|                              |                            | Contractual Employment          | -             | -                                  | -             | -                              | -             | -                                      | -                   | -           | -                |
|                              |                            | Compassionate Ground            | -             | -                                  | -             | -                              | -             | 01                                     | LDC/Typist          | -           | -                |
| Any Other                    | -                          | -                               | -             | -                                  | -             | -                              | -             | -                                      | -                   |             |                  |

  
Deputy Secretary/Estt.,  
P.S.T.C.L., Patiala



### ATC/TTC limits of Punjab

State's ATC limit has increased substantially from 7100 MW in summer/2021 to 9000 MW in summer/2023 as a result of numerous transmission strengthening works as mentioned below:

| Period      | ATC/TTC (MW) | Associated works   |
|-------------|--------------|--|
| Summer 2021 | 7100/7700    | <ol style="list-style-type: none"> <li>1. Additional 400/220KV 500MVA ICT at PGCIL Amritsar Substation</li> <li>2. Conductor augmentation of 220KV Ludhiana - Lalton Kalan D/C to HTLS</li> <li>3. 400KV Bus-bar splitting at 765KV PGCIL Moga Substation</li> </ol>   |
| Summer 2022 | 8500/9000    | <ol style="list-style-type: none"> <li>1. Augmentation of 1 no. 400/220KV ICT from 315MVA to 500MVA at PGCIL Ludhiana Substation</li> <li>2. Additional 400/220KV 500MVA ICT at Rajpura Substation</li> <li>3. Conductor augmentation of 220KV Jalandhar-Kartarpur D/C to HTLS</li> </ol>  |
| Summer 2023 | 9000/9500    | <ol style="list-style-type: none"> <li>1. Augmentation of 1 no. 400/220KV ICT from 315MVA to 500MVA at PGCIL Ludhiana Substation</li> <li>2. Augmentation of 1 no. 400/220KV ICT from 250MVA to 500MVA at PGCIL Moga Substation</li> <li>3. Additional 400/200KV 500MVA ICT at 400KV S/S Patiala (PGCIL)</li> <li>4. Conductor Augmentation of 220KV Rajpura (PSTCL) – Gobindgarh (PSTCL) D/C to HTLS</li> </ol> |

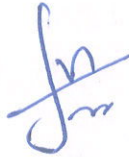
### Proposed ATC/TTC related Transmission Network Augmentation for Enhancement of ATC Limits for Summer 2024

- ▶ 2 X 500 MVA ICTs at new 400 kV S/S Dhanansu (PSTCL) with LILO of 400kV Jalandhar-Kurukshetra line
- ▶ Additional 500 MVA ICT at 400 kV Nakodar (PSTCL)
- ▶ 3<sup>rd</sup> additional 500 MVA ICT at 400 kV Patran (PGCIL)
- ▶ 2 X 500MVA ICTs at new 400 kV S/S Ropar with LILO of one circuit of 400 kV Ludhiana-Koldam line
- ▶ 220kV Substation Gurdaspur (upgradation from 132kV) with 1 X 100 MVA T/F
- ▶ 220kV Substation Budhlada (upgradation from 66kV) with 1 X 160 MVA T/F



- ▶ 220kV Substation Sherpur (upgradation from 66kV) with 1 X 160 MVA T/F
- ▶ 220kV Wazirabad new substation with 1 X 160 MVA T/F

**After completion of the above & associated 220kV works, the ATC/TTC limit is targeted to be around 10200/10700 MW.**



Annexure - 'C'  
 Point no. 8f)

**PSTCL Energy Exchanged status**

| Month                        | Energy inflow into PSTCL system (in MWh) (A) | Energy outflow from PSTCL system (in MWh) (B) | PSTCL Transmission Losses=A-B | PSTCL Transmission Losses (%age) |
|------------------------------|--|---|-------------------------------|----------------------------------|
| <b>FY 2023-2024</b>          |  |   |                               |                                  |
| April, 2023                  | 3863174.365                                  | 3779551.264                                   | 83623.101                     | 2.16                             |
| May, 2023                    | 4867987.649                                  | 4769149.835                                   | 98837.815                     | 2.03                             |
| Jun-23                       | 6586173.983                                  | 6450462.755                                   | 135711.228                    | 2.06                             |
| Jul-23                       | 7810204.612                                  | 7634004.95                                    | 176199.662                    | 2.26                             |
| Aug-23                       | 9095633.748                                  | 8894400.714                                   | 201233.035                    | 2.21                             |
| Sep-23                       | 7542826.645                                  | 7379687.114                                   | 163139.5308                   | 2.16                             |
| Losses ending September 2023 | 39766001                                     | 38907256.63                                   | 858744.3716                   | 2.16                             |

*ff*



Annexure - D,  
 Point no. 12.

Punjab State Transmission Corporation Limited

Standards of performance of Protection system of various ISTS licensee of PSTCL for the month October-2023

| Sr. no. | Name of ISTS License          | Whether SOPR Data submitted by ISTS License or not | Total no. of element tripping | Tripping for Which DR submitted for review at RLDC | NC (No of correct Protection system operations) | NF (No. of Times protection system failed to operate | NU (No. of unwanted Trippings due to system maloperation | (NI) Total No of incorrect protection system operation NF + NU | Dependability index NC/(NC + NF) | Security index NC/(NC + Nu) | Reliability index NC/(NC + Ni) |
|---------|-------------------------------|--|-------------------------------|--|---|--|--|--|----------------------------------|-----------------------------|--------------------------------|
| 1       | 220 KV Sarna-Udhampur PSTCL   | NIL  | 2                             | NIL  | 2   | NIL  | NIL  | NIL  | 1                                | 1                           | 1                              |
| 2       | 132 KV HPSEB Tap Kangra PSTCL | NIL  | NIL                           | NIL  | NIL   | NIL  | NIL  | NIL  | NIL                              | NIL                         | NIL                            |
| 3       | 66 KV Pathankot-Kathua PSTCL  | NIL  | NIL                           | NIL  | NIL   | NIL  | NIL  | NIL  | NIL                              | NIL                         | NIL                            |
| 4       | 132 KV Hamirpur Chohal Line   | NIL  | 1                             | NIL  | 1   | NIL  | NIL  | NIL  | 1                                | 1                           | 1                              |
| 5       | 132 KV Ropar-Pinjore ckt. 2   | NIL  | 1                             | NIL  | 1   | NIL  | NIL  | NIL  | 1                                | 1                           | 1                              |
| 6       | 66KV CHD 1 - Mohali           | NIL  | 1                             | NIL  | 1   | NIL  | NIL  | NIL  | 1                                | 1                           | 1                              |
| 7       | 66KV CHD 2- Mohali            | NIL  | NIL                           | NIL  | NIL   | NIL  | NIL  | NIL  | NIL                              | NIL                         | NIL                            |
| 8       | 66KV CHD 3 - Mohali           | NIL  | NIL                           | NIL  | NIL   | NIL  | NIL  | NIL  | NIL                              | NIL                         | NIL                            |
| 9       | 66KV CHD 4 Mohali             | NIL  | 3                             | NIL  | 3   | NIL  | NIL  | NIL  | 1                                | 1                           | 1                              |

| Detail of element which tripped five or more than 5 times during the month |                 |                      |
|--|-----------------|----------------------|
| Sr. no.  | Name of element | Type of element      |
|  |                 | Owner                |
|  |                 | No. of times tripped |
|  |                 | NIL                  |

Engineer-in-Chief/P&M  
 PSTCL, Ludhiana.

