



PUNJAB STATE TRANSMISSION CORPORATION LIMITED
Regd. Office: PSEB Head Office, The Mall Patiala-147001, Punjab, India.
Corporate Identity Number: U40109PB2010SGC033814 (www.pstcl.org)
(Office of Chief Accounts Officer/Finance & Audit, ARR Section)
3rd Floor, Opp.Kali Mata Mandir, Shakti Sadan, Patiala.
Fax/Ph. No.0175-2970184 Email : fa@pstcl.org

To

✓
The Secretary,
Punjab State Electricity Regulatory Commission,
Site no.3, sector 18A, Chandigarh-160018

Memo No.155...../CAO(F&A)/MYT-II/APR-II
Date.25/02/22.....

Sub:- Petition no 67 of 2021 of PSTCL- Objection no 4.

Ref: Your Office E mail dated 18.02.2022

Vide email under reference your office has forwarded the objection raised by M/s PSEB Engineers' Association on Petition no. 67/2021. Point Wise reply to the objections raised is enclosed herewith for further necessary action please.

Chief Accounts Officer (F&A)
PSTCL, Patiala

CC: Er. Ajay Pal Singh Atwal, General Secretary, PSEB Engineers' Association, 45 Ranjit Bagh, Near Modi Mandir, Passey Road, Patiala – 147001.

OBJECTION No 4 (PSEB Engineers' Association)

Comments on Petition no. 44 of 2020 filed by PSTCL for True up for FY 2019-20, Annual Performance Review of FY 2020-21 and Revised ARR and Tariff Determination for FY 2021-22 filed before the Commission appeared in Tribune and Punjab Keseri dated 01-01-2021 respectively

Objection 1:

1. Page 12 Para 2.2 Table -1 description

In case of majority of 220 kV substation of PSTCL there is problem for one or more 220/66 kV power transformers, of 100 MVA or 160 MVA which gives supply to 66 kV grid substation of PSPCL in the vicinity the main elements of a typical 220 kV substation are

- a) Incoming / outgoing 220 kV lines
- b) 220 kV busbars
- c) 220/66 kV power transformers
- d) 66 kV busbars
- e) 66 kV switchgear (circuit breakers) giving supply to outgoing 66 kV lines.

All the equipments elements (a) to (e) above are a part of 220 kV substations, i.e. PSTCL jurisdiction. The interface point or boundary between PSTCL and PSPCL is the substation gantry from where the first span of 66 kV outgoing lines begins. Alternately it can be stated that the jurisdiction of 66 kV line ends at the substation gantry at which the line ends. Thus, the 66 kV busbars and 66 kV switchgears installed as part of 220 kV jurisdictions.

It is concluded that the 66 kV switchgear and 66 kV bays located in premises of 220 kV PSTCL substations become a part of PSTCL jurisdiction while PSPCL jurisdiction begins from the substation gantry from where the 66 kV line starts.

The table -1 (Page 12) gives the data of transmission bays as under as on 1-4-2020

| | |
|--------|------|
| 400 kV | 72 |
| 220 kV | 703 |
| 132 kV | 505 |
| Total | 1280 |

However, the 66 kV bays and switchgear located within the premises/ boundary of 220 kV substation become a part of substation become a part of PSTCL system, and operation and maintenance of 66 kV switchgear is carried out by PSTCL personnel. The position of transmission bays needs to be corrected to include 66 kV bays located within 220 kV substation premises as under.

| | |
|-----|-----|
| 400 | 72 |
| 220 | 703 |
| 132 | 505 |

| | |
|----|------|
| 66 | 1205 |
|----|------|

Reply 1:

Page 12 para2.2 Table 1 – 66KV Bays has been cross checked and total no of 66KV (1196) and 33KV(12) bays are 1208 no as on 01/04/2020.

Objection 2:

O&M charges as per CERC norms.

In case of PSTCL petition , the O&M expenses have been worked out for 220-21 on the following principle/ methodology.

- a) Employee expenses
- b) R&M expenses
- c) Administration & General

Total O&M

While this procedure is bases on cost-plus approach the CERC has adopted normative approach with O&M norms specified for following equipment / assets

- a) Substation bays (voltage wise)
- b) Transformers MVA
- c) Transmission lines with categorization based on
 - i) Single or double circuit
 - ii) Single or twin conductor as under for 2021

Rs. Lac/km/year

| | | |
|----------------|------------------|-------|
| Single Circuit | Single conductor | 0.26 |
| Single circuit | Twin conductor | 0.521 |
| Double Circuit | Twin conductor | 0.977 |
| Double circuit | Single conductor | .419 |

2.1 O&M as per CERC norms.

| Qty. | Description | Norm | Amount |
|--------|--------------------|-------|--------|
| 360 km | 400 kV Line S/C | 0.521 | 1.88 |
| 1442 | 400 kV Line double | 0.912 | 12.15 |
| 38187 | S/S MVA | 0.312 | 119 |

| | | | |
|------|-----------------|-------|-------|
| 4235 | 220 kV line S/C | 0.260 | 11.01 |
| 3629 | 220 kV line S/C | 0.391 | 14.19 |
| 2494 | 132 kV line S/C | .260 | 6.48 |
| 599 | 132 kV line D/C | .391 | 2.34 |

Substation Bays

| | | | | |
|-----------|-------|-------|-------|-------|
| | 400 | 220 | 132 | 66 |
| Nos | 72 | 703 | 505 | 1205 |
| Norm | 33.28 | 23.30 | 16.64 | 16.64 |
| Rs. Crore | 23.96 | 163.8 | 84.03 | 200.5 |

Total O&M of substation

Bays = 472.29 crore

Overall O&M Charges as per CERC = 640.34 crore

Thus, as against Rs. 589.84 crore claimed by PSTCL for O&M (true up 2020-21) the CERC norms result in O&M of Rs. 640.34 crore.

Reply 2:

PSTCL appreciates objector's comparison of applicable O&M cost according to CERC norms. Further action has to be taken by Hon'ble Commission.

Objection 3:

Transmission system availability Para 2.3 Table 2

The availability of transmission system during 2020-21 is shown as 99.8324%

Since this availability is much higher than the normative target of 99% (i.e. over achievement), vide table 26 page 37 PSTCL has claimed incentive of Rs. 9.88 crore.

3.2 Two suggestions are submitted.

First, that PSTCL may give a list of 220 kV or 400 kV line outage for 2020-21 which are having duration more than 2 days. Only forced outage may be tabulated. The tabulation may be as under

Summary of forced outage of 220 kV or 400 kV lines > 2 days.

| Sr. No. | Line under forced outage | Period of forced outage |
|---------|--------------------------|-------------------------|
| | | |

This tabulation would give a practice and factual summary of outage duration during the year.

Second: The second substation is that the incentive of Rs. 9.88 crore may be utilized to procure critical spares for the transmission lines and substations of spillage. These spends could be maintained at any central location in Punjab which could be used for replacements at any substation or line as per requirement.

Reply 3:

PSTCL will abide the regulations made on this account.

Objection 4:

At pare 12, table -1 of petitioner it is given that 400 kV lines are of 1599.75 circuit km whereas the data of NRLDC does not match.

The NRLDC data is as under

| | Single Circuit | Double Circuit | Double circuit km |
|-------------------------|----------------|----------------|-------------------|
| Amritsar-Makhu | - | 64 | 128 |
| Muktsar-Makhu | - | 96 | 192 |
| Nakodar-Makhu | - | 52 | 104 |
| Nakodar-Moga | 78 | - | - |
| Rajpura-Dhuri | - | 86 | 172 |
| Rajpura-Rajpura Thermal | - | 9 | 18 |
| Rajpura-Nakodar | - | 139 | 278 |
| T.Sabo-Dhuri | - | 175 | 350 |
| T.Sabo-Moga | 102 | - | - |
| T.Sabo-Nakodar | 180 | - | - |
| T.Sabo-Muktsar | - | 100 | 200 |
| TOTAL | 360 | 721 | 1442 |

Total circuit km of PSTCL 400 kV lines as per NRLDC data = 360+1442=1802

Length as per PSTCL = 1599.75

The PSTCL data may be cross checked with NRLDC figures

Reply 4:

Para 12, table 1 – 400KV line KM has been cross checked and it is 1599.75KM as on 01/04/2020.

Objection 5:

Manpower requirement for new 400 kV substation - page 51

The petition states about Commissioning schedule of new 400 kV substation Bahaman Jassa Singh and Dhanansh in 2021-22 (3 months) & 2022-23 (9 months) However, the staff is required to be posted at least 6 months in advance and put through on job training at nay of 400 kV substation of PSTCL and the prior on job training is absolutely necessary.

Reply 5:

Noted the suggestion.

Objection 6:

O&M norms of CERC have been notified for 5 years period 2019-24 and the norms, year wise, have an escalating trend as under. The norms of 2020-21, 2021-22 and 2022-23 are compared as under.

| | 2020-21 | 2021-22 | 2022-23 |
|------------------|---------|---------|---------|
| 400 kV bays | 33.28 | 34.45 | 35.66 |
| 220 kV bays | 23.30 | 24.12 | 24.93 |
| 132 kV and below | 16.64 | 17.23 | 17.83 |

(figures above in Rs. Lac per bay per year)
Transformer MVA (Rs. /MVA/year)

| | 2020-21 | 2021-22 | 2022-23 |
|----------------|---------|---------|---------|
| 400 kV | .371 | .384 | .398 |
| 220 kV | .254 | .263 | .272 |
| 132 kV & Above | .254 | .263 | .272 |

Transmission lines (norms of double circuit line, with twin conductor) in Rs. Lac per ckt. Km.

| | 2020-21 | 2021-22 | 2022-23 |
|--------------------------------|---------|---------|---------|
| Double circuit, twin conductor | .912 | .944 | .977 |

The CERC norms have an annual escalation trend as under

| | | |
|--------------------|------|----------|
| Substation bays | 3.5% | Per year |
| Transformer MVA | 3.5% | |
| Transmission lines | 3.5% | |

6.1 The O&M charges as per PSTCL petition are as under.

| | 2020-21 | 2021-22 | 2022-23 |
|----------------|----------------|----------------|----------------|
| ARR Figure O&M | 589.85 CR | 673.92 CR | 739 CR |

Reply 6:

It is submitted that PSTCL has worked out the normative O&M expenses (including employee expenses) for FY 2020-21, FY 2021-22 and FY 2022-23 on the basis of MYT Regulations, 2019.

PSTCL has claimed the normative O&M expenses (including employee expenses) in Truing-up of FY 2020-21. The approach is in accordance with the methodology adopted by the Hon'ble Commission in MYT Regulation 2019.

Objection 7:

Income from O&M of PGCIL bays.

At Table 24, page 34-35 it has been stated that Rs. 7.51 CR is the income from PGCIL on account of O&M by PSTCL done for PGCIL bays. The details and particulars of PGCIL bays that are being maintained by PSTCL may be given.

Reply 7:

The detail of PGCIL bays that are being maintained by PSTCL is as under:-

1. 9 NO. 220KV Bays at Sarna and Dasuya Sub-station
2. 2 No. 400KV Bays at Nakodar Sub-station
3. 2 No. 400KV Bays at Rajpura Sub-station

Objection 8:

Page 44 Table 29,30

a) For 2020-21 the addition of 185 MVA in substation capacity has been stated for H-1 of year 2021-22 and 540 mVA addition during H-2. The particulars of these additions may please be stated.

b) for 2022-23 the table 30 indicates that 1600 MVA capacity will be added. The particulars of 1600 MVA transformers proposed to be added in 2022-23 may please be given.

Reply 8:

As per Annexure-I

Objection 9:

Shortage of manpower

At page 91, Format T-6 the total manpower (actual), and comparison with sanctioned strength has been given as under.

| | 2020-21 | 2021-22 | 2022-23 |
|---------------------------------------|----------------|----------------|----------------|
| Working strength at beginning of year | 2731 | 2523 | 2646 |

| | | | |
|---------------------|------|------|------|
| Sanctioned strength | 5130 | 5159 | 5159 |
| %age | 53% | 49% | 51% |

Reply 9:

Management is making efforts to man the vacant posts as per requirement (recruitment/outsourcing).

Objection 10:

Format T-5 page 102

The amount of capital expenditure/ capitalization achieved for various items has been given in format T-15. The details of capital works executed as per list below may please be supplied.

For example at Sr. no. 4, page 102 it is shown that at 400 kV substation Makhu there was a capitalization of 30.77 crore but the details regarding the expenditure are not given. It is not known whether the amount was on account of switchgear or line or bldg/land.

The particulars of works may please be supplied on which the expenditure (capitalization) has been done as per list below.

| Sr. | Substation | Amount (Cr.) | Particulars of capitalization |
|-----|--------------------|--------------|-------------------------------|
| 4 | 400 kV Makhu | 30.77 | Capitalization 21-22 |
| 5 | 220 KV Dhandari | 3.07 | Capitalization 21-22 |
| 9 | 220 kV Sadiq | 9.61 | Capitalization upto 19-20 |
| 10 | 220 kV Bajakhana | 8.86 | Capitalized 21-22 |
| 12 | 220 kV Sarai Nagar | 12.24 | Capitalized 22-23 |
| 14 | 220 kV Sherpur | 11.69 | Capitalized 22-23 |
| 16 | 220 kVBudhladha | 22.58 | Capitalized 22-23 |
| 18 | 400 kV Dhanansu | 30.89 | Capitalized 22-23 |
| 19 | 400 kV Dhanansu | 40.0 | Capitalized 22-23 |
| 20 | 400 kV Doraha | 18.34 | Capitalized 22-23 |
| 23 | 220 kV Doraha | 24.10 | Capitalized 22-23 |
| 25 | 220 kV Ikloha | 10.83 | Capitalized 22-23 |
| 26 | 440 KV Patran | 24.21 | Capitalized 22-23 |
| 29 | 220 kV Gaunsgarh | 20.03 | Capitalized 22-23 |
| 35 | 220 kV BOTianwala | 8.41 | Capitalized 22-23 |

| | | | |
|-----|-----------------------------|-------|-------------------|
| 36 | 220 kV Majitha | 5.45 | Capitalized 22-23 |
| 44 | 220 kV Jalandhar –Kartarpur | 5.00 | Capitalized 22-23 |
| 49 | 400 kV Nakodar | 11.55 | Capitalized 22-23 |
| 51 | 220 kV Beas | 18.27 | Capitalized 22-23 |
| 57 | 220 kV Patti | 8.68 | Capitalized 21-22 |
| 59 | 220 kV Dhandari | 6.06 | Capitalized 21-22 |
| | | 8.08 | Capitalized 22-23 |
| 62 | 400 kV Rajpura | 17.50 | Capitalized 20-21 |
| | 400 kV Rajpura | 24.57 | Capitalized 22-23 |
| 77 | Banga | 5.21 | Capitalized 22-23 |
| 87 | Nawanpind | 15.74 | Capitalized 22-23 |
| 93 | Transformer | 15.0 | Capitalized 22-23 |
| 95 | 220 kV Jhoke-H | 16.5 | |
| 103 | 220 kV Singhwal | 3.56 | Capitalized 22-23 |
| 107 | 220 kV Mohali | 8.91 | Capitalized 22-23 |
| 116 | 220 kV Pakhowal | 7.59 | Capitalized 21-22 |
| 133 | 220 kV | 8.07 | Capitalized 21-22 |
| 134 | 220 kV | 7.36 | Capitalized 22-23 |
| 136 | 220 kV | 13.00 | Capitalized 22-23 |
| 138 | 220 kV Rajpura Kohara | 25.0 | Capitalized 22-23 |
| 139 | 220 kV Addl. TFs | 37.14 | Capitalized 22-23 |
| 140 | Kot Kapura-1 | 3.48 | Capitalized 22-23 |
| 141 | 132 kV Bilaspur | 2.58 | Capitalized 22-23 |
| 142 | 132 kV Nawanshahar | 2.91 | Capitalized 22-23 |
| 143 | 132 kV Kapurthala | 5.35 | Capitalized 22-23 |
| 147 | IGC Bathinda | 2.46 | Capitalized 22-23 |
| 153 | GT Road Amritsar | 16.87 | Capitalized 21-22 |
| | GT Road Amritsar | 5.99 | Capitalized 22-23 |

Reply 10:

As per Annexure – II

Objection 11:

Format T-20 page 135

At Sr. no. 3 "Number of bays"

The number of 66 kV bays (installed within 220 kV or 400 kV substation of PSTCL) has not been included, whereas the O&M of these bays is done by PSTCL.

Reply 11:

66KV Bays has been cross checked and total no of 66KV (1196) and 33KV(12) bays are 1208 no as on 01/04/2020.

Objection 12:

From T-22, Transmission capacity for 2022-23 Page 139

a) Against Mundra UMPP, capacity allocation to Punjab is shown as 475 MW. However, the actual capacity being supplied is not 475 but some lower figure on account of commercial dispute. The present position for 2022-23 may be obtained and adopted in the c----- at page 139.

b) In the table given at page 139 (PSTCL petition) the following data may be cross checked/ verified from PSPCL.

| | |
|-----------------|-------|
| Parbati-II NHPL | 79.04 |
| Subsnsri NHPC | 15.81 |
| SECI Hybrid | 800 |
| NTPC Solar | 300 |
| SECI Solar | 30 |
| SECI Wind | 360 |

Reply 12:

With effect from March, 2021, CGPL has been declaring less availability and had finally ceased operations of Mundra Power Plant from 18.09.2021 onwards alleging financial distress owing to Indonesia Coal Regulations. Presently, CGPL is not supplying any Power to PSPCL. The present position for 2022-23 cannot be ascertained as CGPL has ceased operations of Mundra Power Plant. In this regard, PSPCL is going to file a Petition against CGPL shortly.

Objection 13:

At Page 166, from T40 the following power transformers failures have been listed.

| | | |
|--------------------------|--------|---------|
| 220 kV Substation | 8 Nos. | 2020-21 |
|--------------------------|--------|---------|

| | | |
|--------------------------|--------|---------|
| | 3 Nos | 2021-22 |
| 132 kV Substation | 1 No. | 2020-21 |
| | 4 Nos. | 2021-22 |

The details / particulars of above power transformers which failed may be supplied by PSTCL.

Reply 13:

At Page 166, from T40

The detail of Failure Transformer is as under:-

| FY 2020-21 | | | |
|------------|-----------------------------|-----------------------|--|
| Sr.No. | Name of S/S | Detail of T/F | Date of Damage |
| 1 | 220KV Ferozepur | 16/20MVA, 132/11KV | 04/05/2020 |
| 2 | 220KV Civil lines Asr | 100 MVA, 220/66KV | 04/05/2020 |
| 3 | 220KV Mastewal | 100 MVA, 220/66KV | 25/05/2020 |
| 4 | 132KV Muktsar Sahib | 20/25 MVA, 132/66KV | 21/07/2020 |
| 5 | 220KV Hoshiarpur | 12.5/16 MVA, 132/11KV | 15/07/2020 |
| 6 | 220KV Abohar | 20 MVA, 132/11KV | 05/09/2020 |
| 7 | 220KV Kohara | 100 MVA, 220/66KV | 15/10/2020 |
| 8 | 220KV Muktsar Sahib | 100 MVA, 220/132KV | 07/01/2021 |
| 9 | 220KV Devigarh | 100 MVA, 220/66KV | Faulty on 15/12/2017 and declared damaged on 29/01/2021 |
| FY 2021-22 | | | |
| 1 | 132KV Bhikiwind | 50MVA, 132/66KV | 17/05/2021 |
| 2 | 132KV Nawashehar | 16/20 MVA, 132/11KV | 17/04/2021 |
| 3 | 220KV Ferozepur Road LDH | 16/20 MVA, 66/11KV | 02/07/2021 |
| 4 | 220KV Mandi Gobindgarh-2 | 16/20 MVA, 66/11KV | 09/07/2021 |
| 5 | 132KV Ferozshah | 10/12.5 MVA, 132/11KV | 12/07/2021 |
| 6 | 132KV Smadh Bhai | 16/20 MVA, 132/11KV | 03/08/2021 |
| 7 | 220KV Jagraon | 20 MVA, 66/1KV | 22/08/2021 |

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

Annexure - I

Page 44 Table 29, 30

(a) Particulars of the additions during H-2 of 570 MVA is as below:

| S.No. | Name of S/S | Description | Addition (MVA) |
|--------------|-------------------------|--|----------------|
| 1 | 220 kV S/S Jadla | Additional 100 MVA 220/66 kV T/F | 100 |
| 2 | 220 kV S/S Mohali | Augmentation of 100 MVA 220/66 kV T/F to 160 MVA | 60 |
| 3 | 220 kV S/S Pakhowal | Augmentation of 100 MVA 220/66 kV T/F to 160 MVA | 60 |
| 4 | 220 kV S/S Tibber | Additional 100 MVA 220/66 kV T/F | 100 |
| 5 | 220 kV S/S Bhawanigarh | Additional 100 MVA 220/66 kV T/F | 100 |
| 6 | 220 kV S/S Majra | Additional 100 MVA 220/66 kV T/F | 100 |
| 7 | 132 kV S/S Panjgrain | Augmentation of 10/12.5 MVA to 20 MVA | 7.5 |
| 8 | 132 kV S/S IGC Bathinda | Augmentation of 10/12.5 MVA to 20 MVA | 7.5 |
| 9 | 132 kV S/S Phillaur | Augmentation of 10/12.5 MVA to 20 MVA | 7.5 |
| 10 | 132 kV S/S Bhikhiwind | Augmentation of 10/12.5 MVA to 20 MVA | 7.5 |
| 11 | 132 kV S/S Kapurthala | Additional 20 MVA, 132/11 kV T/F | 20 |
| Total | | | 570 MVA |

(b) The particulars of 1600 MVA transformers proposed to be added in 2022-23 is as below:

| S.No. | Name of S/S | Description | Addition (MVA) |
|-------|--------------------------------|--|----------------|
| 1 | 400 kV S/S Rajpura | 1 No. Additional 500 MVA, 400/220 kV T/F | 500 |
| 2 | 220 kV S/S Nawanpind (New) | 2 No. 100 MVA 220/66 kV T/F | 200 |
| 3 | 220 kV S/S Gurdaspur (New) | 2 No. 100 MVA 220/66 kV T/F | 200 |
| 4 | 220 kV S/S Singhawala | 1 No. Additional 100 MVA, 220/66 kV T/F | 100 |
| 5 | 220 kV S/S Badshahpur | 1 No. Additional 100 MVA, 220/66 kV T/F | 100 |
| 6 | 220 kV S/S Naraingarh | 1 No. Additional 100 MVA, 220/66 kV T/F | 100 |
| 7 | 220 kV S/S Banga | 1 No. Additional 100 MVA, 220/66 kV T/F | 100 |
| 8 | 220 kV S/S Badhni Kalan | 1 No. Additional 100 MVA, 220/66 kV T/F | 100 |
| 9 | 220 kV S/S Civil line Amritsar | 1 No. Additional 100 MVA, 220/132 kV T/F | 100 |
| 10 | 132 kV S/S Verka | Additional 20 MVA, 132/11 kV T/F | 20 |
| 11 | 132 kV S/S Gurdaspur | Additional 20 MVA, 132/11 kV T/F | 20 |
| 12 | 132 kV S/S Hargobindpur | Additional 20 MVA, 132/11 kV T/F | 20 |

| | | | |
|--------------|-----------------------|---|-------------|
| 13 | 132 kV S/S Tangra | Additional 12.5 MVA, 132/11 kV T/F | 12.5 |
| 14 | 132 kV S/S Samad bhai | Additional 12.5 MVA, 132/11 kV T/F | 12.5 |
| 15 | 132 kV S/S Faridkot | Augmentation of 12.5 MVA to 20 MVA, 132/11 kV T/F | 7.5 |
| 16 | 132 kV S/S Ferozshah | Augmentation of 12.5 MVA to 20 MVA, 132/11 kV T/F | 7.5 |
| Total | | | 1600 |

Annexure II

Format T-5 page 102

The particulars of works on which the expenditure (capitalization) has been done is as per list below:

| Sr. | Substation | Amount (Cr.) | Particulars of capitalization | Particulars of work |
|------------|--|---------------------|--------------------------------------|----------------------------|
| 4 | 400 kV Makhu | 30.77 | Capitalization 21-22 | Equipment. |
| 5 | 220 KV Dhandari | 3.07 | Capitalization 21-22 | Equipment. |
| 9 | 220 kV Sadiq | 9.61 | Capitalization upto 19-20 | Equipment. |
| 10 | 220 kV Bajakhana | 8.86 | Capitalized 21-22 | Equipment. |
| 12 | 220 kV Banga (wrongly mentioned as Sarai Nagar in PSEBEA Comments) | 12.24 | Capitalized 22-23 | Equipment. |
| 14 | 220 kV Sherpur | 11.69 | Capitalized 22-23 | Equipment. |
| 16 | 220 kVBudhladha | 22.58 | Capitalized 22-23 | Equipment. |
| 18 | 400 kV Dhanansu | 30.89 | Capitalized 22-23 | Equipment + Land. |
| 19 | 400 kV Dhanansu | 40.0 | Capitalized 22-23 | Line. |
| 20 | 400 kV Doraha | 18.34 | Capitalized 22-23 | Equipment. |
| 23 | 220 kV Doraha | 24.10 | Capitalized 22-23 | Line. |
| 25 | 220 kV Ikloha | 10.83 | Capitalized 22-23 | Equipment. |
| 26 | 440 KV Patran | 24.21 | Capitalized 22-23 | Line. |
| 29 | 220 kV Gaunsgarh | 20.03 | Capitalized 22-23 | Line. |

| | | | | |
|-----|---------------------------------|-------|-------------------|------------|
| 35 | 220 kV Botianwala | 8.41 | Capitalized 22-23 | Equipment. |
| 36 | 220 kV Majitha | 5.45 | Capitalized 22-23 | Equipment. |
| 44 | 220 kV Jalandhar - Kartarpur | 5.00 | Capitalized 22-23 | Line. |
| 49 | 400 kV Nakodar | 11.55 | Capitalized 22-23 | Equipment. |
| 51 | 220 kV Beas | 18.27 | Capitalized 22-23 | Line. |
| 57 | 220 kV Patti | 8.68 | Capitalized 21-22 | Equipment. |
| 59 | 220 kV Dhandari | 6.06 | Capitalized 21-22 | Equipment. |
| | | 8.08 | Capitalized 22-23 | Equipment. |
| 62 | 400 kV Rajpura | 17.50 | Capitalized 20-21 | Equipment. |
| | 400 kV Rajpura | 24.57 | Capitalized 22-23 | Equipment. |
| 77 | Banga | 5.21 | Capitalized 22-23 | Equipment. |
| 87 | Nawanpind | 15.74 | Capitalized 22-23 | Equipment. |
| 93 | Transformer | 15.0 | Capitalized 22-23 | Equipment. |
| 95 | 220 kV Jhoke-H | 16.5 | | Equipment. |
| 103 | 220 kV Singhwal | 3.56 | Capitalized 22-23 | Equipment. |
| 107 | 220 kV Mohali | 8.91 | Capitalized 22-23 | Equipment. |
| 116 | 220 kV Pakhowal | 7.59 | Capitalized 21-22 | Equipment. |
| 133 | 220 kV | 8.07 | Capitalized 21-22 | Equipment. |
| 134 | 220 kV | 7.36 | Capitalized 22-23 | Equipment. |
| 136 | 220 kV | 13.00 | Capitalized 22-23 | Equipment. |
| 138 | 220 kV Rajpura Kohara | 25.0 | Capitalized 22-23 | Line. |

| | | | | |
|-----|-----------------------|-------|-------------------|------------|
| 139 | 220 kV Addl. TFs | 37.14 | Capitalized 22-23 | Equipment. |
| 140 | Kot Kapura-1 | 3.48 | Capitalized 22-23 | Equipment. |
| 141 | 132 kV Bilaspur | 2.58 | Capitalized 22-23 | Equipment. |
| 142 | 132 kV Nawanshahar | 2.91 | Capitalized 22-23 | Equipment. |
| 143 | 132 kV Kapurthala | 5.35 | Capitalized 22-23 | Equipment. |
| 147 | IGC Bathinda | 2.46 | Capitalized 22-23 | Equipment. |
| 153 | GT Road Amritsar | 16.87 | Capitalized 21-22 | Line. |
| | GT Road Amritsar | 5.99 | Capitalized 22-23 | Line. |

Equipment includes Transformers, Circuit Breaker, PT, and LA, bus bar erection, civil foundation of equipments and construction/extension of building and other electrical accessories.