BUSINESS PLAN INCLUDING CAPITAL INVESTMENT PLAN FOR MYT CONTROL PERIOD FROM FY 2023-24 TO FY 2025-26

Submitted by

pstcl

PUNJAB STATE TRANSMISSION CORPORATION LIMITED

BEFORE THE PUNJAB STATE ELECTRICITY REGULATORY COMMISSION
CHANDIGARH

FILING NO..... **IN PETITION NO.....**

IN THE MATTER OF:

Petition for the approval of PSTCL's Business Plan including Capital Investment Plan for MYT Control Period (FY 2023-24 TO FY 2025-26) under Regulation 9 of PSERC (Terms and Conditions of Determination of Generation, Transmission, Wheeling and Retail Supply Tariff) Regulations, 2019.

NOTARY CHARANJIT SINGH SIDHU Distt. Courts PATIALA (Pb.) Regd. No 11511 GOVT. OF INDIA

AND

IN THE MATTER OF:

Punjab State Transmission Corporation Limited.
Regd. Office: PSEB H.O. The Mall, Patiala.

AFFIDAVIT

I, Sudhir Kumar, son of Sh. Jagdish Sharan aged 49 resident of House No. 332/2, Soodan Street, Lahori Gate, Patiala do hereby solemnly affirms and states as under:

1. I am the CAO/Finance and Audit of Punjab State Transmission Corporation Limited, the petitioner in the above matter and am duly authorized by the Corporation to make this affidavit on its behalf.

2. The statements made in the petition are true to my knowledge and are based on the information collected from the concerned offices of the PSTCL and believe them to be true.

3. There is no case pending in any court of law with regard to the subject cited matter of the petition.

Sudhir
DEPONENT
(Sudhir Kumar)

The Contents of the affidavit documents have been read over to the documents He/She has accepted the true & correct.

VERIFICATION:

I, the deponent above named do hereby verify that the content of my above affidavit are true to my knowledge and belief and nothing material has been concealed there from.

Verified at Patiala on the day of 18th August, 2022.

Sudhir
DEPONENT
(Sudhir Kumar)

Attested As Identified
NOTARY (Govt. of India)
Distt. PATIALA (Pb.)

18 AUG 2022

BEFORE THE PUNJAB STATE ELECTRICITY REGULATORY COMMISSION, CHANDIGARH

Case No._____

IN THE MATTER OF: Petition for the approval of PSTCL's Business Plan including Capital Investment Plan for MYT Control Period (FY 2023-24 TO FY 2025-26) under Regulation 9 of PSERC (Terms and Conditions of Determination of Generation, Transmission, Wheeling and Retail Supply Tariff) Regulations, 2019

AND

IN THE MATTER OF Punjab State Transmission Corporation Limited (hereinafter referred as "PSTCL' or "the Petitioner")

The Petitioner respectfully submits as under: -

1. **The Petitioner** (interchangeably referred to as PSTCL) is vested with the function of intra-State transmission of electricity in the State of Punjab and the operation of State Load Despatch Centreas notified by the Government of Punjab vide Notification No. 1/9/08-EB(PR) 196 dated April 16, 2010. Further, in terms of Section 39 of the Act, the Government of Punjab declared PSTCL as the State Transmission Utility (STU).
2. **The Petitioner** is operating under the aegis of Electricity Act 2003 (EA 03) and the regulations notified by the Punjab State Electricity Regulatory Commission (PSERC). The Hon'ble Commission has issued the PSERC (Terms and Conditions of Determination of Generation, Transmission, Wheeling and Retail Supply Tariff) Regulations, 2019 (hereinafter referred to as "PSERC MYT Regulations, 2019") in exercise of powers conferred on it by Section 61 read with Section 181(2) of the Electricity Act 2003 (No. 36 of 2003).
3. As per the aforesaid regulations, PSTCL shall file its Business Plan along with its Capital Investment Plan for the control period i.e. FY 2023-24 TO FY 2025-26.
4. Accordingly, in line with the provisions of the PSERC MYT Regulations 2019, the Petitioner is hereby filing the Petition for Approval of Business Plan including Capital Investment Plan for the Control Period from FY 2023-24 TO FY 2025-26.

PRAYER TO THE HON'BLE COMMISSION

The Petitioner respectfully prays to the Commission:

a) To admit the Petition seeking approval of Business Plan along with its Capital Investment Plan for FY 2023-24 TO FY 2025-26 in accordance with Regulation 9 of the PSERC MYT Regulations, 2019;

b) To approve the Business Plan along with the Capital Investment Plan for Transmission and SLDC Business for FY 2023-24 TO FY 2025-26 as proposed by the Petitioner in the above-said Petition;

c) To pass any other order/s as the Hon'ble Commission may deem fit and appropriate under the circumstances of the case and in the interest of justice;

d) To condone any error/ omission and to give opportunity to rectify the same;

e) The filing is being done based on the best available information and in case of any change, the Petitioner may be permitted to make further submissions, addition and alteration to this Petition as may be necessary from time to time.

Dated: 18-08-2022
Place: Patiala

Petitioner,
PSTCL, Patiala.

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1 Introduction

1.1 Background

In exercise of powers conferred under sub-section 4 of Section 131 of the Electricity Act, 2003 ("the Act" or "EA 03"), the Government of Punjab vide Notification No. 1/9/08-EB(PR) 196 dated April 16, 2010, restructured and unbundled the erstwhile Punjab State Electricity Board, into two successor companies, viz.

a) Punjab State Power Corporation Ltd. (PSPCL), to undertake generation and distribution business,

b) Punjab State Transmission Corporation Ltd. (PSTCL), to undertake transmission of electricity along with operation of SLDC functions.

PSTCL was incorporated as a Company under the provisions of the Companies Act, 1956 having its registered office at The Mall, Patiala. Acting as State Transmission Utility (STU), PSTCL has been entrusted with the transmission business of the erstwhile Punjab State Electricity Board (PSEB). PSTCL is vested with the function of intra-State transmission of electricity in the State of Punjab. Further, in terms of Section 39 of the Act, Government of Punjab declared PSTCL as the State Transmission Utility, which is responsible for undertaking, amongst others, the following main functions:

a) To undertake transmission of electricity through intra-State transmission system.

b) To discharge all functions of planning and co-ordination relating to intra-State transmission system.

c) To ensure development of an efficient, coordinated and economical system of intra-State transmission lines.

d) To provide open access.

The Hon'ble Punjab State Electricity Regulatory Commission (PSERC or the Hon'ble Commission) have moved to a multi-year tariff (MYT) regime, with an aim to bring about clarity on regulatory principles, to reduce regulatory risks and to incentivize efficient operations by Utilities. The MYT framework provides greater regulatory certainty by providing Utilities a longer period to plan, forecast and implement their efficiency improvement plan.

1.2 Functions of State Transmission Utility

PSTCL is expected to perform the following functions:

to undertake transmission of electricity through intra-State transmission system;

to discharge all functions of planning and co-ordination relating to intra-State transmission system with other authories such as CTU, State Government, Generating Companies, other licensee, etc.

to ensure development of an efficient, co-ordinated and economical system of intra-State transmission lines for smooth flow of electricity from a generating station to the load centres

to provide non-discriminatory open access to its transmission system for users

1.3 Vision Statement of Company

The vision statement of PSTCL, specific to the business is as below:

"To be responsive, vibrant, reliable and efficient institution"

1.4 Corporate Mission of the Company

The Mission Statement of PSTCL, specific to the business is as below:

- Manage, upgrade and expand operational boundary on sound 'economic principles'.
- *Arrest* and bring down *transmission losses and attain* world class transmission system.
- Optimize revenue generation through alternative use of available resources, adopt cost control measures and explore unconditional revenue path.
- Adapt fair working practices, empower collectives and make PSTCL "a great institution".
- Pursue holistic Corporate Social Responsibilities.
- Make safety a way of life

1.5 Core Values

PSTCL core values have been provided as under:

- Trust, Mutual Respect and Industrial harmony.
- Discipline, Dedication, Commitment & Transparency.
- Dignity, Honesty & Integrity.
- Organizational Pride with Sincerity of purpose.
- Sharing, Caring & Concern.
- Operational Excellence & Professionalism.
- Creativity, Research & Development

1.6 Core Activities

PSTCL undertakes the following core activities:

- **Operation & Maintenance (O&M)**

  All the objectives comprising planning, implementation and control of:

  - Operational activities of EHV Transmission Lines and Substations as per Grid standards.
  - Maintenance activities to ensure their efficient and reliable working.
  - Asset management activities of the Transmission work to ensure commercial viability.

- **Projects**

  - All the activity streams, comprising planning execution and control of engineering design, procurement and construction of EHV Transmission Lines, Substations and other utilities.

- **Load Dispatch (LD)**

  - State Load Dispatch Centre is part of PSTCL. No separate legal entity has been formed for Load Dispatch. The activities comprise:
  - Scheduling and dispatch of electricity within the state
  - Monitoring grid operations
  - Accounting for the quantity of electrical energy transmitted through the State Grid
  - Supervising and controlling inter-state transmission system
  - Carrying out real time operations for grid control and dispatch of electricity within the State

1.7 Key actions taken to fulfill the Mission Statement

a) Maintaining the Transmission System Availability above the normative annual transmission availability factor specified by the Hon'ble Punjab State Electricity Regulatory Commission (Hon'ble PSERC or Hon'ble Commission).

b) Installation of boundary ABT meters at interface points between PSTCL and PSPCL to measure actual transmission loss.

c) Capital Expenditure incurred for upgrading and maintaining the existing transmission infrastructure in the State of Punjab.

d) Capital Expenditure incurred for new schemes and existing schemes where work is in progress.

e) Investments being made in 220 kV and 132 kV transmission works

f) Investments in state of the art oil and diagnostic lab and miscellaneous tools required for operation and maintenance of transmission system

g) Procurement of RTUs for SCADA scheme

h) Pursuing development of Substation Automation for unmanned operations.

i) Procurement of equipment's including voice recording and Islanding scheme in Punjab

j) Periodic filing of MYT petition for determination of tariff and getting approval of the Hon'ble Commission for the capital expenditure works.

k) Formulation of a Corporate Social Responsibility policy to promote sustainable and inclusive development for the benefit of the society at large as a responsible corporate citizen. The focus of CSR initiatives is on geographic areas that are impacted while discharging its statutory responsibilities under the Electricity Act, 2003 and the Rules framed thereunder.

l) Adoption of Safety Manual for safe working practices

1.8 Objective of Business Plan

PSTCL, being the State Transmission Utility, is entrusted with the responsibility of planning, developing, operating and maintaining the State Transmission System to facilitate transmission of electricity from the source to load centres. Being a Transmission Licensee in the State of Punjab, the Aggregate Revenue Requirement (ARR) and Tariff for PSTCL is regulated by the Hon'ble Commission. The Hon'ble Commission is performing various functions as per Section 86(1) of the Act.

Under the powers vested with it under Section 181 of the Act and in compliance to Section 61 of the Act, the Hon'ble Commission notified the PSERC (Terms and Conditions for Determination of Generation, Transmission, Wheeling and Retail Supply Tariff) Regulations, 2019 (herein after referred as "PSERC MYT Regulations, 2019") on May 29, 2019. These regulations came into enforcement from April 1, 2020 and the three-year Multi Year Tariff ("MYT") Control Period shall be from FY 2023-24 TO FY 2025-26.

The Hon'ble Commission has mandated the submission of Business Plan along with Capital investment Plan prior to the approval of Multi Year Tariff Petitions. Regulation 9.1 of the PSERC MYT Regulations, 2019 specifies as under:

> *"The Applicant shall file the Business Plan including the Capital Investment plan for its Generation, Transmission, SLDC and/or Distribution businesses, as the case may be for approval of the Commission on or before 20th August of the year preceding the first year of the Control Period for a duration covering the entire Control Period."*

Further, Regulation 9.4 of the PSERC MYT Regulations, 2019 specifies as under:

> *"The Business Plan for Transmission Business shall be based on proposed generation capacity addition, future load forecasts of the State, planned capacity augmentation by the Central Transmission Utility (CTU) for the State and shall contain among other things the following:*

(a) Future plans of the company including efficiency improvement measures proposed to be introduced and technical requirement such as meeting reactive power requirements;

(b) Plan for reduction in transmission losses;

(c)Plan for improvement in quality of transmission service and reliability, metering arrangements and any other new measure to be initiated by the Licensee, e.g. automation, IT initiatives etc.;

(d) Capital Investment Plan based on the above;

(e) Man Power Plan."

From the above, it is seen that the Business Plan is intended to give a comprehensive and an up-to-date picture of the Company, its market and the impact of new Regulations, and the strategies that PSTCL develops to achieve the Company's goals, carry out its mission and achieve its vision. Accordingly, PSTCL has attempted to develop this Business Plan for the 3rd MYT Control Period with a view to chart out the growth strategy after considering projected revenue and expenses of the Company and evaluating its external business environment.

1.9 Approach and Methodology

PSTCL has prepared the Business Plan including Capital Investment Plan in accordance with the provisions of PSERC MYT Regulations, 2019. The financial projections of PSTCL have been prepared considering that it would be operating as a transmission service provider and the primary source of its revenue would be that earned for providing its service to the users of the transmission network.

The Business Plan for the MYT Control Period considers the following:

- Future plans of the company including efficiency improvement measures proposed to be introduced and technical requirement such as meeting reactive power requirements;
- Plan for reduction in transmission losses;
- Plan for improvement in quality of transmission service and reliability, metering arrangements and any other new measure to be initiated by the Licensee, e.g. automation, IT initiatives etc.;
- Capital Investment Plan based on the above;
- Man Power Plan.

2 Business Overview

2.1 Operational Performance

2.1.1 Existing Transmission Network

After the erstwhile PSEB was unbundled on April 16, 2010, all the transmission related assets were transferred to PSTCL. PSTCL owns the transmission network over diverse topology and has a very old transmission system, which required major up-gradation. The transmission network comprises of transmission assets at voltage level of 400 kV, 220 kV and 132 KV. Post the unbundling, capital investments were made to strengthen and enhance the capacity of the transmission network in the State. The existing network details of PSTCL are summarized as under:

Transmission Lines:

PSTCL has an extensive network of 400 kV, 220 kV, and 132 kV transmission lines to transmit bulk power generated at various generating stations in the State of Punjab and the share of power generated by Central Sector Stations to load centres in the State. The total length of transmission lines was 12577.92ckt-km as on March 31,2022. The details of the Transmission Lines are as under:

Table 1: Transmission Lines as on March 31, 2022

Voltage Level	Single/Double Circuit	Transmission Line Length (ckt-km)
132 KV	Single Circuit	2498.719
	Double Circuit	599.320
220 KV	Single Circuit	4212.023
	Double Circuit	3668.112
400 KV	Single Circuit	329.000
	Double Circuit	1270.754
Total		12577.928

The growth of transmission lines over previous years is depicted in the following Figure.

Table 2 : Growth in Transmission Line (Ckt Kms)

Voltage Level	2018-19	2019-20	2020-21	2021-22
132KV	3135.640	3135.640	3093.399	3098.039
220KV	7141.880	7642.127	7865.038	7880.135
400KV	1599.750	1599.754	1599.754	1599.754
Total	11877.270	12377.521	12558.191	12577.928

Sub-stations

PSTCL has a large number of sub-stations for transforming power into different voltage levels and to transmit the same to various load centres of the State through the transmission lines. PSTCL had a total of 173 nos. of sub-stations as on March 31, 2022, feeding the load centres through 1332 nos. of incoming& outgoing bays at different voltage levels. The table below summarizes the number of sub-stations and number of incoming and outgoing bays at different voltage levels:

Table 3: Number of Sub-stations and bays as on March 31, 2022

Particulars	Voltage Level	Numbers
Sub-Stations	**132 KV**	64
	220 KV	103
	400 KV	6
	Total	173
Transmission Bays (Incoming & Outgoing)	**132 KV**	520
	220 KV	726
	400 KV	86
	Total	1332

The growth in number of Sub-stations over previous years is depicted in the following

Table 4: Growth in Number of Sub-Stations

Voltage Level	2018-19	2019-20	2020-21	2021-22
132KV	66	65	65	64
220KV	100	101	101	103
400KV	5	5	5	6
Total	**171**	**171**	**171**	**173**

Transmission System Capacity

PSTCL has been undertaking capital investment under various schemes to augment its transmission system capacity. The total transformation capacity of the system was ~39707.17 MVA as on March 31, 2022. The table below depicts the transformation capacity at various voltage levels:

Table 5: System transmission Capacity as on 31st March, 2022

Voltage Level	Transformation Capacity (MVA)
132 kV Sub-Station	4335.67
220 kV Sub-Station	29981.50
400 kV Sub-Station	5390.00
Total	39707.17

The growth in transmission capacity over previous years is depicted in the following Figure.

Table: 6 Growth in Transmission Capacity (MVA)

Sub-Station	2018-19	2019-20	2020-21	2021-22
132KV	4394.17	4378.17	4413.17	4335.67
220KV	27705.50	28440.50	28864.50	29981.50
400KV	4390.00	4890.00	4890.00	5390.00
Total	36489.67	37708.67	38167.67	39707.17

2.1.2 Transmission System Availability

The Transmission System Availability is an indicator of consistent and reliable operations of the transmission system. Availability of transmission system ensures continuous and uninterrupted supply to the end consumers of the Distribution Company along with providing continuous transmission access to the State Generating Stations, Central Generating Stations and Open Access customers.

PSTCL has strived for better performance for the benefit of the State by continuously improving the system availability. PSTCL has also been undertaking repair and maintenance work as required for optimum system performance. The transmission system availability has consistently been on the higher side over the years. The details of Transmission System Availability are as shown below:

Table 7: Transmission System Availability over past years

132 kV	99.75%	99.89%	99.75%	99.82%	99.84%	99.88%	100.00 %	100.00 %	99.88%	99.80%	99.85%
220 kV	99.85%	99.86%	99.87%	99.83%	99.95%	99.93%	99.97%	99.79%	99.95%	99.91%	99.93%
400 kV	-	-	99.35%	99.70%	99.91%	99.91%	99.89%	99.95%	99.95%	99.76%	99.72%

2.1.3 Transmission Losses

The actual transmission losses in the network in FY 2021-22 had been 2.31%.

2.2. Financial Performance

For projecting the trajectory for the Control Period, the financial performance has also been reviewed. It may be noted that the financial statements of PSTCL and SLDC are combined for past period. The financial performance of PSTCL has been discussed below:

2.2.1 Revenue Statement

A brief synopsis of the audited Profit and Loss Accounts for FY 2018-19 to FY 2021-22 is given below:

Table 8: Profit and Loss Statement of PSTCL (including SLDC)(Rs. Crore)

Particulars	FY 2018-19 Restated	FY 2019-20	FY 2020-21 Restated	FY 2021-22
INCOME				
Revenue from Operations	1245.39	1321.07	1338.40	1472.58
Other income	35.83	43.28	41.64	41.70
Total	**1281.22**	**1364.35**	**1380.04**	**1514.27**
EXPENDITURE				
Employee benefit expenses	473.89	514.36	530.33	556.10
Finance costs	466.79	464.39	446.80	370.10
Depreciation expenses	277.03	293.64	301.87	304.49
Other expenses				
i) Repairs & Maintenance	33.53	30.64	31.87	31.79
ii) A & G General expense	25.88	26.32	26.03	25.52
iii) ULDC charges	7.68	9.53	9.80	8.88
iv) Others debits	4.59	59.04	15.90	0.91
Total	**1289.39**	**1397.92**	**1362.60**	**1297.79**
Profit/(Loss) for the year	**-8.17**	**-33.57**	**17.43**	**216.48**
Tax liability	0.00	0.00	0.00	0.00
Profit/(Loss) after tax	**-8.17**	**-33.57**	**17.43**	**216.48**

The contribution of different elements in the overall expenses has remained fairly constant in a range over the years. In any typical year, the Revenue from Operations remains in the range of Rs 1250 crore to Rs 1550 crore. On the expense side, the contribution of each element has also remained in the respective ranges as shown in the above table. The same essentially demonstrates the consistent approach of the Hon'ble Commission in approval of expenses that can be recovered from the consumers in the form of tariffs.

2.2.2 Overall Balance Sheet of PSTCL over the years is summarized below:

Table 9: Balance Sheet of PSTCL (including SLDC)(Rs. Crore)

Sr No.	Particulars	FY 2018-19 Restated	FY 2019-20	FY 2020-21 Restated	FY 2021-22
I	**Assets**				
1	**Non-Current assets**				
	Property, Plant and Equipment	7142.13	7152.30	7044.40	7121.98
	Intangible Assets	0.10	0.12	0.10	0.08
	Assets held for sale	6.48	2.87	2.64	7.32
	Capital work in Progress	417.32	348.69	361.96	356.94
	Financial Assets	1.90	1.86	2.43	3.03
	Other Non-current assets	56.95	0.90	0.21	1.50
	Total	**7624.86**	**7506.73**	**7411.74**	**7490.86**
2	**Current assets**				
	Inventories	25.93	23.34	15.43	13.11
	Financial Assets	267.08	319.63	314.38	414.60
	Current tax assets (Net)	56.22	81.39	48.10	40.45
	Other current assets	0.33	10.34	7.66	4.29
	Total	**349.57**	**434.71**	**385.57**	**472.44**
3	**Grand Total**	**7974.43**	**7941.44**	**7797.31**	**7963.30**
II	**Equity And Liabilities**				
1	**Equity**				
	Equity Share capital	605.88	605.88	605.88	605.88
	Other Equity	2247.08	2212.12	2229.65	2444.75
	Total	**2852.96**	**2818.00**	**2835.53**	**3050.64**
2	**Liabilities**				
	Non-Current Liabilities				
	Financial liabilities	4265.95	4051.51	3663.27	3251.62
	Provisions	15.23	24.33	30.02	40.97
	Other non-current liabilities	74.67	164.65	254.37	120.84
	Total	**4355.85**	**4240.49**	**3947.66**	**3413.43**
3	**Current Liabilities**				
	Financial Liabilities	685.53	792.10	924.98	1251.37
	Other current liabilities	8.55	13.80	6.06	8.21
	Provisions	0.43	0.56	0.67	1.01
	Deferred Revenue	71.11	76.49	82.41	238.64
	Total	**765.62**	**882.95**	**1014.12**	**1499.23**
4	**Grand Total**	**7974.43**	**7941.44**	**7797.31**	**7963.30**

The expenditure towards capital expenditure is incurred through deployment of loan funding, equity, internal accruals and also from the grant received from Central/State Governments and Multilateral agencies.

2.3: Health and Safety Management in PSTCL

PSTCL believes that while operating the transmission system, safe and secure operation and safety of employees is of prime concern. PSTCL is committed to identify and assess all types of occupational health and safety risks and takes proactive steps to reduce the significant risk in turn to reduce the occurrences of incidents. Further, Safety Manual for PSTCL has been approved by the BOD and uploaded on website of PSTCL.

In order to promote the good health of the employees, seminars are held at regular intervals with cooperation and coordination with health expert.

2.4: Corporate Social Responsibility (CSR)

CSR policy has already been adopted by PSTCL and CSR trust has been created to carry out the schemes envisaged under the policy framework.

3 Regulatory Framework and Market Assessment

3.1 Statutory and Regulatory Framework

The Statutory and Regulatory Framework is depicted in following figure:

National Level Framework	State Level Framework
• Electricity Act, 2003 • National Electricity Policy • Tariff Policy	• PSERC MYT Regulations, 2019 • PSERC (Punjab State Grid Code) Regulations, 2013 • PSERC (Terms and Conditions of Intra-State Open Access) Regulations, 2011

Figure 1: Statutory and Regulatory Framework for Punjab

3.1.1 National Level Framework

Electricity Act, 2003: -

The Act requires State Governments to initiate major changes in industry structure and operation of Power Sector in the State. The broad objectives of the Act as incorporated in its preamble is to consolidate the laws relating to generation, transmission, distribution, trading and use of electricity and for taking measures conducive to development of electricity industry through way of reforms and restructuring, promoting competition therein, protecting interest of consumers and supply of electricity to all areas, rationalization of electricity tariff, ensuring transparent policies regarding subsidies, promotion of efficient and environmentally benign policies, constitution of Central Electricity Authority, Regulatory Commissions and establishment of Appellate Tribunal and for matters connected therewith or incidental thereto Section 2(73) of the Act defines a Transmission licensee as a licensee authorized to establish and operate transmission lines. Further Section 40 of the Act defines the duties of the transmission licensees as below:

"Section 40. (Duties of transmission licensees):

It shall be the duty of a transmission licensee -

(a) to build, maintain and operate an efficient, co-ordinated and economical inter-State transmission system or intra-State transmission system, as the case may be;

(b) to comply with the directions of the Regional Load Despatch Centre and the State Load Despatch Centre as the case may be;

(c) to provide non-discriminatory open access to its transmission system for use by-

(i) any licensee or generating company on payment of the transmission charges; or

(ii) any consumer as and when such open access is provided by the State Commission under sub-section (2) of section 42, on payment of the transmission charges and a surcharge thereon, as may be specified by the State Commission:

Provided that such surcharge shall be utilized for the purpose of meeting the requirement of current level cross-subsidy"

Also, as discussed earlier, PSTCL is notified as State Transmission Utility and has to **undertake** the functions of State Transmission Utility as specified in Section 39 of the Act as **under**:

"Section 39. (State Transmission Utility and functions):

(1) The State Government may notify the Board or a Government company as the State Transmission Utility:

Provided that the State Transmission Utility shall not engage in the business of trading in electricity:

Provided further that the State Government may transfer, and vest any property, interest in property, rights and liabilities connected with, and personnel involved in transmission of electricity, of such State Transmission Utility, to a company or companies to be incorporated under the Companies Act,1956 to function as transmission licensee through a transfer scheme to be effected in the manner specified under Part XIII and such company or companies shall be deemed to be transmission licensees under this Act.

(2) The functions of the State Transmission Utility shall be -

(a) to undertake transmission of electricity through intra-State transmission system;

(b) to discharge all functions of planning and co-ordination relating to intra-State transmission system with –

(i) Central Transmission Utility;

(ii) State Governments;

(iii) generating companies;

(iv) Regional Power Committees;

(v) Authority;

(vi) licensees;

(vii) any other person notified by the State Government in this behalf;

(c) to ensure development of an efficient, co-ordinated and economical system of intra-State transmission lines for smooth flow of electricity from a generating station to the load centres;

(d) to provide non-discriminatory open access to its transmission system for use by-

(i) any licensee or generating company on payment of the transmission charges; or

(ii) any consumer as and when such open access is provided by the State Commission under sub-section (2) of section 42, on payment of the transmission charges and a surcharge thereon, as may be specified by the State Commission:

Provided that such surcharge shall be utilised for the purpose of meeting the requirement of current level cross-subsidy:

Provided further that such surcharge and cross subsidies shall be progressively reduced in the manner as may be specified by the State Commission:

Provided also that the manner of payment and utilisation of the surcharge shall be specified by the State Commission:

Provided also that such surcharge shall not be leviable in case open access is provided to a person who has established a captive generating plant for carrying the electricity to the destination of his own use."

National Electricity Policy: -

The National Electricity Policy was notified by GoI as per provisions of the Act on February 12, 2005.

This Policy aims at accelerated development of the power sector, providing supply of electricity to all areas and protecting interests of consumers and other stakeholders keeping in view availability of energy resources, technology available to exploit these resources, economics of generation using different resources and energy security issues.

The development of the National Grid is an important feature of the Policy. The Policy states that the Transmission System requires adequate and timely investments and also efficient and coordinated action to develop a robust and integrated power system for the country. It further recognizes that there is need for adequately augmenting transmission capacity in view of the massive increase planned in generation and also for development of power market.

The Policy notes that in view of the required magnitude of the expansion of the sector, a sizeable part of the investment requirement will need to be brought in from the private sector. In keeping with this, it specifies that special mechanisms would be created to encourage private investment in the transmission sector so that sufficient investments are made for achieving the objective of demand to be fully met by 2012.

The National Electricity Policy notified on 12th February, 2005 inter-alia states that

"5.3.1 The Transmission System requires adequate and timely investments and also efficient and coordinated action to develop a robust and integrated power system for the country.

5.3.2 Keeping in view the massive increase planned in generation and also for development of power market, there is need for adequately augmenting transmission capacity.....

5.3.10 Special mechanisms would be created to encourage private investment in transmission sector so that sufficient investments are made for achieving the objective of demand to be fully met by 2012.

5.8.1 ..... Considering the magnitude of the expansion of the sector required, a sizeable part of the investments will also need to be brought in from the private sector. The Act creates a conducive environment for investments in all segments of the industry, both for public sector and private sector, by removing barrier to entry in different segments. Section 63 of the Act provides for participation of suppliers on competitive basis in different segments which will further encourage private sector investment."

In order to facilitate the smooth and rapid development of transmission capacity in the country as envisaged in the National Electricity Policy, some transmission projects will be identified for tariff based competitive bidding, in which Private Investors and Transmission Utilities, both Central and State, can participate.

National Tariff Policy: -

The Tariff Policy was notified by Ministry of Power (MoP), GoI on 6th January 2006 and revised Tariff Policy was notified on January 28, 2016, deals with several aspects pertaining to Transmission as under –

- Transmission Pricing
- Approach for allocation of Transmission Loss
- Other issues in transmission

The Tariff Policy, as far as transmission is concerned, seeks to achieve the following objectives:

- Ensure optimal development of the transmission network to promote efficient utilization of generation and transmission assets in the country;
- Attract required investments in the transmission sector and provide adequate returns.

It is desirable to move to a system of loss compensation based on incremental losses as present deficiencies in transmission capacities are overcome through network expansion. Further, it is mentioned that, in extraordinary circumstances including threat to security to the State, public order or natural calamity, if the Central Government allocates power out of the unallocated share of the Central Generating Stations or otherwise, such allocation of power will have priority over short-term, medium-term and long-term access in this order.

Revised Tariff Policy also covers the aspect of the ancillary services, wherein Central Commission may introduce norms and framework for ancillary services, including the method of sharing the charges, necessary to support the power system or grid operation for maintaining power quality, reliability and security of the grid. Similar framework shall also be adopted by the State Commission.

Tariff through Competitive Bidding: -

The GoI issued guidelines for encouraging competition in transmission projects on April 17, 2006. The guidelines provide for the identification of some transmission projects for tariff based competitive bidding, in which Private Investors and Transmission Utilities, both Central and State, can participate. This would facilitate the smooth and rapid development of transmission capacity in the country as envisaged in the National Electricity Policy. The guidelines for tariff based competitive-bidding for transmission service are aimed at facilitating competition in this sector through wider participation in providing transmission services and tariff determination through a process of bidding. The guidelines aim to select a transmission service provider for a new transmission line and to build, own, maintain and

operate the specified transmission system elements. The specific objectives of these guidelines are as follows:

- Promote competitive procurement of transmission services;
- Encourage private investment in transmission lines;
- Facilitate transparency and fairness in procurement processes;
- Facilitate reduction of information asymmetries for various bidders;
- Protect consumer interests by facilitating competitive conditions in procurement of transmission services of electricity;

Also, MoP has already considered a stand that from January 2011, all thermal power projects and transmission systems will be awarded on competitive tariff bidding and therefore, in case any STU or CTU need to develop the transmission system, the same has to be through tariff competitive bidding route.

3.1.2 Role of CEA

The Central Electricity Authority (CEA) constituted under Electricity Supply Act 1948, is a body for advising GoI on technical matters and is responsible for preparing National Electricity Plan in accordance with the National Electricity Policy. CEA is also entrusted with the responsibility of preparing the Load Generation Balancing Reports which helps the utilities to prepare their generation and transmission capabilities. CEA also prescribes the Technical Standards for design and development of transmission networks.

3.1.3 State Level Framework

The Hon'ble Commission notified the PSERC MYT Regulations, 2019, to determine the tariff for transmission of electricity in the State. PSTCL has been vested with the function of electricity transmission by the State Government of Punjab post its formation on April 16, 2010. The Business of the Company includes:

- Transmission of electricity in the State
- Providing evacuation arrangement in synchronization with the capacity addition
- Prepare a Transmission Plan
- Maintain Grid Stability and Security
- Manage Load dispatch operation in the state

Apart from this, operation of PSTCL is also governed by PSERC (Punjab State Grid Code) Regulations, 2013, as amended from time to time in order to operate the intra-State Transmission System in integration with National Grid.

In order to provide non-discriminatory Open Access, PSERC (Terms and Conditions of Intra-State Open Access) Regulations, 2011 as amended from time to time is applicable to PSTCL.

3.2 Industry Scenario

There has been significant capacity addition in the generation sector in the last decade. All India historical demand supply gap (Energy requirement/Availability, Peak requirement/ Availability)is shown in the table below:-

Table 10: All India Historical Demand Supply Gap

FY	Energy				Peak			
	Req.	Avl.	Surplus (+)/ Deficit (-)		Req.	Avl.	Surplus (+)/ Deficit (-)	
	MU	MU	MU	%	MW	MW	MW	%
2022-23 (Projected)	1505198	1549597	44399	2.9	214871	222112	7241	3.4
2021-22	1375143	1368809	-6334	-0.5	203014	200539	-2475	-1.2
2020-21	1275534	1270663	-4871	-0.4	190198	189395	-803	-0.4
2019-20	1291010	1284444	-6566	-0.5	183804	182533	-1271	-0.7
2018-19	1274595	1267526	-7069	-0.6	177022	175528	-1494	-0.8
2017-18	1213325	1204697	-8628	-0.7	164066	160752	-3314	-2.1
2016-17	1142929	1135334	-7595	-0.7	159542	156934	-2608	-1.6
2015-16	1114408	1090851	-23557	-2.1	153366	148463	-4903	-3.2
2014-15	1068923	1030785	-38138	-3.6	148166	141160	-7006	-4.7
2013-14	1002257	959829	-42428	-4.2	135918	129815	-6103	-4.5
2012-13	998114	911209	-86905	-8.7	135453	123294	-12159	-9.5
2011-12	937199	857886	-79313	-8.5	130006	116191	-13815	-10.6
2010-11	861591	788355	-73236	-8.5	122287	110256	-12031	-9.8

Similarly, region-wise demand supply gap as in June 2022is shown in the following:

Table 11: Region-wise Demand Supply Gap in June 2022 (Anticipated/Projected)

Region	Energy (MU)			Peak (MW)		
	Req.	Avl.	Surplus (+)/ Deficit (-)	Req.	Avl.	Surplus (+)/ Deficit (-)
Northern	45320	43050	-5.01%	75900	77230	1.75%
Western	36273	39728	9.52%	60387	63276	4.78%
Southern	30591	34041	11.28%	53216	56450	6.08%
Eastern	15228	15495	1.75%	26578	27179	2.26%
NER	1613	1851	14.76%	2984	3292	10.32%

It is seen that Northern Region suffers from shortages of ~2270 MU which is approximately 5% of the energy requirement in the region. The overall peak power availability is ~1330 MW more than the peak power requirement in Northern Region.

Further, the demand supply position of State of Punjab is given in the following table:

Table 12: Demand Supply Gap in Punjab for Last Five Years

Year	Energy			Peak		
	Req.	Avl.	Surplus (+)/ Deficit (-)	Req.	Avl.	Surplus (+)/ Deficit (-)
	MU	MU	%	MW	MW	%
2021-22	62759.109	62323.544	-0.69%	15335.5	13431.16	-12.42%
2020-21	58430.663	58365.563	-0.11%	13148	13148	0.00%
2019-20	56542.117	56542.117	0.00%	13606	13606	0.00%
2018-19	55274.593	55261.633	-0.02%	12638	12638	0.00%
2017-18	55011.701	55011.701	0.00%	11705	11705	0.00%

It is seen that State of Punjab suffers from minor shortages of around 435 MU which is <1% of the energy requirement of the State. However, Peak Power availability is approximately 1900 MW (-12.42%) less than the peak power requirement of the State.

As per actual data, the actual peak demand handled by PSTCL was 14311 MW till date.

In the State of Punjab, the distribution licensee, PSPCL is receiving the power through the network of the single transmission licensee, PSTCL. Apart from this, some of the short-term Open Access consumers, which are connected to network of PSPCL and/or PSTCL also share the capacity of transmission network. For safe and secure operation of technical and commercial transactions, after taking into account the network security, it is pertinent to understand the transfer capability of the control area. Further, Punjab State Grid Code specifies that Available Transfer Capability (ATC) of the inter-control area transmission system available for scheduling commercial transactions (through long-term access, medium-term open access and short-term open access) in a specific direction shall be Total Transfer Capability less Transmission Reliability Margin.

The Transmission Reliability Margin signifies the amount of margin kept in the total transfer capability necessary to ensure that the interconnected transmission network is secure under a reasonable range of uncertainties in system conditions. Earlier, Transmission Reliability Margin for Punjab area in 2019 was decided as 600 MW, however, it was further considered as 500 MW for the2022.

Table 13: Available Transfer Capability for Punjab (in MW)

Duration	Total Transfer Capability (MW)	Reliability Margin (MW)	Available Transfer Capability (MW)	Long-Term Access and Medium-Term Open Access (MW)	ATC for Short-Term Open Access (MW)
July 1,2022	9000	500	8500	5716	2784
May 1, 2022	7700	600	7100	4860	2240
May 1, 2021	7400	600	6800	4860	1940
May 1, 2020	7200	600	6600	4515	2085
May 1, 2019	7000	600	6400	4580	1820
Oct 1, 2015	6200	500	5700	4033	1667

Considering the present demand of transmission capacity and Available Transfer Capability, there is no congestion in the intra-State transmission network of PSTCL. Further, PSTCL also aims to plan intra-State network in such a way that it would avoid congestion in network and ensure the smooth operation of technical and commercial transactions.

In light of the foregoing, considering the growing demand in the State and the need to provide secure and safe transmission system for market participants, PSTCL has to maintain and improve its operational performance and capital investment for transmission network.

4 Capital Investment Plan

4.1 Regulatory Provisions for Capital Investment Plan

As per MYT Regulations, Capital Investment Plan for the transmission company is governed by the following regulations:

"9.4 The Business Plan for Transmission Business shall be based on proposed generation capacity addition, future load forecasts of the State, planned capacity augmentation by the Central Transmission Utility (CTU) for the State and shall contain among other things the following:

a) Future plans of the company including efficiency improvement measures proposed to be introduced and technical requirement such as meeting reactive power requirements;

b) Plan for reduction in transmission losses;

c) Plan for improvement in quality of transmission service and reliability, metering arrangements and any other new measure to be initiated by the Licensee, e.g. automation, IT initiatives etc.;

d) Capital Investment Plan based on the above;

e) Man Power Plan.

9.6 Capital Investment in network expansion in Transmission and Distribution shall be based on Load Flow studies and in accordance with the requirements of the State Grid Code.

9.7 The Capital Investment Plan covering the entire MYT Control Period will be submitted in the following two parts:

a) Ongoing schemes of the previous MYT Control Period (i.e. works / schemes which are under construction or where full payments have not yet been made). All spillover works will be included in this;

b) Schemes to be taken up in the order of priority giving the schedule over the full MYT Control Period. In case it is likely to take more than 3 years, the likely date of completion should also be given. This will also include such schemes which were part of the Capital Investment Plan of the previous MYT Control Period but could not be started and which the Applicant considers necessary to take up during the present Control Period.

9.8 The Applicant shall submit the Detailed Project Reports (DPRs) for all the schemes as per Part (a) and (b) above which shall include:

(a) Purpose of investment;

(b) Broad Technical Specifications of the proposed investment and supporting details;

(c) Capital Structure;

(d) Capitalization Schedule;

(e) Financing Plan, including identified sources of investment;

(f) Physical targets;

(g) Cost-benefit analysis;

(h) Prioritization of proposed Investments:

Provided that DPRs will not be necessary for schemes under Rs. 10 Crore for Generation and Transmission Businesses, Rs. 5 Crore for Distribution Business and Rs. 1 Crore for SLDC:

Provided further that the total capital expenditure on non-DPR schemes in any year should not exceed 20% of that for DPR schemes during that year.

9.9 The capital investment plan shall match with:

.....(b) For Transmission Business:

i) Nature of investment (evacuation project, system augmentation, system strengthening, IT related projects etc.);

ii) Details of physical parameters of the project such as circuit-kms, capacity in MVA, location of the project etc.;

iii) Break-up of investment in capacitor banks, reduction in reactive power drawal and transmission losses;

9.10 In case of existing Generation and Transmission projects, the capital investment for Renovation and Modernization shall consist of a Detailed Project Report which will include the following elements:

(a) Complete scope and justification;

(b) Estimated life extension;

(c) Improvement in performance parameters;

(d) Cost-benefit analysis;

(e) Phasing of expenditure;

(f) Schedule of completion;

(g) Reference price level;

(h) Estimated completion cost including IDC etc.;

(i) Other aspects.

9.12 In case, the Commission approves lesser amount of capital expenditure than filed by the Applicant for approval, the Commission may allow the respective Applicant to determine the priority of schemes to be considered within the approved amount.

9.13 In the normal course, the Commission shall not revisit the approved capital investment plan during the Control Period. The Licensee shall file details of the capital expenditure incurred for the preceding financial year by 30th June of the current financial year to enable the Commission to monitor and review the progress of the capital expenditure incurred by the Applicant vis-à-vis the approved capital expenditure:

Provided that the capital expenditure incurred shall be only for the schemes as per the approved capital investment plan.

9.14 In case capital expenditure is required for emergency work which has not been approved in the capital investment plan, the Applicant shall submit an application (containing all relevant information along with reasons justifying emergency nature of the proposed work) seeking

approval by the Commission. The Applicant may take up the work prior to the approval of the Commission provided that the scheme has been approved by its Board of Directors as being of emergent nature:

Provided that the Applicant shall submit the pending details required as per Regulation 9.8 and

9.9 within 10 days of the submission of the application for emergency work:

Provided further that for the purpose of Regulation 9.11, such approved capital expenditure shall be treated as a part of actual capital expenditure incurred by the Applicant in addition to the capital expenditure already approved by the Commission.

9.15 In case the capital expenditure incurred for approved schemes exceeds the amount as approved in the capital expenditure plan, the balance amount and the incidental cost shall be trued up by the Commission after prudence check after the end of Control Period:

Provided that any additional capital expenditure incurred on account of time over run and/or unapproved changes in scope of approved schemes except for reasons beyond the control of Licensee and duly submitted in writing may not be allowed by the Commission:

Provided that capital expenditure incurred on unapproved schemes and not covered under Regulation 9.11 shall not be allowed by the Commission.

9.16 An Applicant shall provide a copy of the proposed Capital Investment Plan for Generation and/or Distribution Business, as the case may be, to the State Transmission Utility (STU) for carrying out planning for network augmentation/ strengthening at the time of filing of this plan with the Commission. The copy of approved capital investment plan shall also be sent to the STU by the Applicant, immediately after approval by the Commission."

In line with the provisions of the Regulations, PSTCL has undertaken the required studies and based on the above, the capital expenditure plan has been proposed under two verticals viz.

a. Spill over schemes – schemes initiated in the previous control period and will be completed in the ensuing control period.
b. New Schemes comprising of:
    - envisaged/approved under previous control period and will be initiated in the ensuing control period carried forward from previous control periods
    - New Schemes – Schemes to be initiated in the ensuing control period.

4.2 Planning Philosophy

PSTCL undertakes the planning of the intra-State Transmission System based on Planning Criteria and philosophy specified in PSERC (State Grid Code) Regulations 2013 and Transmission Planning Criteria stipulated by Central Electricity Authority, 2013.

The proposed Capital Investment Plan has been planned on the basis of envisaged power requirements as per 19th EPS projections of CEA, inputs received from SLDC and PSPCL.

related to system constraints, operational constraints and expected load growth & generation addition etc.

It may be noted that PSTCL transmission network caters to the demand of its transmission system users, which primarily includes demand of PSPCL and demand of Open Access consumers. The following are the key considerations in the proposed capital investment plan:

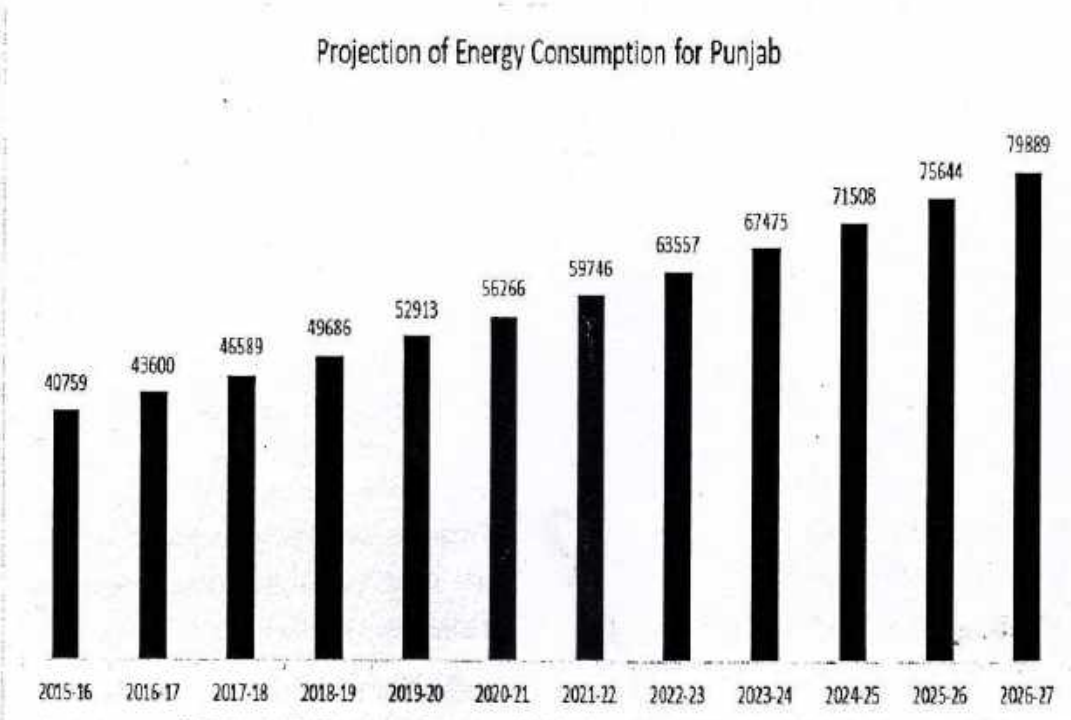
a) Cater to additional load requirement in the state of Punjab.
b) System Augmentation to remove overloading in transmission lines and substations.
c) To increase the reliability of the equipment and consequently of the transmission system so as to provide consistent availability of network.
d) To disperse additional power availability.

The plan aims to meet the requirement of power within the state by ensuring that adequate transmission capacity is available for evacuation of power from outside the state through 400 kV network. Load flow studies have been carried out for the projected loads and the available generation for the time frame covered in the control period for various system operating conditions.

Load Requirement in Punjab

As per 19th EPS data, the energy consumption in the State of Punjab is expected to reach 75644 MUs by FY 2025-26. Similarly, the peak MW requirement in the state in FY 2025-26 is expected to be 18009 MW. The year-on-year trajectory of growth in energy requirement and the peak MW demand is shown in the tables below:

Figure 2: Projection of Energy Consumption for Punjab (MUs)
Source: CEA 19th EPS Projections



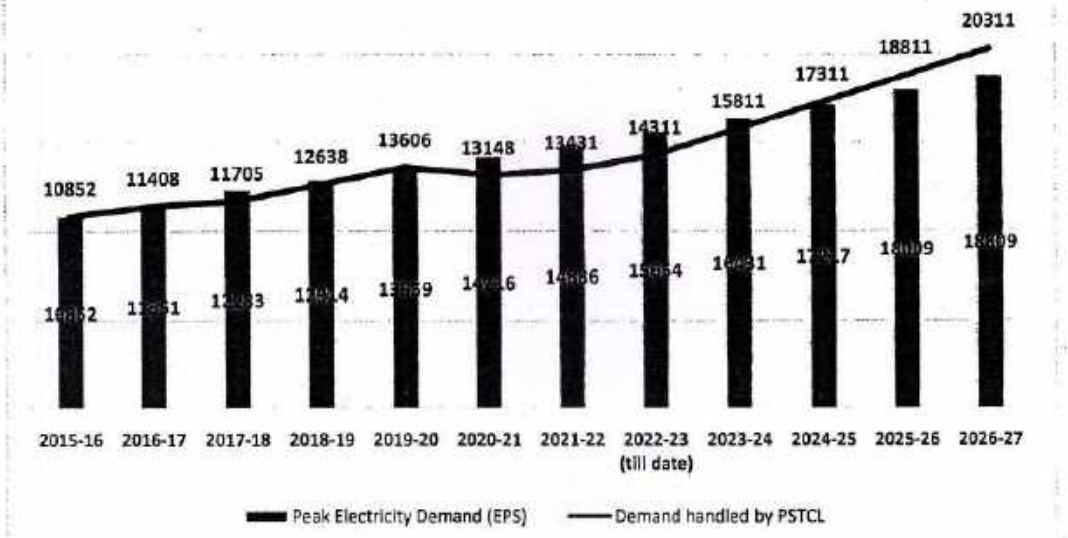


Figure 3: Projection of Peak Electricity Demand for Punjab (MW)
Source: CEA 19thEPS; SLDC. Energy Handled is actual till FY 2022-23 and projections for ensuing years

As per data made available by SLDC, the peak demand already handled in FY 2022-23 (till date) has been nearly 14311 MW. Assuming linear growth of demand of approx. 1500 MW per year, the projected peak demand for Punjab for the year 2025-26 comes out to be approx. 18811 MW. Also, the projected peak electricity demand of Punjab as per 19th EPS report for the FY 2025-26 is 18009 MW.

Going forward, PSTCL has envisaged that maximum load enhancement is likely to come from Gobindgarh area (nearly 40% growth) and Ludhiana area (25-30% growth), Kohara-Dhanansu -belt (25-30% growth), Zirakpur-Lalru-Derabassi belt (nearly 25% growth), Amritsar-Jalandhar belt (nearly 20% growth). Considering the projected load requirement of 18009 MW in FY 2025-26 and understanding that the generation from PSPCL units is likely to be around 6000 MW (which shall become approx. 5700 MW in the absence of GGSSTP generation and the advent of Shahpur Kandi project), the balance power requirement of around 12000 MW has to be sourced from sources located outside the state of Punjab from 400 kV inter-state grid of PGCIL. Catering to the aforesaid demand with fixed generation of Punjab, the existing transmission system of Punjab will lead to the increased loading as depicted in the Load flow results annexed as **Annexure K-01**.

Existing system of PSTCL transmission network has been planned for year 2023 system loading conditions. Central Electricity Authority has fixed some inter-state power drawl limit (ATC/TTC) for each state, and for Punjab the current limit is 8500 MW/9000 MW. Therefore, drawl of approx. 12000 MW of power from outside the state will result in stressing of the 400 kV inter-state grids of PGCIL. In addition to increased losses, the same will result in increased reactive power drawl from the system as well as distributed voltage profile of various buses. Further, in case the drawl from outside the state is merged with the scenario of outage of GGSSTP, the load flow results are provided as **Annexure K-02**.

Proposed Schemes to be undertaken during the Control Period

To meet this growing demand, a reliable, adequate and robust transmission network is required. In view of this, the existing transmission system is required to be strengthened with proper planning to cater to the future demand in a reliable manner.

The overall schemes have been split under two sections as per provisions of the Tariff Regulations:

a. Spill Over Schemes
b. New Schemes

i) Spill Over Schemes

Under this vertical, all the remaining transmission works of MYT plan 2017-20 and 2020-23 have been considered for implementation during the control period FY 2023-26. Besides, certain changes have been made to the proposed schemes based on system requirements post issuance of order for the MYT orders. Also, PSTCL is undertaking additional works pursuant to approval of the Board.

ii) New Schemes

Based on the requests from PSPCL citing the load growth due to upcoming FCC cases and the demand projections of EPS, load flow studies considering the peak load requirements in FY 2023-26 were carried out and overloading mentioned above was observed in the transmission system of Punjab. In order to control this overloading as well as for strengthening of system on account of ATC/TTC limit of Punjab, additional transmission works for different voltage levels have been planned. With the additions of these transmission works, the system is expected to normalise as the load flow analysis depicts NIL overloading on the system. The load flow analysis for the aforesaid observations is provided as **Annexure K-03.**

Besides, PSTCL based on its operational experience has planned the following capital interventions:

a) For augmentation/addition of transformers at 220 KV/132 kV substations of PSTCL from loads and feasibility points of view.
b) For augmentation of bus bars, extension in control room buildings, providing room for second source for station battery and other works relating with system strengthening and as per the field requirement.
c) For additional 220/132/66 KV line bays related with feasibility cases or as per PSTCL/PSPCL requirement.
d) Unforeseen emergency works like replacement of old/ageing/defective power transformers.

e) Provision for replacement of existing conductor with HTLS conductor, wherever required or use of modern technologies like monopoles etcin case of unforeseen ROW issues.

It is further submitted that studies are being undertaken for further improvement in Ludhiana area evacuation with the consideration of 220 KV substations Giaspura, Gill Road and GT Road Ludhiana. Similarly, for further improvement in Mohali and Kharar area, upgradation of 66 kV substations Aerocity, Kurali and Bhabat to 220 kV level is also under study. PSTCL will share the details of the same and any proposed expenditure on this account in its subsequent filings. It is requested that such submissions may kindly be considered by the Hon'ble Commission.

List of Works are attached as under:-

- List of Transmission Works which have been completed/to be completed by 31.03.2023/Deleted/Dropped/Shifted is attached at **Appendix-A**.
- List of Spill Over Works (Transmission Works) from Previous Control Periodis attached at **Appendix-B**.
- List of New Transmission Works for the Control period of FY 2023-24 to FY 2025-26 is attached at **Appendix-C**.

Renewable Capacity Addition

As per the State-wise installed capacity of Renewable Power available on the MNRE website, the installed capacity in Punjab as on 30.06.2022 is as follows:

Table 14: State-wise installed capacity of Renewable Power as on 30.06.2022.

S. No.	States/ UTs	Small Hydro Power	Wind Power	Bio Power	Solar Power	Cumulative Installed Capacity as on 30.06.2022
		(MW)	(MW)	(MW)	(MW)	(MW)
22	Punjab	176.10	-	491.65	1117.99	1785.74

In addition, Board of Directors of Punjab Genco Limited (PGL, a subsidiary of PEDA) have decided to set up about 100 MW (AC) capacity solar PV project in the state of Punjab at village Kalanaur (Distt. Gurdaspur), the evacuation of which has been proposed to be done through 220 kV substation Kotli Surat Malhi. While carrying out the load flow analysis of the system, the above-mentioned quantum of renewable power has been included in the system.

Further, in line with the Renewable capacity addition targets set by MNRE from time to time, PSTCL submits that as and when the connectivity of such projects is finalised (apart from the ones already identified to be connected at 132/220 kV level), it will approach the Hon'ble Commission in its subsequent filings. PSTCL humbly requests Hon'ble Commission to allow

the submission of such schemes for approval of the Hon'ble Commission once the capacity and location of such upcoming solar projects are identified. **Schemes pertaining to SLDC**

For the SLDC functions, major Capital expenditure relates to implementation of SAMAST scheme in Punjab which is partially funded through PSDF. Through this project, intra-state entities shall be brought under ABT mechanism and mainstream SLDC market functions shall be automated through AMI (Advanced Metering Infrastructure) and software modules based processing. Majority of other schemes pertain to installation of Remote Terminal Units spread across the state. The RTUs are to be installed on various substations and are to be integrated with the SCADA system. Besides, the RTUs that are likely to complete their useful life of 15 years have been proposed for replacement. "

Keeping in view the aforesaid considerations, various schemes for development of new elements, augmentation and system strengthening works have been proposed by PSTCL. The details of the schemes along with necessary justifications are enclosed at **Appendix-D**.

PSTCL submits that bulk of the schemes proposed under this capital investment plan pertain to envisaged load growth, improvement of system reliability and prevention of overload conditions. In case required, PSTCL will showcase live simulations of the load flow studies conducted for the purpose of justification of the proposed schemes to the Hon'ble Commission.

4.3 Capital Investments & Capitalization for Transmission Segment

The Capital Investment Plan is being submitted in accordance with Regulation 9 of the PSERC MYT Regulations, 2019 for the Control Period from FY 2023-24 to FY 2025-26. PSTCL has not included PSDF works and Contributory works during Control Period and in Opening Balances. During this Control Period, PSTCL will be completing spill-over works as submitted in the true-up petition for 2020-21 along with the schemes submitted in the previous capital investment plan. Besides, the new schemes will also be undertaken for system strengthening schemes to augment its capacity and operational performance. Considering the various 400 kV, 220 kV, and 132 kV transmission works, total capital investment for transmission business including IDC and IEDC proposed for the Control Period is as under:

Table 15: CIP proposed for 3rd Control Period (Total Schemes) **(Rs. Crore**

Sr No.	Particulars	FY 2023-24	FY 2024-25	FY 2025-26	Total
1	**Transmission**				
1.1	Opening CWIP	414.17	430.56	719.58	
1.2	Capital Expenditure	**1274.26**	**1140.61**	**850.47**	**3265.34**
1.3	Capitalisation	**1257.87**	**851.59**	**1039.79**	**3149.25**
1.4	Closing CWIP	**430.56**	**719.58**	**530.26**	

Out of Total Capital Investment Plan for Transmission Business , Capital Investment and Capitalization for New Schemes i.e Schemes that will be started from 01.04.2023 and Capital Investment and Capitalization on Spill over Schemes of 1st Control period and 2nd Control Period is as follows:-

Table 16: Capital Investment Plan proposed for 3rd Control Period (New works) (Rs. Crore)

Sr No.	Particulars	FY 2023-24	FY 2024-25	FY 2025-26	Total
1	**Transmission**				
1.1	Opening CWIP	**0.00**	**145.19**	**487.39**	
1.2	Capital Expenditure	308.29	580.57	681.41	**1570.27**
1.3	Capitalisation	163.10	238.37	641.46	**1042.93**
1.4	Closing CWIP	**145.19**	**487.39**	**527.34**	

Table 17: CIP proposed for 3rd Control Period (Spill over from 2nd MYT) (Rs. Crore

Sr No.	Particulars	FY 2023-24	FY 2024-25	FY 2025-26	Total
1	**Transmission**				
1.1	Opening CWIP	**167.01**	**238.51**	**150.78**	
1.2	Capital Expenditure	769.66	479.08	107.49	**1356.23**
1.3	Capitalisation	698.16	566.81	255.35	**1520.32**
1.4	Closing CWIP	**238.51**	**150.78**	**2.92**	

Table 18: CIP proposed for 3rd Control Period (Spill over from 1st MYT) (Rs. Crore

Sr No.	Particulars	FY 2023-24	FY 2024-25	FY 2025-26	Total
1	**Transmission**				
1.1	**Opening CWIP**	**247.16**	**46.86**	**81.41**	
1.2	Capital Expenditure	196.31	80.96	61.57	**338.84**
1.3	Capitalisation	396.61	46.41	142.98	**586.00**
1.4	Closing CWIP	**46.86**	**81.41**	**0.00**	

4.4 Capital Investment Plan & Capitalization for SLDC:

PSTCL has included the schemes to be implemented by SLDC under the present Capital Investment Plan of transmission works. PSTCL humbly requests the Hon'ble Commission to approve the Capital Investment Plan for SLDC as submitted in the present Petition.

The summary of proposed capital investment and capitalization schedule including IDC and IEDC for SLDC works is as under:

Table 19: CIP proposed for 3rd Control Period (Total Schemes) (Rs. Crore)

Sr No.	Particulars	FY 2023-24	FY 2024-25	FY 2025-26	Total
2	**SLDC**				
2.1	Opening CWIP	20.38	3.86	0.00	
2.2	Capital Expenditure	**8.28**	**2.13**	**0.93**	**11.33**
2.3	Capitalisation	**24.79**	**5.99**	**0.93**	**31.71**
2.4	Closing CWIP	**3.86**	**0.00**	**0.00**	

As above, out of Total Capital Investment Plan for SLDC Business, Break up of Capital Investment and Capitalization for New Schemes and Spill over Schemes is as follows:-

Table 20: Capital Investment Plan proposed for 3rd Control Period (New works) (Rs. Crore)

Sr No.	Particulars	FY 2023-24	FY 2024-25	FY 2025-26	Total
2	**SLDC**				
2.1	Opening CWIP	0.00	0.50	0.00	
2.2	Capital Expenditure	0.50	0.50	0.50	**1.50**
2.3	Capitalisation	0.00	1.00	0.50	**1.50**
2.4	Closing CWIP	**0.50**	**0.00**	**0.00**	

Table 21: CIP proposed for 3rd Control Period (Spill over from 2nd MYT) (Rs. Crore)

Sr No.	Particulars	FY 2023-24	FY 2024-25	FY 2025-26	Total
2	**SLDC**				
2.1	Opening CWIP	18.88	3.36	0.00	
2.2	Capital Expenditure	7.00	1.23	0.43	**8.66**
2.3	Capitalisation	22.52	4.59	0.43	**27.54**
2.4	Closing CWIP	**3.36**	**0.00**	**0.00**	

Table 22: CIP proposed for 3rd Control Period (Spill over from 1st MYT) (Rs. Crore)

Sr No.	Particulars	FY 2023-24	FY 2024-25	FY 2025-26	Total
2	**SLDC**				
2.1	Opening CWIP	1.50	0.00	0.00	
2.2	Capital Expenditure	0.78	0.40	0.00	**1.18**
2.3	Capitalisation	2.27	0.40	0.00	**2.67**
2.4	Closing CWIP	**0.00**	**0.00**	**0.00**	

4.5:- Overall Capital Investment Plan & Capitalization for PSTCL:

Based on the above proposed capital investment for transmission works and SLDC, PSTCL proposes the following Capital Investment Plan (including IDC and IEDC) for spill over works and new development work during the Control Period.

Table 23: CIP proposed for 3rd Control Period (Total Schemes) (Rs. Crore)

Sr No.	Particulars	FY 2023-24	FY 2024-25	FY 2025-26	Total
1	**Transmission**				
1.1	Opening CWIP	414.17	430.56	719.58	
1.2	Capital Expenditure	**1274.26**	**1140.61**	**850.47**	**3265.34**
1.3	Capitalisation	**1257.87**	**851.59**	**1039.79**	**3149.25**
1.4	Closing CWIP	**430.56**	**719.58**	**530.26**	
2	**SLDC**				
2.1	Opening CWIP	20.38	3.86	0.00	
2.2	Capital Expenditure	**8.28**	**2.13**	**0.93**	**11.33**
2.3	Capitalisation	**24.79**	**5.99**	**0.93**	**31.71**
2.4	Closing CWIP	**3.86**	**0.00**	**0.00**	
3	**PSTCL**				
3.1	Opening CWIP	434.55	434.42	719.58	
3.2	Capital Expenditure	1282.54	1142.74	851.40	**3276.67**
3.3	Capitalisation	1282.66	857.58	1040.72	**3180.96**
3.4	Closing CWIP	**434.42**	**719.58**	**530.26**	

5 Business Plan Projections FY 2023-26

5.1 Segregation of Transmission and SLDC Business

As regards the segregation of Transmission and SLDC Business, Regulation 7 of PSERC MYT Regulations, 2019 specifies as under:

> *"7. SEGREGATION OF ARR OF SLDC AND TRANSMISSION BUSINESS*
>
> *7.1. The STU shall have separate accounts for SLDC and transmission business. The STU, based on segregated accounts, shall submit separate ARR for SLDC and transmission businesses. The ARR for SLDC shall be used to determine SLDC Charges and the ARR for transmission business shall be used to determine transmission charges.*
>
> *7.2. Until accounts are segregated, STU shall prepare an Allocation Statement to apportion costs and revenues to respective businesses.*
>
> *7.3. The Allocation Statement shall be considered by the Commission only if it is certified by the Statutory Auditor/Cost Auditor and approved by the Board of Directors of the STU, and it shall be accompanied with an explanation of the methodology which shall be consistent over the Control Period"*

In this regard, PSTCL submits that separate ARR for Transmission and SLDC business is being submitted. PSTCL is submitting the separate ARR for Transmission and SLDC business on the basis of allocation considered in previous years.

5.2 Projections of Operational Parameters

The two most critical factors for transmission business include its transmission losses and the availability of transmission network.

5.2.1 Trajectory of Transmission Availability

As per historical trends, the availability of transmission network of PSTCL has always remained higher than 99%. The MYT Regulations 2019, prescribe that the normative transmission availability for recovery of fixed cost (NATAF) should be 98.5% for AC system and 99% for incentives shall be payable for availability above 99%. Further, no incentive shall be payable for availability beyond 99.75%.

Considering the above, PSTCL submits that the availability of the network will be aligned to the normative limits set as per Regulation 52.1 of Tariff Regulations as mentioned above.

5.2.2 Trajectory of Transmission Losses

PSTCL has made a comparison of the prevalent transmission losses with other State Transmission Utilities. A comparative of the STU losses in different states is summarized below for reference:

Table 24:- Comparison of Transmission Losses for FY 2020-21 and FY 2021-22

S. No	State	Transmission Loss (%)	
		Approved in the tariff order	
		FY 2020-21	FY 2021-22
1	Andhra Pradesh	3.17	3.06
2	Gujrat	3.50	3.60
3	Haryana	2.15	2.1
4	Maharashtra	3.18	3.18
5	Rajasthan	3.33	3.31
6	Telangana	2.71	2.64

As may be observed from the table above, the transmission losses in the states are in a varying range and are higher than the actual transmission losses in the state of Punjab (2.50% for 2020-21 and 2.31% in FY 2021-22).

Hon'ble PSERC has provisionally approved Transmission loss Trajectory in Tariff Order FY 2020-2021 as under:

Particulars	FY 2020-21	FY 2021-22	FY 2022-23
Transmission Loss (%)	2.48%	2.46%	2.44%

PSTCL has calculated Transmission losses for FY 2021-22 as 2.31% as detailed below:

Month	Energy drawn from PSTCL system (in MWh) (A)	Energy supplied from PSTCL system (in MWh) (B)	PSTCL transmission losses (A-B)	% PSTCL transmission Losses (%age)
April,2021	3340249.62	3258429.961	81819.659	2.45
May,2021	4232518.393	4141629.843	90888.550	2.15
Jun-21	6469406.391	6336021.399	133384.992	2.06
Jul-21	7644340.762	7490203.593	154137.169	2.02
Aug-21	7746231.966	7574879.155	171352.811	2.21
Sept. 21	6020346.153	5878788.015	141558.138	2.35
Oct-21	4491258.877	4377668.584	113590.294	2.53
Nov-21	3085052.189	3002146.031	82906.158	2.69
Dec-21	3818058.29	3711614.024	106444.266	2.79
Jan. 2022	3459740.047	3378139.36	81600.688	2.36
Feb. 2022	3210649.878	3131966.639	78683.239	2.45
Mar-22	4188936.123	4093407.453	95528.670	2.28
Losses (April 21-March '22)	57706788.69	56374894.06	1331894.634	2.31

Presently, the meter data is being received through emails from the grid/substations. The transmission losses are being calculated based upon manual/downloaded data.

SLDC is in process of implementation of SAMAST project. In SAMAST project, all the existing energy meters are to be replaced with new energy meters. The meter data will be

transmitted from all grid/substations through AMR system. Further, this data will be integrated in the software being developed by the firm.

Further, the Transmission system is being Developed for n-1 compliance in accordance with the CEA standards. Accordingly, some lines will remain underutilized which may lead to increase in no load losses thereby increasing Transmission losses. Given the different schemes envisaged under the Capital Expenditure Plan PSTCL has proposed a constant loss level of 2.50% over the Control Period.

Table 25:- Transmission Losses Trajectory for Control Period

Transmission Loss (%)	2.50%	2.50%	2.50%

5.3 Components of ARR for Transmission and SLDC Business

PSTCL submits that adequate care has been taken to ensure that probable schemes that are likely to be taken up during the ensuing control period are covered under the Capital Investment Plan. However, there may be some additional schemes that may have to be undertaken and accordingly the ARR projections submitted in this section may undergo a change under the MYT petition and ARR petitions to be submitted subsequent to filing this petition. PSTCL craves leave to update its investment portfolio and the ARR accordingly.

Regulation 15.1 of PSERC MYT Regulations, 2019 specifies the components of ARR of Transmission and SLDC Business as under:

"15.1. The ARR of the Transmission business and SLDC business shall comprise of the following components:

(a) Return on Equity;

(b) Interest and Finance Charges on Loan Capital;

(c) Interest Charges on Working Capital;

(d) Depreciation;

(e) Operation and Maintenance Expenses;

(f) ULDC Charges;

(g) Statutory levies and taxes, if any."

Less:

(h) Non-Tariff Income

(i) Income from other business

PSTCL has projected the components of ARR for the Control Period in subsequent sections.

5.3.1 Capital Expenditure and Capitalization

PSTCL has considered the capital expenditure and capitalization for its Transmission and SLDC Business in line with the Capital Investment Plan as submitted in the earlier sections of

this petition. The capital expenditure and capitalization for the Control Period is again summarized as under:

Table 26: Projection of Capital Expenditure and Capitalisation (Rs. Crore)

Sr No.	Particulars	FY 2023-24	FY 2024-25	FY 2025-26	Total
Transmission					
1	Capital Expenditure	1274.26	1140.61	850.47	**3265.34**
2	Capitalisation	1257.87	851.59	1039.79	**3149.25**
SLDC					
3	Capital Expenditure	8.28	2.13	0.93	**11.33**
4	Capitalisation	24.79	5.99	0.93	**31.71**

5.3.2 Means of Finance

Regulation 19 of PSERC MYT Regulations, 2019 specifies as under:

*"19.1. **Existing Projects** - In case of the capital expenditure projects having Commercial Operation Date prior to the effective date, the debt-equity ratio shall be as allowed by the Commission for determination of tariff for the period prior to the effective date:*

Provided that the Commission shall not consider the increase in equity as a result of revaluation of assets (including land) for the purpose of computing return on equity.

*19.2. **New Projects** – For capital expenditure projects declared under commercial operation on or after the effective date:*

(a) A Normative debt-equity ratio of 70:30 shall be considered for the purpose of determination of Tariff;

(b) In case the actual equity employed is in excess of 30%, the amount of equity for the purpose of tariff determination shall be limited to 30%, and the balance amount shall be considered as normative loan;

(c) In case, the actual equity employed is less than 30%, the actual debt-equity ratio shall be considered;

(d) The premium, if any raised by the Petitioner while issuing share capital and investment of internal accruals created out of free reserve, shall also be reckoned as paid up capital for the purpose of computing return on equity subject to the normative debt-equity ratio of 70:30, provided such premium amount and internal accruals are actually utilized for meeting capital expenditure of the Petitioner's business."

The above said regulation provides a normative debt: equity ratio as 70:30. PSTCL has been borrowing funds from SBI, PFC, REC, NABARD, IREDA and other Commercial Banks. Appropriate tie-ups will be made with these banks/Financial institutions along with others to make good the investments required for the capital investment plan.

5.3.3 Return on Equity

Regulation 20 of PSERC MYT Regulations, 2019 specifies as under:

"20. RETURN ON EQUITY

Return on equity shall be computed at the base rate of 15.5% for thermal generating stations, Transmission Licensee, SLDC and run of the river hydro generating stations and at the base rate of 16.5% for the storage type hydro generating stations and run of river generating stations with pondage and 16% for Distribution Licensee on the paid up equity capital determined in accordance with Regulation 19:

Provided that Equity invested in foreign currency shall be converted to rupee currency based on the exchange rate prevailing on the date(s) it is subscribed:

Provided further that assets funded by consumer contributions, capital subsidies/Govt. grants shall not form part of the capital base for the purpose of calculation of Return on Equity."

PSTCL has computed Return on Equity for the Control Period in view of the above said Regulations as given in the following table:

Table 27: Projection of Return on Equity for the Control Period (Rs Crore)

S. No.	Particulars	FY 2023-24	FY 2024-25	FY 2025-26
Transmission				
1	Opening Equity for the year	922.52	1056.32	1209.68
2	Addition of Equity during the year	133.80	153.36	175.61
3	Closing Equity for the year	1056.32	1209.68	1385.29
4	Rate of ROE	15.50%	15.50%	15.50%
5	Return on Equity	153.36	175.61	201.11

5.3.4 Income Tax

Regulation 23 of PSERC MYT Regulations, 2019 has allowed recovery of Income Tax, as part of ARR, as under:

"23.1. Obligatory taxes, if any, on the income of the Generating Company or the Licensee or the SLDC from its core/licensed business shall be computed as an expense and shall be recovered from the customers/consumers:

Provided that tax on any income other than return on equity shall not constitute a pass through component in the tariff and tax on such other income shall be payable by the Generating Company or the Licensee or the SLDC:

Provided that income tax shall be allowed as per actual income tax paid or income tax payable on return on equity, whichever is lower.

23.2. The benefits of tax holiday and the credit for carrying forward losses applicable as per the provision of the Income Tax Act, 1961 shall be fully passed on to the customers/consumers.

23.3. The penalty, if any, arising on account of delay in deposit of tax or short deposit of tax amount shall not be claimed by the Generating Company or the Licensee or the SLDC, as the case may be."

PSTCL submits that under ideal scenario, the tax payable in any year should be restricted to the ROE earned during the year. However, the actual tax paid during the year may get influenced on account of the following:

- Efficiency of operations leading to gains in comparison to normative expenses
- Recovery of additional amounts from consumers on account of recovery of revenue gap of previous years

On account of the above, the overall income tax liability in any year could be higher than tax only on the ROE component allowed during the year. It is therefore requested that the actual income tax liability on such additional revenue allowed during the year should be allowed on actuals. PSTCL craves leave to submit such actual tax liability in the true-up petitions and requests the Hon'ble Commission to allow the same on actual basis.

However, MAT Credit is not recognized in the books of accounts as the company has exercised the option of Section 115BAA of Income Tax Act, 1961 for FY 2020-21 (AY- 2021-22) onwards.

Table 28: Income Tax projections over the control period (Rs Crore)

Particulars	FY 2023-24	FY 2024-25	FY 2025-26
Transmission	NIL		
SLDC	NIL		

5.3.5 Depreciation

Regulation 21 of the PSERC MYT Regulations, 2019 specifies as under:

"21.1. The value base for the purpose of depreciation shall be the capital cost of the assets admitted by the Commission:

Provided that the depreciation shall be allowed after reducing the approved original cost of the retired or replaced or decapitalized assets:

Provided that the land, other than the land held under lease and land for reservoir in case of hydro generating station, shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the assets:

Provided further that Govt. grants and consumer contribution shall also be recognized as defined under Indian Accounting Standard 20 (IND AS 20) notified by the Ministry of Corporate Affairs.

21.2. The residual/salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of historical capital cost of the asset:

Provided that I.T. Equipment and Software shall be depreciated 100% with zero salvage value.

21.3. The Cost of the asset shall include additional capitalization.

21.4. The Generating Company, Transmission and Distribution Licensee shall provide the list of assets added during each Year of the Control Period and the list of assets completing 90% of depreciation in the Year along with Petition for true-up and tariff determination for ensuing Year.

21.5. Depreciation for Distribution, generation and transmission assets shall be calculated annually as per straight line method over the useful life of the asset at the rate of depreciation specified by the Central Electricity Regulatory Commission from time to time:

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:

Provided further that in case of hydro generating stations, the salvage value shall be as *provided in the agreement signed by the developers with the State Government for creation of the asset.*

21.6. Depreciation shall be chargeable from the first year of commercial operation/asset is put in use. In case of commercial operation of the asset/put in use of asset for part of the year, depreciation shall be charged on pro rata basis."

PSTCL has computed the depreciation in accordance with the above said Regulations considering the closing GFA as approved by the Hon'ble Commission for True-up for 2020-21 in its order dated March 31, 2022 (Petition no. 67 of 2021). Further the actual capitalization has been considered for 2021-22.

Further, PSTCL has considered the scheduled depreciation rate of 5.28% on the transmission assets (excluding cost of land and assets funded through grants& Contribution) and 5.28% of SLDC business. Accordingly, PSTCL submits the depreciation for the Control Period as under:-

Table 29: Depreciation on Total Assets **(Rs. In crore)**

Sr No	Particulars	FY 2023-24		FY 2024-25		FY 2025-26	
		STU	SLDC	STU	SLDC	STU	SLDC
1	Opening GFA (Excluding Land and Land Rights) (Excluding Contributory & PSDF Works)	7950.06	32.51	9207.93	57.30	10059.52	63.28
2	**Add:** Addition to GFA	1257.87	24.79	851.59	5.99	1039.79	0.93
3	Closing GFA (Excluding Land and Land Rights) (Excluding Contributory & PSDF Works)	9207.93	57.30	10059.52	63.28	11099.31	64.21
4	Average GFA	8579.00	44.90	9633.73	60.29	10579.42	63.75
5	Depreciation	452.97	2.37	508.66	3.18	558.59	3.37
6	**Depreciation (%)**	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%

5.3.6 Interest and Finance Charges on Loan Capital

Regulation 24 of the PSERC MYT Regulations, 2019 specifies as under:

"24.1. For existing loan capital, interest and finance charges on loan capital shall be computed on the outstanding loans, duly taking into account the actual rate of interest and the schedule of repayment as per the terms and conditions of relevant agreements. The rate of interest shall be the actual rate of interest paid/payable (other than working capital loans) on loans by the Licensee.

24.2. Interest and finance charges on the future loan capital for new investments shall be computed on the loans, based on one (1) year State Bank of India (SBI) MCLR / any replacement thereof as notified by RBI as may be applicable as on 1st April of the relevant year, plus a margin determined on the basis of current actual rate of interest of the capital

expenditure loan taken by the Generating Company, Licensee or SLDC and prevailing SBI MCLR.

24.3. The repayment for each year of the tariff period shall be deemed to be equal to the depreciation allowed for the corresponding year. In case of de-capitalisation of assets, the repayment shall be adjusted by taking into account cumulative depreciation made to the extent of de-capitalisation.

24.4. The Commission shall allow obligatory taxes on interest, finance charges (including guarantee fee payable to the Government) and any exchange rate difference arising from foreign currency borrowings, as finance cost.

24.5. The interest on excess equity treated as loan shall be serviced at the weighted average interest rate of actual loan taken from the lenders.

Provided also that if there is no actual loan for a particular Year but normative loan is still outstanding, the last available weighted average rate of interest for the actual loan shall be considered."

For the purpose of projecting the interest and finance charges, PSTCL has currently considered the closing loan balances as approved by the Hon'ble Commission for F.Y 2020-21. Further addition in assets in F.Y 2021-22 are considered as per actual (Debt: Equity ratio of 70:30). The investments in ensuing years are to be funded in Debt: Equity ratio of 70:30 as per Regulations.

PSTCL submits that the interest on loan has been calculated at the rate of 8.88% for STU and 9.43% for SLDC on a Weighted average basis. However, the actual rate of interest may vary based on tie-up of loans in the future years. PSTCL will submit the details of such actual rate of interest at the time of true-up in the subsequent petitions. Based on the above considerations, the overall loan portfolio and interest expenses of Transmission and SLDC business over the years are projected in the table below:

Table 30: Interest on Loan for all Schemes of PSTCL (All Loans) (Rs. In Crore)

Sr No.	Particulars	FY 2023-24		FY 2024-25		FY 2025-26	
		STU	SLDC	STU	SLDC	STU	SLDC
1	Opening Balance	3225.05	17.58	3695.85	38.51	3919.97	41.31
2	**Add:** Addition	923.77	23.30	732.78	5.99	782.77	0.93
3	**Less:** Repayment	452.97	2.37	508.66	3.18	558.59	3.37
4	Closing Balance	3695.85	38.51	3919.97	41.31	4144.15	38.87
5	**Average Loan**	**3460.45**	**28.05**	**3807.91**	**39.91**	**4032.06**	**40.09**
6	Interest Rate	8.88%	9.43%	8.88%	9.43%	8.88%	9.43%
7	Interest Charge	307.29	2.64	338.14	3.76	358.05	3.78
8	**Less:** Interest Capitalized	7.17	0.00	2.96	0.00	2.24	0.00
9	**Add:** Misc & Finance Charges	0.13	0.00	0.13	0.00	0.13	0.00
10	**Normative Interest & Finance Charges**	**300.25**	**2.64**	**335.31**	**3.76**	**355.94**	**3.78**

5.3.7 O&M Expenses

Regulation 26 of the PSERC MYT Regulations, 2019 specifies as under:

"26.1. The O&M expenses for the nth year of the Control Period shall be approved based on the formula shown below:

$O\&M_n = (R\&M_n + EMP_n + A\&G_n) \times (1-X_n)$

Where,

- *$R\&M_n$ –Repair and Maintenance Costs of the Applicant for the nth year;*
- *EMP_n –Employee Cost of the Applicant for the nth year;*
- *$A\&G_n$ –Administrative and General Costs of the Applicant for the nth year;*

It should be ensured that all such expenses capitalized should not form a part of the O&M expenses being specified here. The above components shall be computed in the manner specified below:

(i) $R\&M_n = K*GFA*WPI_n/WPI_{n-1}$

Where,

- *'K' is a constant (expressed in %) governing the relationship between R&M costs and Gross*
- *Fixed Assets (GFA) for the nth year. The value of 'K' will be specified by the Commission in the MYT order.*
- ***'GFA'** is the average value of the gross fixed assets of the nth year.*
- ***WPI_n**means the average rate (on monthly basis) of Wholesale Price Index (all commodities) over the year for the nth year.*

(ii) $EMP_n + A\&G_n = (EMP_{n-1} + A\&G_{n-1}) *(INDEX_n/INDEX_{n-1})$

$INDEX_n$ - Inflation Factor to be used for indexing the Employee Cost and Administrative and General Costs for nth year. This will be a combination of the Consumer Price Index (CPI) and the Wholesale Price Index (WPI) of nth year and shall be calculated as under: -

$INDEX_n = 0.50*CPI_n + 0.50*WPI_n$

'WPI_n' means the average rate (on monthly basis) of Wholesale Price Index (all commodities) over the year for the nth year.

'CPI_n' means the average rate (on monthly basis) of Consumer Price Index (Industrial workers) over the year for the nth year.

Note 1: The O&M expenses of BBMB for the entire Control Period shall be projected separately based on the latest actual payout. The Commission shall true-up the O&M expenses of BBMB during the Annual Performance Review based on the actual payout. The O&M expense of BBMB shall be treated as uncontrollable cost item. However, when CERC determines the tariff in respect of generating plants/units of BBMB, the Commission shall consider the same

Note 2: For the purpose of estimation, the same WPI_n and CPI_n values shall be used for all years of the Control Period. However, the Commission will consider the actual values of the

WPI_n and CPI_n at the end of each year during the Annual Performance Review exercise and True-up the R&M Expenses, Employee Cost and A&G Expenses on account of this variation.

Note 3: O&M expense shall be allowed on normative basis and shall be trued-up only to the account of variation in Wholesale Price Index and Consumer Price Index.

Note 4: Terminal Liabilities such as death-cum-retirement gratuity, Ex-Gratia, pension including family pension, commuted pension, leave encashment, LTC, medical reimbursement including fixed medical allowance in respect of the State PSU / Government pensioners will be approved as per the actuals paid by the Applicant.

Note 5: O&M expenses made on account of extraordinary situations (if any) shall be submitted to Commission for its approval. Such expenses shall be filed separately and will not be subjected to provisions of Regulation 30. The amount approved by the Commission shall be trued up in the Annual Performance Review.

Note 6: Exceptional increase in employee cost on account of Pay Commission based revision for State PSU / Government employees will be considered separately by the Commission.

Note 7: Any expenditure on account of license fee, initial or renewal, fee for determination of tariff and audit fee shall be allowed on actual basis, over and above the A&G expenses approved by the Commission.

Note 8: O&M expenses of assets taken on lease/hire-purchase and those created out of the consumers' contribution shall be considered in case the Generating Company or the Licensee has the responsibility for its operation and maintenance and bears O&M expenses.

Note 9: With regard to unfunded past liabilities of pension and gratuity, the Commission will follow the principle of 'pay as you go'. The Commission shall not allow any other amount towards creating fund for meeting unfunded past liability of pension and gratuity.

Note 10: O&M expenses for gross fixed assets added during the year, if not accounted already, shall be considered from the date of commissioning on pro-rata basis.

(iii) Xn is an efficiency factor for nth year

The Value of Xn shall be determined by the Commission in it MYT order for the Control Period."

Human Resource Development

A strong, vibrant and motivated work force is critical for efficient, effective and consistently reliable operations of PSTCL. By employing competent professionals, the organization can not only achieve higher levels of efficiency, but also bring down costs and become more profitable. Employees are the most precious asset of an organization and a conducive environment is necessary to encourage creativity, innovation and performance excellence amongst them. The Company has focused its efforts to enhance the capabilities of employees to develop competent, trained and multi-disciplinary human capital. PSTCL has a

satisfactory performance in recruitment, selection, training and development of the employees.

Training need analysis has been carried out in all the areas as the basis for devising the necessary 'Training System'. Due to fast changes in technology, there is a need to acquaint staff with the latest trends in field, in addition to the regular refresher courses.

Specific areas are identified on the basis of performance appraisal and individuals' feedback such as EHV Operation & Maintenance, Load Management, System Studies and Network Planning, EHV Construction of Sub-stations & Lines, Design & Engineering, Project Tendering, Procurement, Survey & Investigation, Project clearances, Testing and equipment's, Civil works, Commercial & Regulatory affairs, Project Management, Information Technology, Finance & Accounts, Human Resources, General Management, Public Relation & Communication, Fire & Safety etc.

As the electricity industry is highly capital intensive, it necessitates the operation of the plant /substation equipment's / Transmission line in the safest and efficient manner to minimize the cost of operation and a competitive spirit to achieve higher productivity and customer satisfaction. PSTCL believes that every employee should be trained to build the required skills for superior performance on the job.

It may be noted that during unbundling of erstwhile PSEB, all training infrastructure have been retained by PSPCL. With an objective to build capacity in the organisation and enhance the skill sets of its employees at different levels, annual Training calendars are being prepared and adhered to by PSTCL.

At present, short-term courses are being arranged at regular intervals for staff by making arrangement with the outside agencies. Further, Executives and Staff have been sent to various training programmes and conferences to enrich their knowledge and experience.

Awards for Best Managed Substation and Transmission Line have been implemented for promoting competition in upkeep of the Substations and Transmission Lines. Efficient employees of various offices are also rewarded for promoting efficiency and competition amongst themselves.

PSTCL submits that the sanctioned employee strength for the organization is 5138. As against the same, as on March 31, 2022, the overall employee strength is 3685 which includes around 456 security staff deployed at various installations of PSTCL. The same is shown in the table below.

It is submitted that several new installations are under development phase, A typical 400 kV substation would require deployment of 22 personnel and ~15 personnel are required for a new 220 kV sub-station. Accordingly, the regular employee strength is likely to increase in the initial years and will have marginal reduction in the ensuing years on account of,

retirements. The overall number of employees envisaged in the organization are summarized below:

Table 31: Projections of Employee strength for the Control Period*

Sr. No.	Particulars	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY2023-24	FY2024-25	FY2025-26
		(Actual)					Projections		
1a	Gazetted	394	361	394	394	366	405	425	446
1b	Non-Gazetted	2707	2534	2298	2126	2004	2822	2698	2578
	Recruitment	0	20	1	0	992	0	0	0
	Retirement/Repatriation	167	184	170	150	135	128	122	116
1	Subtotal	2934	2731	2523	2370	3227	3099	3001	2908
2	Re-employed	165	184	103	42	0	0	0	0
3	Outsourced against regular posts	472	726	779	785	777	905	1005	1105
4	Work Charged	48	35	30	13	12	11	10	9
5	Contingent	10	16	17	19	19	19	19	19
6	Security	849	860	778	456	474	487	497	507
7	**Total**	**4478**	**4552**	**4230**	**3685**	**4509**	**4521**	**4532**	**4548**

The employee expenses have been considered in the following manner:

- Hon'ble Commission has approved Rs. 529.70 crore as employee cost for FY 2020-21 vide Tariff Oder dated 31.03.2022. Out of this, Rs. 9.21 Crores was on account of SLDC while Rs. 520.49 Crores was on account of transmission.
- PSTCL has claimed the Terminal benefits which includes elements such as Pension and Gratuity, Leave encashment, Medical Reimbursement, etc. for the Control Period by considering the impact of Pay/Pension Revision as per the 6th Pay Commission of GOP. PSTCL has also considered 5% increase on yearly basis. However, during the Control Period the same will be claimed/allowed on actual basis.
- The Other employee expenses have been escalated with an escalation factor of 9.06% as per principles defined in the regulations. The working is as follows:

Table 32: Indexation Rates

Sr No.	Particulars	FY 2019-20	FY 2020-21	FY 2021-22
1	WPI	121.8	123.38	139.41
2	CPI	111.98	117.61	123.63
3	Indexation	116.89	120.495	131.52
4	Increase in WPI		1.30%	13.00%
5	Increase in CPI		5.03%	5.12%
6	Increase in indexation		3.16%	9.06%

- In this regard, PSTCL submits that it has not considered the impact of arrears of 6th Pay revision of Punjab Govt. (w.e.f 01.01.2016 to 30.06.2021) during the 3rd MYT Control Period from FY 2023-24 to FY 2025-26 as it will be claimed during APR for FY2022-23 amounting Rs. 202.02 Crore for employees and Rs.115.34 Crore for Pensioners. However, Impact of Pay Revision of Employee's & New Recruitment amounting to Rs. 24.12 Crore and 21.84 Crore respectively has been considered during the FY 2021-22 and FY 2022-23 respectively and the same has been included in the base figure for FY 2022-23 and FY 2023-24 respectively. Further, Impact of Pension Revision of Pensioners has been considered while projecting the employee cost for 3rd Control Period. PSTCL craves leave to submit these expenses on actual basis for the Control Period if any, since these expenses are being allowed on actual basis as per Regulations.
- For achieving full functionality as proposed under SAMAST project, additional manpower will be required as soon as the project is commissioned. PSTCL has worked out the requirement of additional manpower under strengthening of SLDC by posting manpower as per the directives of Hon'ble Commission and recommendation of CIBIL report. PSTCL has estimated tentative additional manpower requirement of 31 no. of staff for SLDC for SAMAST Project. Commissioning of SAMAST Project has been anticipated in FY 2023-24. Therefore, estimated annual expense of additional staff to be incurred has been considered in projecting the employee cost for SLDC.
-

Table 33: Projection for Employee Expenses for the Control Period (Rs Crore)

Sr No.	Particulars	2021-22	2022-23	2023-24	2024-25	2025-26
Transmission						
1	Other Employee Costs (Base)	195.32	237.73	283.43	309.11	345.11
2	Indexation	9.06%	9.06%	9.06%	9.06%	9.06%
3	Other Employee Costs	213.01	259.27	309.11	337.11	376.38
4	Employee Cost for 220 KV S/s Bathinda transferred from PSPCL to PSTCL	0.60				
5	Employee Cost for 400 KV S/s Bahaman Jassa Singh (New)	0.44				
6	Impact of Pay Revision	23.68				
7	Employee Cost of Newly Recruitment	0.00	21.84			
8	Employee Cost of New Sub-Stations	0.00	2.32		8.00	4.80
9	Total Other Employee Costs	237.73	283.43	309.11	345.11	381.18
10	Terminal Benefits	344.06	431.46	453.03	475.68	499.47
11	Arrear of Pay - Employees		202.02			
12	Arrear of Pay - Pensioners		115.34			
13	Total Employee Costs	581.79	1032.25	762.14	820.80	880.65
SLDC						
1	Other Employee Costs (Base)	8.85	10.09	11.01	14.50	15.82
2	Indexation	9.06%	9.06%	9.06%	9.06%	9.06%
3	Other Employee Costs	9.65	11.01	12.00	15.82	17.25
4	Impact of Pay Revision	0.44				
5	Employee Cost for SAMAST Project			2.50		
6	Total Other Employee Costs	10.09	11.01	14.50	15.82	17.25
7	Terminal Benefits	0.32	0.34	0.35	0.37	0.39
8	Total Employee Costs	10.41	11.34	14.86	16.19	17.64

Projection of A&G Expenses

The A&G expenses have been considered in the following manner:

- Hon'ble Commission has approved Rs. 27.87 Crore as A&G expenses for FY 2020-21 vide Tariff Oder dated 31.03.2022. Out of this, Rs.0.80 Crores was on account of SLDC while Rs. 27.07Crore was on account of transmission.
- The A&G expenses have been escalated with an escalation factor of 9.06% as per the methodology defined above.

Accordingly, A&G Expenses for the Control Period are projected as follows:

Table 34: Projection of A&G Expenses for the Control Period (RsCrore)

Sr No.	Particulars	FY 2023-24	FY 2024-25	FY 2025-26
Transmission				
1	A&G Expenses	31.64	34.50	37.63
2	Escalation	9.06%	9.06%	9.06%
3	**A&G Expenses**	**34.50**	**37.63**	**41.04**
4	Add: License and Tariff Fee	0.52	0.52	0.52
5	Add: Audit Fee	0.05	0.05	0.05
6	**Total A&G Expenses**	**35.07**	**38.20**	**41.61**
SLDC				
4	A&G Expenses	0.95	1.04	1.13
5	Escalation	9.06%	9.06%	9.06%
6	**Total A&G Expenses**	**1.04**	**1.13**	**1.23**

Projection of R&M Expenses

PSTCL has determined the K-Factors for its transmission business and SLDC business as follows:

- The total R&M expenses for F.Y 2020-21 is Rs. 31.50 crore and Rs. 0.37 crore for STU and SLDC respectively as per Audited Accounts for FY 2020-21. The Average GFA for FY 2020-21 is Rs. 10196.02 crore and Rs. 26.20 crore for STU and SLDC respectively. K-Factor is relation between R&M expenses and average GFA. Accordingly, K-Factor is 0.309% for STU and 1.420% for SLDC is calculated on the basis of Actual figures of FY 2020-21.
- The escalation factors have been assumed in a similar manner as described in the previous sections. The R&M expenses are accordingly calculated in a manner consistent with the regulations.
- Total Cost of the SAMAST Project comprises of its initial cost to be paid up to Commissioning of the project and warranty-cum-AMC cost of 6 years. Thus R & M cost on account of AMC and recurring Telecom usage charges comes out to be Rs. 2.96 crore per year for 6 years after commissioning of SAMAST Project i.e. FY 2023-24.

Table 35: Projection of R&M Expenses for Control Period (Rs. Crore)

Sr. No.	Particulars	FY 2023-24	FY 2024-25	FY 2025-26
Transmission Business				
1	Opening GFA	11129.74	12387.61	13239.20
2	Addition	1257.87	851.59	1039.79
3	Closing GFA	12387.61	13239.20	14278.99
4	Average GFA	11758.67	12813.40	13759.09
5	K factor	0.309%	0.309%	0.309%
6	Escalation factor	13.00%	13.00%	13.00%
7	**R&M Expenses**	41.06	44.74	48.04
SLDC				
1	Opening GFA	37.26	62.05	68.04
2	Addition	24.79	5.99	0.93
3	Closing GFA	62.05	68.04	68.97
4	Average GFA	49.66	65.05	68.50
5	K factor	1.420%	1.420%	1.420%
6	Escalation factor	13.00%	13.00%	13.00%
7	R&M Expenses	0.80	1.04	1.10
8	AMC impact due to SAMAST	2.96	2.96	2.96
9	**R&M Expenses**	3.76	4.00	4.06

5.3.8 Interest on Working Capital

Regulation 51 of the PSERC MYT Regulations, 2019 specifies as under:

*"51.1. **Components of Working Capital***

The Working Capital shall cover the following:

(a) O&M Expenses for 1 month;

(b) Maintenance spares @ 15% of the O&M expenses;

(c) Receivables equivalent to two (2) months of fixed cost calculated on normative target availability.

Provided also that for the purpose of Truing-up for any year, the working capital requirement shall be re-computed on the basis of the trued-up figures of receivables. Operation & Maintenance expenses and other components of working capital approved by the Commission in the Truing-up;

For the purpose of Truing-up for each year, the variation between the normative interest on working capital computed at the time of Truing-up and the actual interest on working capital incurred by the Petitioner, substantiated by documentary evidence, shall be considered as 'excess normative' or 'deficit normative', as the case may be. The treatment of such excess and deficit shall be done in following manner:

(a) Excess Normative' shall be passed on to consumer over such period as may be specified in the Order of the Commission;

(b) 'Deficit Normative', if any, will be borne by the Petitioner."

*51.2. **Rate of Interest***

The rate of interest on working capital shall be as per Regulation 25.1."

Table 36: Calculation of Normative Interest on Working Capital (Rs in Crore)

Sr No.	Particulars	2023-24		2024-25		2025-26	
		STU	SLDC	STU	SLDC	STU	SLDC
1	Receivables equivalent to two (2) months of fixed cost calculated on normative target availability	294.74	6.21	325.22	6.83	353.02	7.14
2	Maintenance Spares @ 15% of O&M expenses	125.74	2.95	135.56	3.20	145.54	3.44
3	Operation & Maintenance expenses for 1 (One) Month	69.86	1.64	75.31	1.78	80.86	1.91
4	**Total Working Capital (Normative)**	**490.34**	**10.80**	**536.09**	**11.80**	**579.42**	**12.49**
5	Rate of Interest applied (As per Norms)	9.64%	9.64%	9.64%	9.64%	9.64%	9.64%
6	**Normative Interest on Working Capital**	**47.27**	**1.04**	**51.68**	**1.14**	**55.86**	**1.20**

5.3.9 ULDC Charges

The actual ULDC charges as per books of accounts for FY 2021-22 are Rs 8.88 Crore. The said charges are approved by the CERC and are payable by SLDC. For the purpose of projection, ULDC Charges for the control period are shown in the table below:

Table 37: Projection of ULDC charges for the Control period (Rs in crore)

Sr No.	Particulars	FY 2023-24	FY 2024-25	FY 2025-26
	Punjab SLDC			
1	ULDC-II	1.5	1.5	1.5
2	ULDC-III (Tentative)	3.5	3.5	3.5
3	FOCS Charges	3.5	3.5	3.5
4	NRLDC Charges	3.5	3.5	3.5
5	**Total**	**12.00**	**12.00**	**12.00**

5.3.10 Non-Tariff Income

The actual non-tariff income for 2021-22 is Rs. 34.95 Crore for STU and Rs. 0.31 Crore for SLDC. However, Non-Tariff Income of FY 2021-22 includes the amount of Rs. 16 Crore on account of sale of fixed asset, which is Non recurring income in nature. While the projections for Non -tariff Income have been provided as per Regulation 28 of PSERC MYT Regulations, 2019, however no sharing has been considered in the elements as provided in the regulations. The Petitioner proposed to undertake the same at the time of true-up based on actual income received during any financial year in the ensuing control period.

Table 38: Projection of Non-Tariff Income for the Control Period (Rs in crore)

Sr. No.	Particulars	FY 2023-24	FY 2024-25	FY 2025-26
1	Transmission Business	20	20	20
2	SLDC	0.35	0.35	0.35

5.3.11 Summary of ARR

The summary of ARR for Transmission and SLDC Business for Control Period is summarized as under:

Table39: Projection of ARR for the Control Period (Rs in crore)

Sr. No.	Particulars	Transmission Business			SLDC Business			PSTCL		
		2023-24	2024-25	2025-26	2023-24	2024-25	2025-26	2023-24	2024-25	2025-26
a	Repair and Maintenance	41.06	44.74	48.04	3.76	4.00	4.06	44.81	48.74	52.10
b	A&G	35.07	38.20	41.61	1.04	1.13	1.23	36.11	39.33	42.84
c	Employee Expenses	762.14	820.79	880.64	14.85	16.19	17.64	776.99	836.98	898.28
1	*O&M Exp*	**838.27**	**903.73**	**970.29**	**19.65**	**21.32**	**22.93**	**857.92**	**925.05**	**993.22**
2	Return on Equity	153.36	175.61	201.11	0.00	0.00	0.00	153.36	175.61	201.11
3	Depreciation	452.97	508.66	558.59	2.37	3.18	3.37	455.34	511.84	561.96
4	Interest and finance charges on Loan Capital	300.25	335.31	355.94	2.64	3.76	3.78	302.89	339.08	359.72
5	Interest on Working Capital	47.27	51.68	55.86	1.04	1.14	1.20	48.31	52.82	57.06
6	ULDC Charges	0.00	0.00	0.00	12.00	12.00	12.00	12.00	12.00	12.00
7	Income Tax	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	**Aggregate Revenue Requirement (ARR)**	**1792.12**	**1975.00**	**2141.79**	**37.70**	**41.41**	**43.28**	**1829.82**	**2016.41**	**2185.07**
10	Less: Non-Tariff Income	20.00	20.00	20.00	0.35	0.35	0.35	20.35	20.35	20.35
11	Less: Revenue from Open Access	3.66	3.66	3.66	0.09	0.09	0.09	3.75	3.75	3.75
12	**Net ARR**	**1768.46**	**1951.34**	**2118.13**	**37.26**	**40.97**	**42.84**	**1805.72**	**1992.31**	**2160.97**

5.4 Projection of Financial Statement

PSTCL has projected the Financial Statements for the Control Period with the following assumptions:

a) Financial Statements has been projected combined for Transmission Business and SLDC.

b) The approved values for 2020-21 in the true-up order and Actual Figures for FY 2021-22 have been considered as base for projecting the P&L for the control period.

c) No prior period gap has been considered as part of the Business plan and the same shall be considered in the MYT petition or ARR petitions to be filed subsequently.

d) The projected financial statements are based on the projected ARR for individual years. However, these statements are indicative in nature and will depend on the detailed MYT submissions to be filed by the Petitioner and considerations of the same in the orders to be passed by the Hon'ble Commission.

The Projected P&L Statement for the Control Period is as under:

Table 40: Projected P&L Statement for PSTCL for Control Period (Rs. Crore)

Sr. No.	Particulars	FY 2023-24	FY 2024-25	FY 2025-26
1	**Revenue**			
2	Revenue from operations	1809.48	1996.06	2164.73
3	Non-tariff income	20.35	20.35	20.35
4	**Total Revenue**	**1829.83**	**2016.41**	**2185.08**
5	**Expenditure**			
6	Repair and Maintenance Cost	44.81	48.74	52.10
7	Administration Expenses	36.11	39.33	42.84
8	Employee Expenses	777.00	836.98	898.28
9	ULDC Charges	12.00	12.00	12.00
10	Depreciation and Related debits	455.34	511.84	561.96
11	Interest & Finance Charges	351.20	391.90	416.78
12	**Total Expenditure**	**1676.47**	**1840.80**	**1983.97**
13	**PBT**	153.36	175.61	201.11
14	Tax	0	0	0
15	**PAT**	**153.36**	**175.61**	**201.11**

5.5 Submission to the Hon'ble Commission

PSTCL submits that the performance of the transmission system is a function of several input parameters, viz., energy transactions, vintage and technological advancement across its network etc. PSTCL has made sustained efforts to streamline its processes over the years as inherited from the erstwhile PSEB period.

PSTCL humbly submits that it has prepared the Business Plan considering the factors which are within control of PSTCL, however, PSTCL further requests the Hon'ble Commission to allow submission of further information and/or revision due to change in any accountable and non-accountable or uncontrollable parameters for future years as part of the subsequent submissions.

6 Prayers

The Petitioner respectfully prays to the Hon'ble Commission:

a) To admit the Petition seeking approval of Business Plan along with its Capital Investment Plan for FY 2023-24 TO FY 2025-26 in accordance with Regulation 9 of the PSERC MYT Regulations, 2019;

b) To approve the Business Plan along with the Capital Investment Plan for Transmission and SLDC Business for FY 2023-24 TO FY 2025-26 as proposed by the Petitioner in the above-said Petition;

c) To pass any other order/s as the Hon'ble Commission may deem fit and appropriate under the circumstances of the case and in the interest of justice;

d) To condone any error/ omission and to give opportunity to rectify the same;

e) The filing is being done based on the best available information and in case of any change, the Petitioner may be permitted to make further submissions, addition and alteration to this Petition as may be necessary from time to time.

Dated: 18-08-2022
Place: Patiala

Petitioner,
PSTCL, Patiala.

7 Annexures

Annexures- K Series

ANNEXURE K-01

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E

AREA TOTALS
IN MW/MVAR

X— AREA —X	FROM GENE-RATION	FROM IND GENERATN	TO IND MOTORS	TO LOAD	TO BUS SHUNT	TO GNE BUS DEVICES	TO LINE SHUNT	TO XFRMR MAGNE-TIZING	FROM CHARGING	TO LOSSES	-NET INTERCHANGE- TO TIE LINES	TO TIES + LOADS	DESIRED NET INT
1	6265.3	0.0	0.0	17348.2	0.0	0.0	0.0	0.0	0.0	271.6	-11354.5	-11354.5	0.0
PUNJAB	2251.2	0.0	0.0	5919.2	-2375.1	0.0	1248.1	-0.0	6079.0	5350.6	-1812.5	-1812.5	
COLUMN	6265.3	0.0	0.0	17348.2	0.0	0.0	0.0	0.0	0.0	271.6	-11354.5	-11354.5	0.0
TOTALS	2251.2	0.0	0.0	5919.2	-2375.1	0.0	1248.1	0.0	6079.0	5350.6	-1812.5	-1812.5	

INCLUDING SOLAR (RE) GENERATION OF APPROX. 661 MW, REPRESENTED AS NEGATIVE LOAD AT VARIOUS BUSSES.

ANNEXURE K-01

PTI INTERACTIVE POWER SYSTEM SIMULATOR—PSS(R)E

OUTPUT FOR AREA 1 [PUNJAB]

SUBSYSTEM LOADING CHECK (INCLUDED: LINES) (EXCLUDED: BREAKERS AND SWITCHES; TRANSFORMERS)

CURRENT LOADINGS ABOVE 100.0 % OF RATING SET 1:

FROM BUS				TO BUS							
BUS#-SCT	NAME	BASKV	AREA	BUS#-SCT	NAME	BASKV	AREA	CKT	LOADING	RATE1	PERCENT
101005	TALWANDBHAI1	132.00	1	101076	FEROZESHAH1	132.00*	1	1	75.6	73.0	103.6
101017	SARNA1	132.00	1	101064	GURDASPUR1	132.00*	1	1	93.3	72.0	129.5
101017	SARNA1	132.00	1	101064	GURDASPUR1	132.00*	1	2	93.3	72.0	129.5
101063	HAKIMAGATE1	132.00	1	101139	SKATRIBAGH1	132.00*	1	1	89.3	87.0	102.6
101078	MOGA1	132.00*	1	101079	MOG21	132.00	1	1	93.7	87.0	107.7
101078	MOGA1	132.00*	1	101079	MOG21	132.00	1	2	93.7	87.0	107.7
101079	MOG21	132.00	1	101107	GHOLIANKLN1	132.00*	1	1	102.1	87.0	117.3
101090	GIDERBAHA1	132.00*	1	101092	BALUANA1	132.00	1	1	124.7	87.0	143.3
102004	WGT2	220.00	1	102006	FGCR2	220.00*	1	1	220.4	215.0	102.5
102018	JAMSHER2	220.00*	1	102054	KOTLAJNGA2	220.00	1	1	223.8	215.0	104.1
102018	JAMSHER2	220.00*	1	102054	KOTLAJNGA2	220.00	1	2	223.8	215.0	104.1
102029	MOHALI(1)2	220.00*	1	502003	NLGR42	220.00	5	1	270.8	215.0	125.9
102029	MOHALI(1)2	220.00*	1	502003	NLGR42	220.00	5	2	270.8	215.0	125.9
102033	RAJPURA2	220.00*	1	102096	PTA(PG)42	220.00	1	1	250.9	215.0	116.7
102034	BAHADURGARH2	220.00*	1	102096	PTA(PG)42	220.00	1	1	330.5	215.0	153.7
102038	GOBNDGR(1)2	220.00*	1	102094	RAJPURA42	220.00	1	1	270.4	215.0	125.8
102043	SAHNEWAL2	220.00*	1	102102	DORAHA2	220.00	1	1	236.4	215.0	110.0
102045	LALTONKLAN2	220.00*	1	102099	LUDHN(PG)42	220.00	1	2	325.7	215.0	151.5
102045	LALTONKLAN2	220.00*	1	102099	LUDHN(PG)42	220.00	1	3	249.8	215.0	116.2
102054	KOTLAJNGA2	220.00*	1	102069	KARTARPUR2_B	220.00	1	1	222.8	215.0	103.6
102054	KOTLAJNGA2	220.00*	1	102069	KARTARPUR2_B	220.00	1	2	222.8	215.0	103.6
102054	KOTLAJNGA2	220.00*	1	102098	JLNDR(PG)42	220.00	1	1	222.8	215.0	103.6
102055	MOGA2	220.00	1	102058	TALWDIBHAI2	220.00*	1	1	228.8	215.0	106.4
102055	MOGA2	220.00	1	102058	TALWDIBHAI2	220.00*	1	2	228.8	215.0	106.4
102069	KARTARPUR2_B	220.00*	1	102098	JLNDR(PG)42	220.00	1	1	222.1	215.0	103.3
102069	KARTARPUR2_B	220.00*	1	102098	JLNDR(PG)42	220.00	1	2	222.1	215.0	103.3
102077	AJITWAL2	220.00*	1	102100	MOGA(PG)42	220.00	1	1	233.8	215.0	108.8
102083	PATRAN2	220.00*	1	102138	PTRN(PG)42	220.00	1	1	215.2	215.0	100.1

102083	PATRAN2	220.00*	1	102138	PTRN(PG)42	220.00	1	2	215.2	215.0	100.1
102091	MUKATSAR42	220.00	1	102103	MALOUT2	220.00*	1	1	237.6	215.0	110.5
102094	RAJPURA42	220.00	1	102199	GBGR(B)12	220.00*	1	1	220.3	215.0	102.4
102099	LUDHN(PG)42	220.00	1	102102	DORAHA2	220.00*	1	1	385.9	215.0	179.5
110203	GNGWL(BBMB)2	220.00*	1	502001	DEHR42	220.00	5	1	242.6	240.8	100.8
110203	GNGWL(BBMB)2	220.00*	1	502001	DEHR42	220.00	5	2	242.6	240.8	100.8

ANNEXURE K-01

PTI INTERACTIVE POWER SYSTEM SIMULATOR—PSS(R)E

OUTPUT FOR AREA 1 [PUNJAB]

SUBSYSTEM LOADING CHECK (INCLUDED: TRANSFORMERS) (EXCLUDED: LINES; BREAKERS AND SWITCHES)

MVA LOADINGS ABOVE 100.0 % OF RATING SET 1:

FROM BUS				TO BUS							
BUS#-SCT	NAME	BASKV	AREA	BUS#-SCT	NAME	BASKV	AREA	CKT	LOADING	RATE1	PERCENT
101046	SCINCECITY1	132.00	1	102107	SCINCECITY2	220.00*	1	1	107.5	100.0	107.5
101079	MOG21	132.00	1	102055	MOGA2	220.00*	1	1	109.2	100.0	109.2
101079	MOG21	132.00	1	102055	MOGA2	220.00*	1	2	109.2	100.0	109.2
101079	MOG21	132.00	1	102055	MOGA2	220.00*	1	3	109.2	100.0	109.2
102038	GOBNDGR(1)2	220.00*	1	106002	GBGR(1)26	66.000	1	1	127.2	100.0	127.2
102038	GOBNDGR(1)2	220.00*	1	106002	GBGR(1)26	66.000	1	2	127.2	100.0	127.2
102045	LALTONKLAN2	220.00*	1	106015	LALTOKLAN26	66.000	1	1	117.2	100.0	117.2
102045	LALTONKLAN2	220.00*	1	106015	LALTOKLAN26	66.000	1	2	117.2	100.0	117.2
102093	NAKODER42	220.00	1	104008	NAKODAR4	400.00*	1	1	358.6	315.0	113.8
102093	NAKODER42	220.00	1	104008	NAKODAR4	400.00*	1	2	358.6	315.0	113.8
102094	RAJPURA42	220.00	1	104009	RAJPURA4	400.00*	1	1	505.1	500.0	101.0
102094	RAJPURA42	220.00	1	104009	RAJPURA4	400.00*	1	2	505.1	500.0	101.0
102099	LUDHN(PG)42	220.00	1	104003	LUDHIAN(PG)4	400.00*	1	1	336.7	315.0	106.9
102099	LUDHN(PG)42	220.00	1	104003	LUDHIAN(PG)4	400.00*	1	2	336.7	315.0	106.9
102099	LUDHN(PG)42	220.00	1	104003	LUDHIAN(PG)4	400.00*	1	3	336.7	315.0	106.9
102099	LUDHN(PG)42	220.00	1	104003	LUDHIAN(PG)4	400.00*	1	4	533.4	500.0	106.7
102100	MOGA(PG)42	220.00	1	104005	MOGA(PG)4	400.00*	1	1	366.6	315.0	116.4
102100	MOGA(PG)42	220.00	1	104005	MOGA(PG)4	400.00*	1	2	290.4	250.0	116.1
102100	MOGA(PG)42	220.00	1	104005	MOGA(PG)4	400.00*	1	3	580.7	500.0	116.1
102100	MOGA(PG)42	220.00	1	104005	MOGA(PG)4	400.00*	1	4	580.7	500.0	116.1

ANNEXURE K-02

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E

AREA TOTALS
IN MW/MVAR

X-- AREA --X	FROM GENE-RATION	FROM IND GENERATN	TO IND MOTORS	TO LOAD	TO BUS SHUNT	TO GNE BUS DEVICES	TO LINE SHUNT	TO XFRMR MAGNE-TIZING	FROM CHARGING	TO LOSSES	-NET INTERCHANGE- TO TIE LINES	TO TIES + LOADS	DESIRED NET INT
1	5496.7	0.0	0.0	17348.2	0.0	0.0	0.0	0.0	0.0	322.1	-12173.5	-12173.5	0.0
PUNJAB	2317.3	0.0	0.0	5919.2	-2155.0	0.0	1237.4	-0.0	5941.1	6113.0	-2856.1	-2856.1	
COLUMN TOTALS	5496.7	0.0	0.0	17348.2	0.0	0.0	0.0	0.0	0.0	322.1	-12173.5	-12173.5	0.0
	2317.3	0.0	0.0	5919.2	-2155.0	0.0	1237.4	0.0	5941.1	6113.0	-2856.1	-2856.1	

WITH GGSSTP OFF

INCLUDING SOLAR (RE) GENERATION OF APPROX. 661 MW, REPRESENTED AS NEGATIVE LOAD AT VARIOUS BUSSES.

ANNEXURE K-02

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E

OUTPUT FOR AREA 1 [PUNJAB]

SUBSYSTEM LOADING CHECK (INCLUDED: LINES) (EXCLUDED: BREAKERS AND SWITCHES; TRANSFORMERS)

CURRENT LOADINGS ABOVE 100.0 % OF RATING SET 1:

FROM BUS				TO BUS							
BUS#-SCT	NAME	BASKV	AREA	BUS#-SCT	NAME	BASKV	AREA	CKT	LOADING	RATE1	PERCENT
101005	TALWANDBHAI1	132.00	1	101076	FEROZESHAH1	132.00*	1	1	77.1	73.0	105.6
101011	SMADHBHAI1	132.00*	1	101107	GHOLIANKLN1	132.00	1	1	87.9	87.0	101.0
101017	SARNA1	132.00	1	101064	GURDASPUR1	132.00*	1	1	97.9	72.0	136.0
101017	SARNA1	132.00	1	101064	GURDASPUR1	132.00*	1	2	97.9	72.0	136.0
101045	NAKODER1	132.00*	1	101116	NKDR21	132.00	1	1	91.8	87.0	105.5
101063	HAKIMAGATE1	132.00	1	101139	SKATRIBAGH1	132.00*	1	1	92.9	87.0	106.7
101078	MOGA1	132.00*	1	101079	MOG21	132.00	1	1	101.8	87.0	117.0
101078	MOGA1	132.00*	1	101079	MOG21	132.00	1	2	101.8	87.0	117.0
101079	MOG21	132.00	1	101107	GHOLIANKLN1	132.00*	1	1	106.0	87.0	121.8
101090	GIDERBAHA1	132.00*	1	101092	BALUANA1	132.00	1	1	128.7	87.0	148.0
102004	WGT2	220.00	1	102006	FGCR2	220.00*	1	1	228.5	215.0	106.3
102011	VERPAL2	220.00*	1	102101	AMRTSR(PG)42	220.00	1	1	513.9	481.8	106.7
102011	VERPAL2	220.00*	1	102101	AMRTSR(PG)42	220.00	1	2	513.9	481.8	106.7
102018	JAMSHER2	220.00	1	102052	GORAYA2	220.00*	1	1	240.0	215.0	111.6
102018	JAMSHER2	220.00*	1	102054	KOTLAJNGA2	220.00	1	1	267.4	215.0	124.4
102018	JAMSHER2	220.00*	1	102054	KOTLAJNGA2	220.00	1	2	267.4	215.0	124.4
102028	KHARAR2	220.00*	1	102029	MOHALI(1)2	220.00	1	1	297.3	215.0	138.3
102029	MOHALI(1)2	220.00*	1	502003	NLGR42	220.00	5	1	320.3	215.0	149.0
102029	MOHALI(1)2	220.00*	1	502003	NLGR42	220.00	5	2	320.3	215.0	149.0
102033	RAJPURA2	220.00*	1	102096	PTA(PG)42	220.00	1	1	308.3	215.0	143.4
102034	BAHADURGARH2	220.00*	1	102096	PTA(PG)42	220.00	1	1	396.9	215.0	184.6
102038	GOBNDGR(1)2	220.00*	1	102094	RAJPURA42	220.00	1	1	361.7	215.0	168.2
102041	KOHARA2	220.00*	1	102043	SAHNEWAL2	220.00	1	1	272.6	240.9	113.2
102043	SAHNEWAL2	220.00*	1	102102	DORAHA2	220.00	1	1	380.7	215.0	177.1
102045	LALTONKLAN2	220.00*	1	102099	LUDHN(PG)42	220.00	1	2	324.6	215.0	151.0
102045	LALTONKLAN2	220.00*	1	102099	LUDHN(PG)42	220.00	1	3	248.9	215.0	115.8
102054	KOTLAJNGA2	220.00*	1	102069	KARTARPUR2_B	220.00	1	1	255.3	215.0	118.7
102054	KOTLAJNGA2	220.00*	1	102069	KARTARPUR2_B	220.00	1	2	255.3	215.0	118.7

102054	KOTLAJNGA2	220.00*	1	102098	JLNDR(PG)42	220.00	1	1	255.2	215.0	118.7
102055	MOGA2	220.00	1	102058	TALWDIBHAI2	220.00*	1	1	241.7	215.0	112.4
102055	MOGA2	220.00	1	102058	TALWDIBHAI2	220.00*	1	2	241.7	215.0	112.4
102069	KARTARPUR2_B	220.00*	1	102098	JLNDR(PG)42	220.00	1	1	254.2	215.0	118.2
102069	KARTARPUR2_B	220.00*	1	102098	JLNDR(PG)42	220.00	1	2	254.2	215.0	118.2
102077	AJITWAL2	220.00*	1	102100	MOGA(PG)42	220.00	1	1	263.6	215.0	122.6
102078	MALERKOTLA2	220.00	1	102087	AMLOH2	220.00*	1	1	258.9	215.0	120.4
102083	PATRAN2	220.00*	1	102138	PTRN(PG)42	220.00	1	1	226.5	215.0	105.3
102083	PATRAN2	220.00*	1	102138	PTRN(PG)42	220.00	1	2	226.5	215.0	105.3
102091	MUKATSAR42	220.00	1	102103	MALOUT2	220.00*	1	1	249.0	215.0	115.8
102094	RAJPURA42	220.00	1	102199	GBGR(B)12	220.00*	1	1	312.5	215.0	145.3
102099	LUDHN(PG)42	220.00	1	102102	DORAHA2	220.00*	1	1	543.1	215.0	252.6
110203	GNGWL(BBMB)2	220.00*	1	502001	DEHR42	220.00	5	1	262.2	240.8	108.9
110203	GNGWL(BBMB)2	220.00*	1	502001	DEHR42	220.00	5	2	262.2	240.8	108.9

ANNEXURE K-02

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E

OUTPUT FOR AREA 1 [PUNJAB]

SUBSYSTEM LOADING CHECK (INCLUDED: TRANSFORMERS) (EXCLUDED: LINES; BREAKERS AND SWITCHES)

MVA LOADINGS ABOVE 100.0 % OF RATING SET 1:

X---------- FROM BUS ----------X				X---------- TO BUS ----------X							
BUS#-SCT	X-- NAME --X	BASKV	AREA	BUS#-SCT	X-- NAME --X	BASKV	AREA	CKT	LOADING	RATE1	PERCENT
101046	SCINCECITY1	132.00	1	102107	SCINCECITY2	220.00*	1	1	112.4	100.0	112.4
101079	MOG21	132.00	1	102055	MOGA2	220.00*	1	1	113.6	100.0	113.6
101079	MOG21	132.00	1	102055	MOGA2	220.00*	1	2	113.6	100.0	113.6
101079	MOG21	132.00	1	102055	MOGA2	220.00*	1	3	113.6	100.0	113.6
101095	VERPAL1	132.00	1	102011	VERPAL2	220.00*	1	1	102.0	100.0	102.0
101095	VERPAL1	132.00	1	102011	VERPAL2	220.00*	1	2	102.0	100.0	102.0
101095	VERPAL1	132.00	1	102011	VERPAL2	220.00*	1	3	102.0	100.0	102.0
102038	GOBNDGR(1)2	220.00*	1	106002	GBGR(1)26	66.000	1	1	130.2	100.0	130.2
102038	GOBNDGR(1)2	220.00*	1	106002	GBGR(1)26	66.000	1	2	130.2	100.0	130.2
102045	LALTONKLAN2	220.00*	1	106015	LALTOKLAN26	66.000	1	1	118.3	100.0	118.3
102045	LALTONKLAN2	220.00*	1	106015	LALTOKLAN26	66.000	1	2	118.3	100.0	118.3
102092	MAKHU42	220.00	1	104007	MAKHU4	400.00*	1	1	318.6	315.0	101.1
102092	MAKHU42	220.00	1	104007	MAKHU4	400.00*	1	2	318.6	315.0	101.1
102093	NAKODER42	220.00	1	104008	NAKODAR4	400.00*	1	1	389.2	315.0	123.5
102093	NAKODER42	220.00	1	104008	NAKODAR4	400.00*	1	2	389.2	315.0	123.5
102094	RAJPURA42	220.00	1	104009	RAJPURA4	400.00*	1	1	589.7	500.0	117.9
102094	RAJPURA42	220.00	1	104009	RAJPURA4	400.00*	1	2	589.7	500.0	117.9
102099	LUDHN(PG)42	220.00	1	104003	LUDHIAN(PG)4	400.00*	1	1	362.0	315.0	114.9
102099	LUDHN(PG)42	220.00	1	104003	LUDHIAN(PG)4	400.00*	1	2	362.0	315.0	114.9
102099	LUDHN(PG)42	220.00	1	104003	LUDHIAN(PG)4	400.00*	1	3	362.0	315.0	114.9
102099	LUDHN(PG)42	220.00	1	104003	LUDHIAN(PG)4	400.00*	1	4	573.4	500.0	114.7
102100	MOGA(PG)42	220.00	1	104005	MOGA(PG)4	400.00*	1	1	390.3	315.0	123.9
102100	MOGA(PG)42	220.00	1	104005	MOGA(PG)4	400.00*	1	2	309.1	250.0	123.6
102100	MOGA(PG)42	220.00	1	104005	MOGA(PG)4	400.00*	1	3	618.2	500.0	123.6
102100	MOGA(PG)42	220.00	1	104005	MOGA(PG)4	400.00*	1	4	618.2	500.0	123.6

ANNEXURE K-03

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E

AREA TOTALS IN MW/MVAR

X-- AREA --X	FROM GENE-RATION	FROM IND GENERATN	TO IND MOTORS	TO LOAD	TO BUS SHUNT	TO GNE BUS DEVICES	TO LINE SHUNT	TO XFRMR MAGNE-TIZING	FROM CHARGING	TO LOSSES	-NET INTERCHANGE- TO TIE LINES	TO TIES + LOADS	DESIRED NET INT
1	5692.9	0.0	0.0	16151.5	0.0	0.0	0.0	0.0	0.0	231.9	-10690.5	-10690.5	0.0
PUNJAB	550.7	0.0	0.0	4586.1	-3125.6	0.0	2633.4	-0.0	8768.8	4748.1	477.6	477.6	
COLUMN	5692.9	0.0	0.0	16151.5	0.0	0.0	0.0	0.0	0.0	231.9	-10690.5	-10690.5	0.0
TOTALS	550.7	0.0	0.0	4586.1	-3125.6	0.0	2633.4	0.0	8768.8	4748.1	477.6	477.6	

WITH GGSSTP OFF, SHAHPUR KANDI ON

INCLUDING SOLAR (RE) GENERATION OF APPROX. 1858 MW, REPRESENTED AS NEGATIVE LOAD AT VARIOUS BUSSES.

ANNEXURE K-03

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E

OUTPUT FOR AREA 1 [PUNJAB]

SUBSYSTEM LOADING CHECK (INCLUDED: LINES) (EXCLUDED: BREAKERS AND SWITCHES; TRANSFORMERS)

CURRENT LOADINGS ABOVE 100.0 % OF RATING SET 1:

FROM BUS				TO BUS					
BUS#-SCT	NAME	BASKV	AREA	BUS#-SCT	NAME	BASKV	AREA	CKT	LOADING RATE1 PERCENT

* NONE *

ANNEXURE K-03

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E

OUTPUT FOR AREA 1 [PUNJAB]

SUBSYSTEM LOADING CHECK (INCLUDED: TRANSFORMERS) (EXCLUDED: LINES; BREAKERS AND SWITCHES)

MVA LOADINGS ABOVE 100.0 % OF RATING SET 1:

FROM BUS				TO BUS					
BUS#-SCT	NAME	BASKV	AREA	BUS#-SCT	NAME	BASKV	AREA	CKT	LOADING RATE1 PERCENT

* NONE *

Detail of works

Sr. No.	Particulars	Transmission						SLDC		
		TS		P&M		Total				
		No. of Works	Total Cost as per previous CIP (in Cr.)	No. of Works	Total Cost as per Previous CIP (in Cr.) *	No. of Works	Total Cost as per Previous CIP (in Cr.) *	No. of Works	Total Cost as per Previous CIP (in Cr.)	
1	**Works Envisaged in Previous CIP**									
	Works completed	42	140.116	8	17.52	50	157.636	-	-	Appendix-A (Transmission Works)
	Works to be completed by 31.03.2023	29	322.901	1	0.28	30	323.181	-	-	
	Works dropped/deleted/shifted	19	132.319	4	34.62	23	166.939	-	-	
	Total	90	595.336	13	52.42	**103**	**647.756**		-	Appendix-D (SLDC Works)
2	**Detail of works approved outside 2nd CIP**									
	Works completed	1	12.09	0	0	1	12.09	1	0.28	
	Works to be completed by 31.03.2023	3	95.773	1	0.45	4	96.223	0	0	
	Works dropped/deleted/shifted	1	6.3	0	0	1	6.3	0	0	
	Total	5	114.163	1	0.45	**6**	**114.613**	**1**	**0.28**	

Abstract of Capex of FY 2023-24 to 2025-26 (Transmission)						Total Cost (In Cr.)	
Sr. No.	Particulars	No. of Works	FY 2023-24	FY 2024-25	FY 2025-26		
1	Spill over works approved from previous CIP & Spill over works approved from previous control period approved outside CIP	**101**	965.97	560.04	169.06	**1,695.07**	Appendix-B (Transmission Works)
2	New Works for 3rd Control Period	**98**	308.29	580.57	681.41	**1,570.27**	Appendix-C (New Works)
	Total	**199**	1274.26	1140.61	850.47	**3,265.34**	

Abstract of Capex of FY 2023-24 to 2025-26 (for SLDC)						Total Cost (In Cr.)	
Sr. No.	Particulars	No. of Works	FY 2023-24	FY 2024-25	FY 2025-26		
1	Spill over works approved from previous CIP & Spill over works approved from previous control	6	7.78	1.63	0.43	**9.84**	Appendix-D
2	New Works for 3rd Control Period	2	0.50	0.50	0.50	**1.50**	
	Total	8	8.28	2.13	0.93	**11.34**	

Appendix-A

List of works of CIP 2nd Control Period which have been completed/ to be completed by 31.03.2023/Dropped/Shifted

Sr.No.	Sr No. as per CIP Order	Name of Project			Project cost as per CIP	Actual Project Cost	Start Date	Date of completion	Remarks (if any)
Table-11 of 2nd CIP Order- Works of 1st Control Period									
1	A	Unforeseen Expenditure on works on 2018-19			6.88		2020-21	2020-21	Work is completed. Not spillover.
2	39	Bus Bar Protection scheme for 45 no S/Stns. (90% funding Under Power System Development Fund (PSDF), 10% amount accounted for in FY 2017-18			1.11	1.82	12-2019	2021-22	Work is completed. Not spillover.
3	60	220 kV S/S Derabassi		Addl. 100MVA, 220/66 kV T/F	1.11	9	14.12.2015	2018-19	Work is completed. Not spillover.
4	62	400 kV S/Stn. Makhu		Addl 500MVA 400/220 kV T/F	30.39	29.6	21.11.2019	2021-22	Work is completed. Not spillover.
5	89	220 kV S/S Dhandhari Kalan 1 and 2	Provision of 220 kV Double bus bar arrangement		5.01	9.23	Project shifted to CIP No. 10		Scope of work revised at Sr. No. of 10 of MYT 2020-23. So, this work will not spillover. CWIP for 2020-21 has also been shifted to Sr. No. 10.
6	90	220 kV S/S Sahnewal		Provision of making 66 kV double bus arrangement including dismantlement & erection of new towers-	0.2	2.2	28/4/2017	2022-23	As 220 kV S/S Sahnewal caters mainly industrial area so very few shutdowns are being approved but multiple shutdowns are required to complete this work which causes delay in completion of work. The scope of work also needs to be revised. So, the work is proposed to be foreclosed and new work with revised scope of work has been added in new MYT 2023-26.
7	102	New Civil Works in respect of 5 no. stores such as sheds, plinths and Boundry walls etc.		HR, IT, S&D Organization work	4.23		2022-23	2022-23	Work is completed. Not spillover.
8	104	Procurement of Hardwares, Server, Furniture, IT Space renovation (Civil Works) & Unforeseen Capital Investment		HR, IT, S&D Organization work	2.58		01-2022	04-2022	Work is completed. Not spillover.
9	107	220 kV S/Stn Sadiq		Repl. of 100 MVA with 160 MVA, 220/66 kV T/F	0.35	8.81	07-2020	2021-22	Work is completed. Not spillover.
10	108	220 kV S/Stn Bajakhana		Repl. of 100 MVA with 160 MVA, 220/66 kV T/F	0.35	8.81	20/03/2020	06-2022	Work is completed. Not spillover.
11	110	220 kV S/Stn Ghubaya		Repl. of 100 MVA with 160 MVA, 220/66 kV T/F	0.35	8.81	07.10.2019	2022-23	Work is completed. Not spillover.

List of works of CIP 2nd Control Period which have been completed/ to be completed by 31.03.2023/Dropped/Shifted

Sr.No.	Sr No. as per CIP Order	Name of Project			Project cost as per CIP	Actual Project Cost	Start Date	Date of completion	Remarks (if any)
12	116	220 kV S/StnBanga (U/G from 132 kV)		1x100 MVA, 220/132 kV T/F as spared from 220 kV S/StnMahilpur	2.79	8.19	01-2019	Dec 2022	Work is completed. Not spillover.
13	119	220 kV Line bays at 220 kV S/StnBanga (Proposed)		2 Nos. (cost of 1no. Line bay already included in s/stn.	0.33	1.3	01-2019	May 2022	Work is completed. Not spillover.
14	129	LILO of one ckt. of 400 kVJalandhar-Kurukshetra D/C line f at 400 kV Dhanansu(Quad Moose)	LILO length =5 km(approx)		12.04	17.00(appr ox.)	10-2021	3.2023	Erection of towers got completed except one tower. Work will be completed by 3/23.
15	131	220 kV Banur- Mohali (GMADA) DC line	4 km Line Length ACSR ZEBRA Conductor		3.48		Work dropped		Work to be dropped due to non availability/hand over of land from GMADA and non deposit of requisite funds.
16	134	400 kV Grid Dhanansu (near Doraha)	220 kV DC line from 400 kV Grid near Doraha to 220 kV Ikolaha 12 km (approx.)/ 420 sq mm DC ACSR Zebra				Dropped		Work dropped vide Amendment No.16/2021-22 Dated 27.07.2021
17-20	137-140	1. Aug/Strengthening of bus bars 2. Extension in Switchyard buildings, Provision for AC etc. 3. Provision for Reactive Compensation 4. Addition of bays/system strengthening required on account of RE generation	0		3.41	3.275	2020-21	2022-23	Work completed. Not spillover.

List of works of CIP 2nd Control Period which have been completed/ to be completed by 31.03.2023/Dropped/Shifted

Sr.No.	Sr No. as per CIP Order	Name of Project			Project cost as per CIP	Actual Project Cost	Start Date	Date of completion	Remarks (if any)
21	142	Replacement of Disc Insulators of 400 kV PSTCL lines with Polymer Insulators			105.45		4.21	03-23	Due to tripping of 400 kV lines in foggy season with porcelain insulators, PSTCL started washing of porcelain discs before foggy season which reduced tripping of 400 kV lines. After considering results of washing, BODs decided that all existing strings may not be replaced with polymer insulators and washing of discs be carried out twice a year. As per BODs decision washing is being done twice a year, once before foggy season and once after the wheat harvesting. Further it was decided to replace porcelain disc insulators with Polymer disc insulators at strategic locations for which 1000 polymer disc insulators have been replaced during this Control Period and 1000 polymer discs are under procurement for replacement in 2nd CP. Depending upon needs of the future, porcelain disc insulators will be replaced with Polymer Long Rod for which provision of Rs. 10 Cr. has been made in the MYT of 3rd CP.
22	143	220 kV DC line from 220 kV S/Stn Gaunsgarh to 220 kV S/StnLadhowal.			1.11	13.92	05-2018	12-22	Work is completed. Not spillover.
23 to26	152-155	1. Aug/Strengthening of bus bars 2. Extension in Switchyard buildings, Provision for AC etc. 3. Provision for Reactive Compensation 4. Addition of bays/system strengthening required on account of RE generation			4.87	15	2020-21	2022-23	Work is completed. Not spillover.
27	163	132 kV Samadh Bhai		Construction of a new Switch House Building at a new raised level	0.67		04.08.2019	2021-22	Work is completed. Not spillover.

List of works of CIP 2nd Control Period which have been completed/ to be completed by 31.03.2023/Dropped/Shifted

Sr.No.	Sr No. as per CIP Order	Name of Project			Project cost as per CIP	Actual Project Cost	Start Date	Date of completion	Remarks (if any)
28	164	132 kV Pathankot		Construction of a new control-room building by replacing old control - room building	0.22		02-11-2018	22/11/2019	Work is completed. Not spillover.
29	166	220 kV S/Stn Bhawanigarh	0	Addl. 2nd 100 MVA, 220/66 kV T/F	6.69	7.44	04.03.2020	Sep 22	Work under progress, will be completed by 31.08.2022
30	167	220 kV S/Stn Jadla	0	Addl. 2nd 100MVA, 220/66 kV T/F	6.69	7.44	03.02.2020	Dec 22	Work is completed. Not spillover.
31	168	220 kV S/Stn Botianwala (Thatha Sahib)	0	Addl. 3rd 160 MVA, 220/66 kV T/F	9.03	10.1	01.11.2021	March 23	Work will be completed by 03/23. Not spillover.
32	169	220 kV S/Stn Majitha	0	Addl. 2nd 100 MVA, 220/66 kV T/F	6.69	7.44	13.10.2020	March 23	Work under progress, will be completed by 31/03/2023. Not spillover.
33	170	132 kV S/Stn Pathankot	0	Repl. of 1x12.5/16 MVA, 132/66-33 kV T/F with 1x20/25 MVA, 132/66 kV T/F	0.23	0.21	26.02.2018	Dec 19	Work is completed. Not spillover.
34	171	132 kV IGC, Bathinda	0	Repl. of 1x25 MVA, 132/66 kV T/F with 1x50 MVA,132/66 kV T/F	0	0.18	11.05.2022	06-2022	Work is completed. Not spillover.

List of works of CIP 2nd Control Period which have been completed/ to be completed by 31.03.2023/Dropped/Shifted

Sr.No.	Sr No. as per CIP Order	Name of Project			Project cost as per CIP	Actual Project Cost	Start Date	Date of completion	Remarks (if any)
35	176	Replacement of Existing conductor of 220 kV Mohali-I - Mohali-II line		0	31.14		Dropped		Mohali1-Mohali 2 circuit was having high loading. So, in order to reduce the loading and to balance out the power flows between Mohali-1, Mohali-2, Lalru and Dera Bassi, LILO of 220 kV Mohali-1 - Lalru at 220 kV Mohali-2 has been planned vide amendment no. 27/2021-22 dated 09.12.21, this effectively creating double circuit connectivity between Mohali-1 and Mohali-2. Therefore Mohali-1 - Mohali-2 HTLS is not required now.
36	180	220 kV DC line from 400 kV Jalandhar (PGCIL) to 220 kV Kartarpur	Augmentation of existing conductor of both circuits with HTLS conductor of min 1200 A capacity	0	41.83		05-2022	03-2023	Work under progress. 1st circuit completed and 2nd circuit to be completed by 3/23.
		Total			289.23				
Table 13 of 2nd CIP Order- Works approved outside Ist CIP									
37	2b	132 kV Sihora-132 kV Seh SC line		2 no. 132 kV line bays (one at each end)	1.11	1	01-2020	01-21	Work is completed. Not spillover
38	3a	400 kV S/StnNakodar (2x315 MVA, 400/220 kV) (Amendment no. 43 /2018-19)			16.17	14.5	Dropped		This work has been revised and approved vide PSERC Petition No. 37 of 2020 and the revised work is in the Work approved by Petition list.So, hence work is deleted from here.
39	3b	Cost of dismantlement of 1x315 MVA, 400/220 kV ICT at 400 kV Nakodar			0.58	0.5			

List of works of CIP 2nd Control Period which have been completed/ to be completed by 31.03.2023/Dropped/Shifted

Sr.No.	Sr No. as per CIP Order	Name of Project			Project cost as per CIP	Actual Project Cost	Start Date	Date of completion	Remarks (if any)
40	5	400 kV Rajpura--220 kV Bassi Pathana DC Link. (Amendment no. 13 /2019-20)	220kV DC Line from 400 kV Rajpura to 220 kV Bassi- Pathana (Line length 2 X 20 km)		17.06		Work dropped		This work is deleted from here as new work is planned vide Amendment No. 16/2022-23 and The expenditure for Amend 16/22-23 shall be adjusted to the cost allocated for the work listed at Sr. No. 5 of Table 13 of MYT 2020-23 (which is to be deleted). Further it is submitted that work of replacement of existing conductor of 220 kV Gobindgarh-400kV Rajpura (D/C) line with HTLS conductor of suitable capacity was intended to be carried out under PSDF scheme and the work of 400kV Rajpura-Bassi Pathana (D/C) link was planned as an alternate in case PSDF grant is not obtained for the 220kV Gobindgarh-400kV Rajpura (D/C) HTLS work. PSDF grant has been approved for the 220kV Gobindgarh-400kV Rajpura (D/C) HTLS work & thus work of 400kV Rajpura-Bassi Pathana (D/C) link is no longer needed.
		4no. 220 kV Bays			5.89				
		220 kV Side bus extension arrangement to be made at 400 kV Rajpura for providing suitable space for 2 Nos 220 kV Bays			0.1				
41	8	220 kV Patti		Replacement of 1x100 MVA, 220/66 kV to 1x160 MVA, 220/66 kV T/F.	8.44	8.54	25.06.2021	06-2022	Work is completed. Not spillover.
42	9	220 kV Ferozepur road Ludhiana		Replacement of 1x100 MVA, 220/66 kV to 1x160 MVA, 220/66 kV T/F.	8.44	8.54	11-2019	Jul-21	Work is completed. Not spillover.
Table 15 of 2nd CIP Order-Works already planned for 2020-23									
43	1	1 No. 400kV ICT bay, 1 No. 400 kV Tie bay, 1 No. 400 kV Future bay, 1 No. 220 kV ICT bay at 400 kV Rajpura. Amendment No. 20/ 2018-19	0	0	32.27	28	01-2022	08-2022	Work is under progress .Minor Civil Works pending. Will be completed by 15.08.2022. Not spillover.
44	2	Jumpering arrangement on tower no. T.L 290 for Termination of direct link 220 kV between Lalton Kalan Sahnewal (Amendment no. 04 / 2021-22)	0	In order to have PGCIL Ludhiana-220 kV Sahnewal as D/C (so as to avoid direct link between 220 kV Lalton Kalan-Sahnewal), termination shall be done at terminal tower at 220 kV LAlton Kalan end.	0.06		sept 21	Dec 21	Work completed on 31.10.2021. Not spillover

List of works of CIP 2nd Control Period which have been completed/ to be completed by 31.03.2023/Dropped/Shifted

Sr.No.	Sr No. as per CIP Order	Name of Project			Project cost as per CIP	Actual Project Cost	Start Date	Date of completion	Remarks (if any)
45	3	400kV, 200MW Permanent Power to Guru Gobind Singh Polymer Addition Project- HPCL Mittal Energy Limited. (Amendment no. 21 (i,ii& iv) / 2018-19)			1	29		2020-21	As this is Contributory work and is present at contributory work list and the work is completed on March 21.
Table 17 : New Works planned for the 2nd Control Period from FY 2020-21 to 2022-23									
46	11	220 kV Kharar		Replacement of 2x20MVA, 132/11 kV with 2x20MVA, 66/11kV T/F	3.65	3.28	26/12/2017	31/07/2021	Work completed. Not spillover.
47	12	220 kV Banga		a) Addl. 1x100 MVA, 220/66 kV T/F.			work deleted		Scope revised vide Amendment No. 09/21-22 dated 28.06.21 and ratified by BOD.
48	13	220 kV Banga		b) Replacement of 2x20MVA, 132/11 kV T/F with 2x20 MVA, 66/11kV T/F.			Work deleted		
49	25	220 kV Nawanpind (new grid in the premises of 66 kV S/s Nawanpind)Includind SAS for RS 1cr. Amedment No. 17/21-22	220 kV Bays= 4 Nos			5.28	To be deleted		Scope revised on basis of request from PSPCL and Amendment No. 17/21-22 dated 24.06.21 issued and ratified by BOD. Right to use from PSPCL is pending
50	26		132 kV Bays= 2 Nos			0.96	To be deleted		
51	28	Additional link		220 kV double bus bar at 220 kV Ghubaya	0.17	0.15	Deleted		For double bus bar extension of yard is required and railway has also asked for connectivity of their RTSS at Bahmaniwala from 220kV Gubhaya for which additional 220 kV bay is is being constructed. Extension of the yard has also been planned at the cost of railways vide Amendment No. 16/2022-23. So this work is to be deleted.
52	31	New 220 kV Jhoke HariHar (New)	LILO of 220 kV Sadiq- Talwandi Bhai line at 220 kV Jhoke Harihar (New) (LILO length 13 km approx, 0.4 sq inch DC on DC)		16.794		6.2022	3.2023	Work completed by 03/23. Not spillover
53	34	220 kV Dhaleke (GIS) including SAS of RS 1 cr	LILO of both ckts of 220 kV Talwandi Bhai Dharmkot, conductor size 0.4sq", LILO length 10	To be deleted from Sr No. 34 to 36	13.17		Dropped		Work was planned with 220/132kV T/Fs. PSPCL has demanded 220/66kV T/F. Since 100MVA 220/66kV T/F at Singhawala has been planned as such this work is to be dropped.
54	35		0	2x100 MVA, 220/132 kV T/F, including 4 no. 220 kV bays	33.27	39.47			

List of works of CIP 2nd Control Period which have been completed/ to be completed by 31.03.2023/Dropped/Shifted

Sr.No.	Sr No. as per CIP Order	Name of Project			Project cost as per CIP	Actual Project Cost	Start Date	Date of completion	Remarks (if any)
55	37	132 kVSwadi Kalan		LILO of 132kV SC on DC line from Jamalpur to Moga at 132 kVswadi kalan ,conductor size 0.2sq", LILO length 4.5 km(approx)	2.33		4-2022	03-2023	Work will be completed by 03/23
56	38			2 no. 132 kV bays	1.11		10-11-2021	31/03/2023	
57	40	ii) 220 kV Abohar	0	Addl. 12.5 MVA, 66/11 kV T/F.	2.269		2022-23	2022-23	Work will be completed by 31.10.2022.
58	41	iii) 220 kV Passiana	0	Addl. 12.5 MVA, 66/11 kV T/F.	2.269	0.83	18.06.2020	2022-23	Work is completed. Not spillover.
59	42	iv) 220 kV Dhuri	0	Aug. of 12.5 MVA, 66/11 kV to 20 MVA, 66/11 kV T/F.	2.02		11.05.2022	2022-23	Not spillover.
60	43	v) 220 kV Mohali - I	0	Replacement of 1x100 MVA, 220/66 kV to 1x160 MVA, 220/66 kV T/F.	9.84		09-2020	31/08/2022	Work is completed. Not spillover.
61	44	vi) 220 kV Banur	0	Addl. 20 MVA, 66/11 kV T/F.	2.28		07-2021	31/03/2023	Not spillover.
62	47	ix) 220 kV Mahilpur	0	Addl. 12.5 MVA, 66/11 kV T/F.	2.269	1	07.09.2020	2021-22	Work is completed. Not spillover.
63	48	x) 220 kV Kartarpur	0	Addl. 12.5 MVA, 66/11 kV T/F.	2.269		30.04.2021	2021-22	Work under progress, target date 30.09.2022

List of works of CIP 2nd Control Period which have been completed/ to be completed by 31.03.2023/Dropped/Shifted

Sr.No.	Sr No. as per CIP Order	Name of Project			Project cost as per CIP	Actual Project Cost	Start Date	Date of completion	Remarks (if any)
64	49	xi) 220 kV Badsahpur	0	Addl. 1x100 MVA, 220/66 kV T/F.	8.56		07-2022	2022-23	Work to be completed by 03/23
65	50	xii) 220 kV Butari	0	Addl. 12.5 MVA, 66/11 kV T/F.	2.269		30.04.2021	2022-23	Work under progress, target date 30.11.2022. Not spillover.
66	51	xiii) 220 kV Udhoke	0	Addl. 1x100 MVA, 220/66 kV T/F	8.56		05-2019	2022-23	Work under progress, target date 30.11.2022. Not spillover.
67	52	xiv) 220 kV Pakhowal	0	Replacement of 1x100 MVA, 220/66 kV to 1x160 MVA, 220/66 kV T/F.	9.84		01-2022	27/06/2022	Work is completed. Not spillover.
68	53	xv) 220 kV Jagraon	0	Aug. of 12.5 MVA, 66/11 kV to 20 MVA, 66/11 kV T/F	2.02	1.71	12-2020	2021-22	Work is completed. Not spillover.
69	55	xvii) 220 kV Kohara		Addl. 12.5 MVA, 66/11 kV T/F.	2.269		Work deleted		Work dropped as work of aug. of 20 MVA to 31.5 MVA has been planned.
70	56	xviii) 220 kV Doraha	0	Addl. 12.5 MVA, 66/11 kV T/F.	2.269		07-2021	2021-22	Work is completed. Not spillover.
71	57	xix) 220 kV Baghapurana	0	Addl. 12.5 MVA, 66/11 kV T/F.	2.269	2.26	01-2021	2021-22	Work is completed. Not spillover.
72	58	xx) 132kV SmadhBhai	0	Addl. 12.5 MVA, 132/11 kV T/F.	3.81		08.06.2021	2022-23	Work is completed. Not spillover.

List of works of CIP 2nd Control Period which have been completed/ to be completed by 31.03.2023/Dropped/Shifted

Sr.No.	Sr No. as per CIP Order	Name of Project			Project cost as per CIP	Actual Project Cost	Start Date	Date of completion	Remarks (if any)
73	59	xxi) 132kV Faridkot	0	Aug. of 12.5 MVA, 132/11 kV to 20 MVA, 132/11 kV T/F.	2.82		2022-23	2022-23	Not spillover.
74	64	xxvii) 132kV Bhikhiwind	0	Aug. of 12.5 MVA, 132/11 kV to 20 MVA, 132/11 kV T/F	2.82		02-2022	2022-23	Work is completed. Not spillover.
75	65	xxviii) 132kV Shri Hargobindpur	0	Addl. 20 MVA, 132/11 kV T/F.	3.81		10.02.2022	2022-23	Not spillover.
76	66	xxx) 132kV Phillour		Aug. of 12.5 MVA, 132/11 kV to 20 MVA, 132/11 kV T/F	2.82		01-2022	2021-22	Work is completed. Not spillover.
77	67	xxxi) 132kV Bilaspur		Aug. of 12.5 MVA, 132/11 kV to 20 MVA, 132/11 kV T/F.	2.82		2022-23	2022-23	Not spillover.
78	68	xxxii) 132kV Tangra		Addl. 12.5 MVA, 132/11 kV T/F	3.81		01-2022	2022-23	Work under progress, target date 31.12.2022
79	73	Digitization of existing 220 kV S/s Passiana.		Case already approved. PSDF funding have been applied. Total cost = 11 Cr..s, out of which 90% PSDF funding & remaining 10% through capital investment.	1.27		Dropped		As per BODs 61st meeting dated 14.08.2020, work has been dropped.
80	78	132 kV S/s Kotkapura-I		Addl. 1x20 MVA, 132/11kV T/F	3.69	3.31	16/12/2021	2022-23	Work is completed. Not spillover.
81	79	132 kV Kapurthala.	0	Addl. 1x20 MVA, 132/11 kV	3.69	3.31	01-2022	2022-23	Work is completed. Not spillover.

List of works of CIP 2nd Control Period which have been completed/ to be completed by 31.03.2023/Dropped/Shifted

Sr.No.	Sr No. as per CIP Order	Name of Project			Project cost as per CIP	Actual Project Cost	Start Date	Date of completion	Remarks (if any)
82	80	132 kV Sosan.		Replacement of 1x12.5 MVA, 132/11 kV with 1x20 MVA, 132/11 kV T/F	2.74	2.46	Deleted		Being single T/F, augumentation will affect supply, so work dropped as discussed in TPC and work of additional 20 MVA is being planned in 3rd MYT.
83	81	132 kV Panjgrain.	0	Replacement of 1x12.5 MVA, 132/11 kV with 1x20 MVA, 132/11 kV T/F	2.74	2.46	12-2021	2021-22	Work is completed. Not spillover.
84	83	IGC Bathinda (Aug)	0	Replacement of 2x12.5 MVA, 132/11 kV with 2x20 MVA, 132/11 kV	5.48	4.92	11.05.2022	2022-23	1 No. T/F augmentation work complete, for 2nd 20MVA 132/11KV T/F under procurement.
85	84	132 kV Gholian Kalan.	0	Addl. 1x20 MVA, 132/11 kV T/F	3.69	3.31	07-2021	2022-23	To be completed by 03/23
86	85	LILO of 132 kV Verka – Mal mandi SC line at 220 kV S/s Nawanpind (132 kV bus) LILO length = 1 KM appx. DC on DC.	Replacement of existing conductor of 0.25sq" with equivalent HTLS conductor (on the same supporting structure), having a minimum capacity of at least 800A.				Work deleted		Work deleted vide Amendment No. 17/21-22 dated 24.08.21 issued and ratified by BOD. Reason for deletion of work is that PSPCL requested for 66 kV system at 220 kV Nawanpind due to which scope has been revised vide Amend No. 17/21-22 dated 24.08.21 and due to 66 kV sysytem, 132 kV lines were not needed now, hence this work deleted.
87	86	Augmentation of 132 kV Nawanpind - Verka, 5 KM (0.2sq") and 132 kV Nawanpind - Malmandi (5KM 0.2sq") with suitable HTLS conductor.	0				Work deleted		
88	89	132 kV GT Road Amritsar & 132 kV Sakatari Bagh Asr	132 kV link between 132 kV Gt Road- 132 kV Sakatri Bagh through 132 kV underground cable		18.68	16.56	08-2021	31/07/2022	WORK completed.
89	90		132 kV Bays= 2 Nos.	132 kV Bays= 2 Nos.	1.15	1	12-2021	31/07/2022	
90	92	Unforeseen emergency works			17.38	15	2021-22	2022-23	Work will be completed by 22-23

List of works of CIP 2nd Control Period which have been completed/ to be completed by 31.03.2023/Dropped/Shifted

Sr.No.	Sr No. as per CIP Order	Name of Project			Project cost as per CIP	Actual Project Cost	Start Date	Date of completion	Remarks (if any)
		Works approved outside 2nd MYT 2020-23 by Petition/BOD approval							
91	Amendment No. 22/2021-22	39 No. substation and one SLDC building	Installation of roof top solar power plant on roofs of control room of various 400/220/132 kV substations of PSTCL.			6.3	Deleted		CAPEX scheme is dropped. Now installation of rooftop will be explored in RESCO model.
92	Amendment No. 27/2021-22	220 kV S/S Mohali-2.	LILO of 220 KV Mohali-1-Lalru at 220 KV Mohali-2(Line length- 1 KM,0.4sq" conductor)-Stringing of LILO line.			0.317	10-22	12-22	Tendering work in progress
93	Amend 03/22-23	220 KV S/S Sahnewal	Augmentation of 1 no. 100 MVA Transformer at 220 kV Sahnewal Sub-station to 160 MVA			35.596	2022-23	2022-23	Not spillover
		220KVS/S Bajakhana Amend 03/22-23	Augmentation of 1 no. 100 MVA Transformer at 220 KV Bajakhana Sub-station to 160 MVA				2022-23	2022-23	Not spillover
		220KVS/S Ghulal Amend 03/22-23	Augmentation of 1 no. 100 MVA Transformer at 220 KV Ghulal Sub-station to 160 MVA				2022-23	2022-23	Not spillover
94	Amendment 08/22-23	132kv Power Colony Amritsar	1 No. 3rd Additional 132/11kV, 10/12.5 MVA T/F (spare T/F from system to be used)			59.86	2022-23	2022-23	Not spillover
		220 KV Sahnewal	Aug. of 1 no. 20 MVA with 31.5 MVA, 66/11 KV				2022-23	2022-23	
95	Amendment 11/22-23	220 kV Amloh	Augmentation of 220/66 kV 100 MVA TF to 160 MVA			12.09	2022-23	2022-23	Work is complete. Not spillover.

List of works of CIP 2nd Control Period which have been completed/

Sr.No.	Sr No. as per CIP Order	Name of Project

P&M Works which have been completed or to be completed by 31.03.2023/Dropped or shifted

Sr. No.	Sr. No. as per CIP Order	Name of Project	Total Project Cost as per CIP	Remarks
		Works of First Control Period(2017-20)		
1	1	To modernise the hotline work by use of Diagnostic techniques to decrease the outage in transmission system of PSTCL.	11.14	Work completed and will be capitalized in 2nd CP of MYT
2	2	To provide SAS based DRs and ELs at six 220kV S/S as per requirements of IEGC and SGC and comply with 3rd party protection audit by CPRI.	4.05	Not started and should be dropped as TS organization is automating all 220 KV S/Ss and this work will be part of that larger work
3	3	To provide DRs and ELs in 220 kV S/S of PSTCL to comply with IEGC, SGC and 3rd party protection audit by CPRI.	19.41	Not started and should be dropped as TS organization is automating all 220 KV S/Ss and this work will be part of that larger work
4	4	To procure testing equipment to check healthiness of OPGW channels and Ethernet Switch Network in Substation automation.	0.28	Work in progress; work will be completed in 2022-23.
5	5	Tan-Delta Measurement Set (7 No.)	2.51	Work completed
6	9	Insulation Tester for new Substations	1.47	Work completed
7	12	Upgrading of 2 No. 3 Phase Relay testing kits of 400kV protection Hub and SAP Hub	0	Work has been completed
8	13	Loader cum Crane for Amritsar Circle	0.56	Work completed
9	14	Mobile oil filtration sets under P&M Circle (4 No., 6KL/H)	1.11	Work completed
10	15	Construction of Security Huts at 220/132kV Sub stations	3.09	Not approved by BOD's of PSTCL. So work will not be done.
11	16	Re-fixing of UC Fencing at top toe wall to safeguard yard area from fire.	8.07	Not approved by BOD's of PSTCL. So work will not be done.
12	17	Providing Plinths for 2 sets (20 No.) of ERS-Towers at 400kV S/S Rajpura, Nakodar and 220kV Muktsar	0.56	Work completed and capitalised
13	20	Providing AC and Furniture at Kangra Rest House	0.17	Work Completed
Works approved by BOD outside 2nd MYT				
1	-	To provide dry air generators for P&M and Grid Construction organisation	0.45	Work in progress; work will be completed in 2022-23.

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Sr. No.	Sr. No. as per [illegible]	Particulars	[illegible]	[illegible]	[illegible]	[illegible]	Remarks	[illegible]	[illegible]	CAPEX / Capitalisation during years (Works, [illegible], [illegible], Total)
			[illegible]							[illegible]
			[illegible]							[illegible]
			[illegible]							[illegible]
[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	33	4.28 [illegible]
[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	20.2	[illegible]
[illegible]	[illegible]			[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]
[illegible]	[illegible]			[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]
		Total (B)						[illegible]	[illegible]	[illegible]
[illegible]										
[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
[illegible]	[illegible]			[illegible]				[illegible]	[illegible]	[illegible]
[illegible]	[illegible]			[illegible]				[illegible]	[illegible]	[illegible]
[illegible]	[illegible]			[illegible]				[illegible]	[illegible]	[illegible]

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Sr.No.	Sl.No. as per CIP Circular	Particulars	Network Addition	Source of Fund	Project Start Date	Actual/ Anticipated Date of Completion	Remarks	TPP approved line wise Contract Package wise (Yes/No/NA)	Total Cost of the Project	CAPEX during 2021-22				Capitalisation during 2021-22				CAPEX during 2022-23				Capitalisation during 2022-23				CAPEX during 2023-24				Capitalisation during 2023-24				CAPEX during 2024-25				Capitalisation during 2024-25				CAPEX during 2025-26				Capitalisation during 2025-26			
										CAPEX Total				Capitalisation Total				CAPEX Total				Capitalisation Total				CAPEX Total				Capitalisation Total				CAPEX Total				Capitalisation Total				CAPEX Total				Capitalisation Total			
										Works	BC	IDC	Total	Works	BC	IDC	Total	Works	BC	IDC	Total	Works	BC	IDC	Total	Works	BC	IDC	Total	Works	BC	IDC	Total	Works	BC	IDC	Total	Works	BC	IDC	Total	Works	BC	IDC	Total	Works	BC	IDC	Total
		220kV GIS Ludhiana (Extn)	1 No. bay complete (Line bay) 220 kV bay No-7 (Line-PH-2)							0.18	0.02	0.00	0.21	0.23	0.00	0.00	0.23	0.00	0.00	0.00	0.00	0.10	0.01	0	0.11	0.1	0.01	0.000	0.110	0.2	0.00	0.000	0.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		220kV GIS Dhanauli	1 No. bay complete (Transformer) 220 kV bay No-7 (Line bay-2)							0.17	0.04	0.00	0.21	0.23	0.00	0.00	0.23	0.00	0.00	0.00	0.00	0.11	0.04	0	0.14	0.2	0.01	0.000	0.210	0.3	0.00	0.000	0.29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		220kV GIS Mandi Gobindgarh-II-2	1 No. bay complete (Transformer) 220 kV bay No-7 (Line bay-2)							0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0.2	0.01	0.000	0.210	0.2	0.00	0.000	0.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		220kV GIS Chogi	1 No. bay complete (Transformer) 220 kV bay No-7 (Line bay-2)							0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0.2	0.01	0.000	0.210	0.2	0.00	0.000	0.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		220kV GIS Dhuri	1 No. bay complete (Transformer) 220 kV bay No-7 (Line bay-2)							0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0.2	0.01	0.004	0.224	0.2	0.00	0.000	0.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		220kV GIS Jind-II (Extn)	1 No. bay complete (Transformer) 220 kV bay No-7 (Line bay-2)							0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0.2	0.02	0.004	0.224	0.2	0.00	0.000	0.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		220kV GIS Jandwalibhai	1 No. bay complete (Transformer) 220 kV bay No-7 (Line bay-2)							0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.1	0.01	0.01	0.02	0.2	0.01	0.004	0.224	0.2	0.00	0.000	0.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		132kV GIS Jalalpur-2 (Extension)	1 No. bay complete (Transformer) 132/33 kV 7.5 & 12/16/20 MVA (132/11 kV T-1 & 132/33/11 kV T-2)							0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.1	0.01	0.01	0.02	0.2	0.01	0.004	0.224	0.2	0.00	0.000	0.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		132kV GIS Dasuya-II-2	1 No. bay complete (Transformer) 132/33 kV T-1 & 132/11 kV T-2							0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.1	0.01	0.01	0.02	0.2	0.01	0.004	0.224	0.2	0.00	0.000	0.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		66 kV GIS Alawalpur	1 No. bay complete (Transformer) 220/66 kV T-1 & 160/125 MVA (66/11 kV T-2)							0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.1	0.01	0.01	0.02	0.2	0.01	0.004	0.224	0.2	0.00	0.000	0.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		220 kV GIS Dhanbad	1 No. 13 kV bus coupler							0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.1	0.01	0.01	0.02	0.2	0.01	0.004	0.224	0.2	0.00	0.000	0.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		220 kV GIS Hajipur	1 No. 13 kV bus coupler							0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.1	0.01	0.01	0.02	0.2	0.01	0.004	0.224	0.2	0.00	0.000	0.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	Annexure-I(A) dtd. 18.02.22	Augmentation of 50 MV substation (3x) Patiala to 220kV substation	220/132 kV, 250MVA (3 Nos. Single Ph. Units) 3 No. 220 kV bay (Line-2 Nos. 1# bays and 1No. Gen coupler bay		2025-26	2025-26	Refer Note 4 in Annexure. Sub-station will be constructed after NOC and right to use by JPVVTCL		39.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			2 (2+0 spare) GIS, 0 220/11 kV Bahadurgarh (Punjabi) Sub (DC on DC 19km, Zebra conductor ACSR 0.4sq")		4.2022	06.2024				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.34	0.00	1.34	0	0	0	0	0.43	1.34	0.00	1.77	0	0	0	0	0	0	0	0	12.00	4.00	1.00	17.00	0	0	0	0	0	0	0	0

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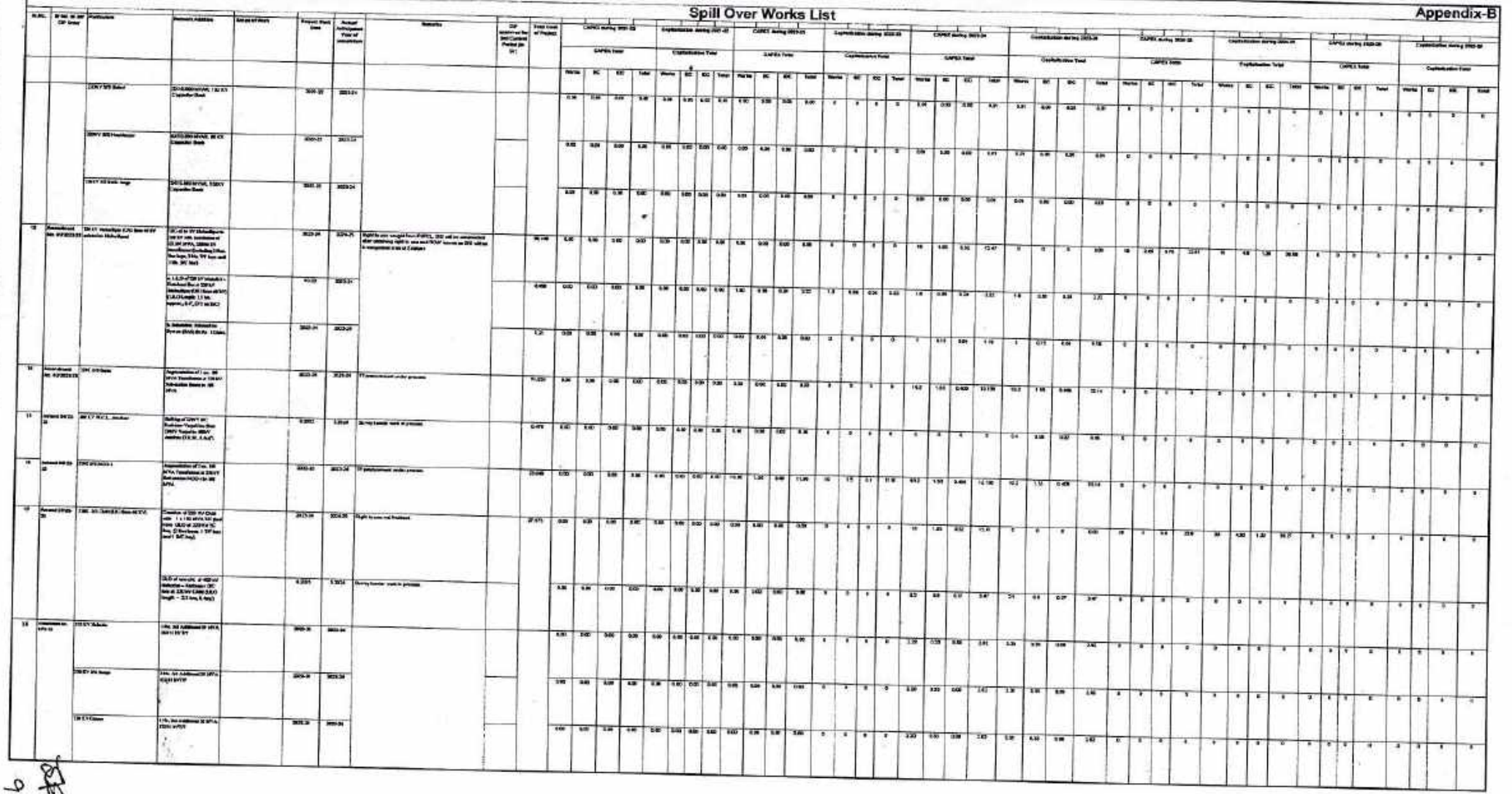

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Sr.No.	GF No. as per GIP Order	Particulars	Network Address	Name of Work	Project Start Date	Actual/ Anticipated Year of Completion	Remarks	GIP Approved Est Cost/ Revised Proposal (Rs. in Cr)	Total Cost of Package	CAPEX during 2021-22				Capitalization during 2021-22				CAPEX during 2022-23				Capitalization during 2022-23				CAPEX during 2023-24				Capitalization during 2023-24				CAPEX during 2024-25				Capitalization during 2024-25				CAPEX during 2025-26				Capitalization during 2025-26			
										CAPEX Value				Capitalization Value				CAPEX Value				Capitalization Value				CAPEX Value				Capitalization Value				CAPEX Value				Capitalization Value				CAPEX Value				Capitalization Value			
										Works	BC	IDC	Total	Works	BC	IDC	Total	Works	BC	IDC	Total	Works	BC	IDC	Total	Works	BC	IDC	Total	Works	BC	IDC	Total	Works	BC	IDC	Total	Works	BC	IDC	Total	Works	BC	IDC	Total	Works	BC	IDC	Total
10	Agreement 1910-01	Strengthening of reliability of Transmission lines in Kotdo Circle to control its existing overloading of critical lines	a. Construction of 220 kV Jodhpur - 400 kV Jodhpur Pooling Station at 220 kV Bhadriyapura		4.22	2023-24	Tender for route survey is being finalized		10.885	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		b. Connecting 220 kV Jangalwa ckt (7 Kajora			4.00	2023-24				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.27	0.58	0.04	6.90	0.27	0.02	0.002	0.413	8.57	0.35	0.024	9.310	9.37	0.69	0.050	10.11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		c. Connecting 400 kV Kajora to 220 kV Jodhpur (Including new bay at Jodhpur, 1 No. Quad, CVT, no PT)			0.00	0.00				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.80	0.63	0.76	5.06	0	0	0	0	0.00	0.00	0.00	0.00	5.30	1.06	1.16	7.52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		d. Connecting 400 kV Kajora to 220 kV Mahadi Dam circuit (Bunkered into circuit c/o 220 kV Barsu, on 220 kV Bay (including new bay at Kajora - 1No Quad, CVT, no PT)			4.00	0.00				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.60	0.30	3.90	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		e. 2 Nos 220 kV bays at 400 kV Kajora			2023-24	2023-24				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.60	0.30	3.90	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		f. 220 kV bus bar protection arrangement works at 400 kV Kajora (by providing bus bar zone No 2 No.) (No Bay)			2025-26	2025-26				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Total (I)							783.30	1.39	0.11	0.00	1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GRAND TOTAL																																														
P&M Works																																															
1	1	Two Nos and duration of the loading of transformer oil	-				We have only two Units under maintenance of CPC/P&M, work will spill over to next FY 2024-25	0.60	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	1	1 MVAR loading bit for 132KV	-				work will spill over to Dec FY as most of the items are multinational and Make. We could not be arranged due to COVID in Europe	0.30	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	1	Session-General operation of Hydro G.P., washout, Hydraulic and Mobile	-				Mid Load to spill over to 2nd FY of GPF as Mid construction linked with completion of CPCB work and 400 KV 125% Modular testing, Electrical, Mechanical and Mobile Hydraulic testing	1.00	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.70	0	0	1.70	0.29	0	0	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	10	Outlay partially discharge, 3D measurement (for 400 KV CT) at 400KV SS, (24 Nos)	-				Work will spill over to 2-3 FY as commission on site specific. Proposals to implement this project by prospective bidders shall not make offer as efficient prospective measurements shall at site also, due to COVID constraints.	25.00	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57	0.00	0	0	4.57	1.00	0	0	0.00	0.00	0	0	0.00	4.70	0	0	4.70	1.70	0	0	4.70	0.00	0	0	0.00
5	11	DRM (Control, Protection Interconnection & relay test instruments group)	-				Work will spill over to 2nd FY as computation was dependent to Testing org was not to re-started	1.00	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0	0	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	12	Providing and fixing of 220kV & 400kV transformer oil filter/ purifier equipment (Mobile)	-				Revised 01 No 400 KV transformer will be by 6.000 Cr and balance work of 3.000 Cr will spill over to next FY	9.00	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	13	Providing PMCs (for each one) in 3 (total 39) Nos	-				Revised 01 No 400 KV transformer will be by 6.000 Cr and balance work of 3.000 Cr will spill over to next FY	12.00	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.47	0.04	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	1 out of Total 13	GIS/AIS Sub Sts PMCS, works package S.no nominal Sub-Stations	-				work is being done in PCCC and will spill over to 24-25. Delay observed by PCMC on S.M maintenance in lieu of that, new being utilized on April, as commissioning stages may not been utilized before any	7.00	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Total (II)						47.21		0.17	0.00	0.00	0.17	0.17	0.00	0.00	0.17	7.64	0.00	0.00	7.64	7.64	0.00	0.00	7.64	7.08	0.00	0.00	7.08	0.40	0.00	0.00	0.40	17.72	1.11	0.00	18.83	17.72	0.00	0.00	17.72	10.61	0.00	0.00	10.61	0.70	0.00	0.00	0.70
		Total Spill over of Transmission wor ks						1232.84																							966.96				1064.76				560.05				613.21				168.06				368.33

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APPENDIX-C

New Transmission Works Planned for 3rd Control Period (2023-26)

Sr. No.	Substation Name	Scope of work	Remarks	Total Cost	EC@15%	IDC@4%	Project Cost
TS Works							
1	220 kV S/S GHGTP	Additional 160 MVA, 220/66 kV transformer including 66kV busbar extension (2x50MVA 132/66KV will be spared)	The local Bathinda-Giddarbaha-Malout area is primarily fed from 220 kV Mour, Muktsar and GHGTP substations via 132 kV sub-stations of the 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.	12.56	1.85	0.49	14.71
2	Upgradation of 66 kV Bhalaiana to 220 kV sub-station	Creation of 220kV Bhalaiana with 2x100MVA, 220/66kV T/F (2 line bays, 2 T/F bays & 1no. Bus Coupler bay); LILO of D/C 220 kV Muktsar – 220 kV Malout line (LILO length 5km, 0.4Sq")	This S/S has been proposed by PSPCL & is situated in the center of Muktsar & Bathinda. This S/S will give relief to 132kV Muktsar, GHGTP, Malout & 220kV Muktsar. PSPCL will connect 66kV link from Bhalaiana to Doda and [illegible] to deload 3X160 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.	26.99	4.05	1.08	32.12
3	Upgradation of 66 kV Guru Har Sahai to 220 kV sub-station	Creation of 220kV Guru Har-sahai with 2x100MVA 220/66kV T/F (4 line bays at Guru Har Sahai, 2 bays each at Ghubaya & Jhoke Hari Har, 2 T/F bays & 1no. bus coupler bay); D/C line from 220 kV Ghubaya and D/C line from 220 kV Jhoke Hari Har (Line length (25km & 30km, 0.4Sq")	PSPCL had proposed upgradation of 66 kV S/S Jiwan Arian to 220 kV S/S to deload 220 kV S/S Ghubaya but as the transfer of land owned by Village Panchayat has not matured for upgradation of 220 kV S/S Jiwan Arian so nearby 66 kV Guru Harsahai was agreed upon for upgradation to a 220 kV S/S by both PSTCL and PSPCL to deload Ghubaya and [illegible] in TPC meeting dated 16.07.2022. This S/S would be connected by D/C from 220 kV Ghubaya and 220 kV Jhoke 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 PSERC notification dated 5/11/2018 [illegible] 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 so such exemption may be given from TBCB. In line with Ministry of Power, Govt. of India Letter no. 15/3/2017-Trans-Pt(1) dated 10.2.2021 (Annexure-6)	111.26	16.69	4.45	132.40
4	Upgradation of 132 kV Samadh Bhai to 220 kV level	Creation of 220kV Samadh Bhai with 1x100MVA, 220/132kV T/F (4 line bays, 1 T/F bay & 1no. Bus Coupler Bay); LILO of both circuits of 220 kV Baghapurana – Sajjankhera line (LILO Length - 8km, 0.4Sq")	This S/S will give relief to 220 kV Nihalsinghwala by shifting of load of 66 kV Daudhar Sahib and 66 kV Patto Hira. In addition, it will provide second source of supply to 132 kV Ghollan Kalan and Samadh Bhai, which are now radially fed from 220 kV Moga and face blackout in case of tripping of 132 KV S/C line from 220 KV Moga.	33.76	5.06	1.35	40.17
5	Upgradation of 66 kV Chaheru to 220 kV level (2nd 100MVA, 220/66kV T/F for N-1)	Creation of 220kV Chaheru with 2x100MVA, 220/66kV T/F (4 line bays, 2 T/F bays & 1no. Bus coupler bay); LILO of 400 kV Nakodar – 220 kV Hoshiarpur and Nakodar - Rehana Jattan 220 kV Ckts at Proposed 220 kV S/S Chaheru (LILO length - 6km + 6km, 0.4 Sq")	This S/S is proposed by PSTCL to cater load growth and to give relief to Jandiala, Phagwara and Rehana Jattan as agreed upon in the TPC meeting (Sr. no. 8 of Table-10). 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.	42.87	6.43	1.71	51.01

CAPEX COST

Sr. No.	TOTAL Exp. in 2023-24: Cost	EC@15%	IDC@4%	TOTAL (T1)	Total Exp. in 2024-25: Cost	EC@15%	IDC@4%	TOTAL (T2)	TOTAL Exp. in 2025-26: Cost	EC@15%	IDC@4%	TOTAL (T3)	Grand TOTAL T1+T2+T3
1	12.56	1.85	0.49	14.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.71
2	2.70	0.40	0.11	3.21	5.40	0.81	0.22	6.42	8.10	1.21	0.32	9.64	19.27
3	11.13	1.67	0.45	13.24	22.25	3.34	0.89	26.48	33.38	5.01	1.34	39.72	79.44
4	6.75	1.01	0.27	8.03	10.13	1.52	0.41	12.05	16.88	2.53	0.68	20.09	40.17
5	4.29	0.64	0.17	5.10	8.57	1.29	0.34	10.20	12.86	1.93	0.51	15.30	30.61

CAPITILISATION COST

Sr. No.	TOTAL Exp. in 2023-24: Cost	EC@15%	IDC@4%	TOTAL (T1)	Total Exp. in 2024-25: Cost	EC@15%	IDC@4%	TOTAL (T2)	TOTAL Exp. in 2025-26: Cost	EC@15%	IDC@4%	TOTAL (T3)	Grand TOTAL T1+T2+T3
1	12.56	1.85	0.49	14.71									14.71
2													0.00
3									0.00	0.00	0.00	0.00	0.00
4									33.76	5.06	1.35	40.17	40.17
5													0.00

Sr. No.	Substation Name	Scope of work	Remarks	Total Cost	EC@15%	IDC@4%	Project Cost	CAPEX COST													CAPITALISATION COST												
								TOTAL Exp. in 2023-24				Total Exp.in 2024-25				TOTAL Exp. in 2025-26				Grand TOTAL	TOTAL Exp. in 2023-24				Total Exp.in 2024-25				TOTAL Exp. in 2025-26				Grand TOTAL
								Cost	EC@15%	IDC@4%	TOTAL (T1)	Cost	EC@15%	IDC@4%	TOTAL (T2)	Cost	EC@15%	IDC@4%	TOTAL (T3)	T1+T2+T3	Cost	EC@15%	IDC@4%	TOTAL (T1)	Cost	EC@15%	IDC@4%	TOTAL (T2)	Cost	EC@15%	IDC@4%	TOTAL (T3)	T1+T2+T3
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 Ferozpur road), 2 T/F bays & 1no. bus coupler bay) D/C line (8km, 0.4Sq") from 220 kV Ferozepur Road Ludhiana on multi circuit towers/modern techniques.	PSPCL proposed up-gradation of 66 kV Gill Road to 220 kV S/S which will give relief to overloaded 66 kV Lalton 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 the CIP or MYT 23-26 subject to the demolition of the 1912 complaint center and offices of DS organisation. 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.	0.20	0.03	0.01	0.24	0.20	0.03	0.01	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.20	0.03	0.01	0.24									0.24
7	Upgradation of 66 kV Bija/Chawa to 220 kV level	Creation of 220kV Bija/Chawa with 2x160MVA, 220/66kV T/F (2 nos. line bays, 2 T/F bays & 1no. Bus Coupler bay) LILO of one circuit of upcoming Dhanasu - Doraha 220 kV line at Bija (12km, 0.4Sq")	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, Sahnewala, Kaloon & Apparel Park to give relief to 220kV Doraha S/S and cater to the upcoming loads in the area. 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.	46.37	6.03	1.01	47.89	4.62	0.00	0.16	4.78	8.03	1.21	0.32	9.56	12.05	1.81	0.48	14.34	28.68													0.00
8	Upgradation of 66 kV Bhadson to 220 kV level	Creation of 220kV Bhadson with 2x100MVA, 220/66kV T/F (6 line bays (2 at Amloh and 4 at Bhadson), 2 T/F bays & 1no. Bus Coupler Bay) D/C line from 400 kV PSCIL Patiala (18km, 0.4Sq") and D/C line from 220 kV Amloh (12km, 0.4Sq")	Proposed by PSPCL to give relief to 220kV Amloh by shifting of 66 kV loads from 220 kV Amloh to Bhadson. Upcoming connections can be released by PSPCL from Amloh. It will also provide new source of power evacuation from 400 kV PSCIL Patiala where new 500 MVA ICT is being installed. this will give relief to existing sources of power in Amloh area, i.e 400 kV Mandaulii and 400 kV Rajpura. 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. 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 so such exemption may be given from TBCB mode in line with Ministry of Power, Govt. of India Letter no. 15/3/2017-Trans-Pt(1) dated 15.3.2021 (Annexure-B)	64.49	9.67	2.58	76.74	12.90	1.93	0.52	15.35	19.35	2.90	0.77	23.02	32.25	4.84	1.29	38.37	76.74									64.49	9.67	2.58	76.74	76.74
9	Upgradation of 66 kV Chounwala to 220 kV level	Creation of 220kV Chounwala with 2x160MVA, 220/66kV T/F (4 line bays, 2 T/F bays & 1no. Bus Coupler Bay) LILO of both circuits of 400 kV Rajpura – 220 kV Gobindgarh-1 line (HTLS) (8 km, 0.4Sq" HTLS equivalent)	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 Chounwala/Sirhind areas are fed from G-1/G-4 S/Stn and once these areas are shifted to Chounwala a relief of about 100 MW would be available at G-1 Stn. 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 so such exemption may be given from TBCB mode in line with Ministry of Power, Govt. of India Letter no. 15/3/2017-Trans-Pt(1) dated 15.3.2021 (Annexure-B)	57.19	8.58	2.29	68.04	11.44	1.72	0.46	13.61	17.15	2.57	0.69	20.41	28.59	4.29	1.14	34.02	68.04									57.19	8.58	2.29	68.04	68.04

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Sr. No.	Substation Name	Scope of work	Remarks	Total Cost	EC@15%	IDC@4%	Project Cost
10	Upgradation of 66 kV Tuut to 220 kV level.	Creation of 220kV Tuut with 2x100MVA, 220/66kV T/F (3 line bays, 2 T/F bay & 1 no. Bus Coupler Bay) LILO of one circuit of 400 kV Makhu – 220 kV Algon line at Proposed 220KV s/s Tuut (Tkm. 0.4Sq")	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 Tuut 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) 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.	34.18	5.13	1.37	40.67
11	Double bus arrangement at 220 kV Mandi Gobindgarh – 3		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 in case of failure of single available bus there is a complete blackout	14.00	2.10	0.56	16.66
12	Upgradation of 132 kV Jandiala Guru to 220 kV level	Creation of 220kV Jandiala Guru with 2x100MVA, 220/132kV T/F (2 line bays, 2 T/F bays & 1no. Bus Coupler Bay) LILO of 220 kV Butari – Verpal circuit on multi-circuit Tower/Modern techniques at Jandiala Guru (4km, 0.4Sq")	To address the problems in the walled city of Amritsar a committee was constituted by Director/T. As per recommendation of committee to give reliable supply to Amritsar city it was proposed to upgrade Jandiala by shifting auto transformer 220/132 kV 100 MVA being spared 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-6 of MOM). In this case the 1 No. 220/132 kV auto T/F will be shifted from Butari, after the commissioning of 220 kV Beas.	35.12	5.27	1.40	41.79
13	Upgradation of 132 kV Tanda to 220 kV level	Creation of 220kV Tanda with 1x100MVA, 220/132kV T/F and 1x100MVA, 220/66kV T/F (2 line bays, 2 T/F bays & 1no. Bus Coupler Bay) LILO of S/C 220 kV BBMB Jalandhar-Dasuya line (4.5km, 0.4Sq")	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 blackouts. 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 silt. Apart from it other two sources feeding this area are almost fully loaded i.e. BBMB Jalandhar and 132 kV Hoshiarpur-Chohal line. PSPCL apprised that 132/66 kV transformers at Bhogpur are fully loaded i.e more than 80% and two 66kV stations Kandhala Jattan and Kalyanpur will be shifted from 132 kV Bhogpur to 132 kV Tanda, for which one 100 MVA, 220/66 kV T/F is also required.	36.71	5.51	1.47	43.68

Sr. No.	CAPEX COST													
	TOTAL Exp. in 2023-24				Total Exp.in 2024-25				TOTAL Exp. in 2025-26				Grand TOTAL	
	Cost	EC@15%	IDC@4%	TOTAL (T1)	Cost	EC@15%	IDC@4%	TOTAL (T2)	Cost	EC@15%	IDC@4%	TOTAL (T3)	T1+T2+T3	
10	3.42	0.51	0.14	4.07	6.84	1.03	0.27	8.13	10.26	1.54	0.41	12.20	24.40	
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.00	2.10	0.56	16.66	16.66	
12	7.02	1.05	0.28	8.36	10.54	1.58	0.42	12.54	17.56	2.63	0.70	20.89	41.79	
13	7.34	1.10	0.29	8.74	11.01	1.65	0.44	13.11	18.35	2.75	0.73	21.84	43.68	

Sr. No.	CAPITILISATION COST												
	TOTAL Exp. in 2023-24				Total Exp.in 2024-25				TOTAL Exp. in 2025-26				Grand TOTAL
	Cost	EC@15%	IDC@4%	TOTAL (T1)	Cost	EC@15%	IDC@4%	TOTAL (T2)	Cost	EC@15%	IDC@4%	TOTAL (T3)	T1+T2+T3
10													0.00
11					0.00	0.00	0.00	0.00	14.00	2.10	0.56	16.66	16.66
12									35.12	5.27	1.40	41.79	41.79
13									36.71	5.51	1.47	43.68	43.68

Sr. No.	Substation Name	Scope of work	Remarks	Total Cost	EC@15%	EC@4%	Project Cost	CAPEX COST													CAPITILISATION COST												
								TOTAL Exp. in 2023-24				Total Exp.in 2024-25				TOTAL Exp. in 2025-26				Grand TOTAL	TOTAL Exp. in 2023-24				Total Exp.in 2024-25				TOTAL Exp. in 2025-26				Grand TOTAL
								Cost	EC@15%	EC@4%	TOTAL (T1)	Cost	EC@15%	EC@4%	TOTAL (T2)	Cost	EC@15%	EC@4%	TOTAL (T3)	T1+T2+T3	Cost	EC@15%	EC@4%	TOTAL (T1)	Cost	EC@15%	EC@4%	TOTAL (T2)	Cost	EC@15%	EC@4%	TOTAL (T3)	T1+T2+T3
14	Upgradation 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 spared)	Creation of 220kV Sri Hargobindpur with 1x100MVA, 220/132kV & 1x100MVA, 220/66kV T/Fs (2 line bays, 2 T/F bays & 1 no. Bus Coupler Bay) 220 kV D/C Line From Proposed 400 kV S/S Wadala Granthian (28km, 0.4Sq")	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 silt as MHP is a run off the river project. PSTCL & PSPCL agreed on this as per Sr. no. 3 of Table-6 and Sr. No 5 of supplementary agenda in MOM of TPC. Apart from this auto-transformers at Wadala granthian are fully loaded. Keeping in view the ROW issues, some towers near the S/S will be multi circuit towers and the work of sub-station shall be taken in hand when major work of transmission line is complete. As per PSERC notification dated 31.1.2019 (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. 15/3/2017-Trans-Pt(1) dated 18.3.2021 (Annexure-B)	67.31	10.10	2.69	80.10	6.73	1.01	0.27	8.01	13.46	2.02	0.54	16.02	20.19	3.03	0.81	24.03	48.06													
15	Re-arrangement to provide 2nd connectivity to 220 kV S/S Naraingarh	Double circuit from 220kV Khassa-Chogawan, 12 Km, 0.4 Sq" Disconnecting 220kV Khassa - Civil Line ASR circuit and Chogawan- Khassa circuits from Khassa and diverting them to Naraingarh 1 no. circuit between 220kV Chogawan - Naraingarh and 1 no. circuit between 220kV Civil Line ASR - Naraingarh. D/c line with 12.5 Km 0.4Sq"	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.	45.44	6.82	1.82	54.07	9.09	1.36	0.36	10.81	13.63	2.04	0.55	16.22	22.72	3.41	0.91	27.04	54.07	9.09	1.36	0.36	10.81	13.63	2.04	0.55	16.22	22.72	3.41	0.91	27.04	54.07
16	220 kV S/S Bajakhana	Double bus arrangement at Bajakhana	Bajakhana evacuate power from GHTP and PGCIL Moga, so to provide reliability of supply, double busbar of 220 kV is proposed as per the requirement of Chief Engineer/ P&M, PSTCL.	16.50	2.48	0.66	19.64	8.25	1.24	0.33	9.82	8.25	1.24	0.33	9.82	0.00	0.00	0.00	0.00	19.64					16.50	2.48	0.66	19.64	0.00	0.00	0.00	0.00	19.64
17	220kV S/S Goraya (Addl. 220/66kV 100MVA T/F for N-1 compliance)	Connectivity of 220kV Noormahal with 220kV Goraya with D/C line (length - 20km, 0.4Sq") (LILO of both circuits of BBMB Jalandhar-Jamalpur line at Goraya subject to approval of Power Sub-committee of BBMB)	To provide 2nd source of supply to Noormahal 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 Noormahal area. Apart from this when GGSSTP Ropar is down, Goraya is fed from Jalandhar via Kotla Jangan-Kartarpur-PGCIL Jalandhar. If Noormahal is connected to 400 kV Nakodar via Noormahal, flows from Jalandhar will reduce and it will give relief to 220 kV PGCIL Jalandhar-Kartarpur D/C line. LILO of both circuits of BBMB Jalandhar-Jamalpur line at Goraya (if approved by Power Sub-committee of BBMB) will give relief to both Jalandhar and Ludhiana local periphery ckt bolts when generation of BBMB in lean period is down i.e. at Pong, Bhakra, Ganguwal and Dehar.	43.97	6.60	1.76	52.33	8.79	1.32	0.35	10.47	21.99	3.30	0.88	26.18	13.19	1.98	0.53	15.70	52.33									43.97	6.60	1.76	52.33	52.33

Sr. No.	Substation Name	Scope of work	Remarks	Total Cost	IDC@15%	IDC@4%	Project Cost	CAPEX COST: TOTAL Exp. In 2023-24 Cost	IDC@15%	IDC@4%	TOTAL (T1)	Total Exp.in 2024-25 Cost	IDC@15%	IDC@4%	TOTAL (T2)	TOTAL Exp. In 2025-26 Cost	IDC@15%	IDC@4%	TOTAL (T3)	Grand TOTAL T1+T2+T3	CAPITALISATION COST: TOTAL Exp. In 2023-24 Cost	IDC@15%	IDC@4%	TOTAL (T1)	Total Exp.in 2024-25 Cost	IDC@15%	IDC@4%	TOTAL (T2)	TOTAL Exp. In 2025-26 Cost	IDC@15%	IDC@4%	TOTAL (T3)	Grand TOTAL T1+T2+T3
18	400KV Wadala Granthian	Stage I: Creation of 400KV Wadala Granthian with 2x500MVA, 400/220kV ICTs (2no. 400 kV line bays, 2no. 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) LILO of 1 circuit of 400 kV Moga - Kishanpur line (20km, Quad Moose)	To enhance ATC/TTC limit of Punjab. Cost of the 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. 15/3/2017-Trans-Pt(1) dated 13.3.2021 (Annexure-II) (Expenditure: 25% in 2024-25, 25% in 2025-26 and balance 50% to spill over in 26-27.)	343.32	45.48	12.72	340.88		0.00	0.00	0.00	75.81	11.37	3.03	90.21	75.81	11.37	3.03	90.21	180.42													
		Stage II: Addl. 1x500 MVA, 400/220 kV ICT (2 line bays, 1 ICT bays & 2 no. Tie Bays) LILO of 2nd circuit of 400 kV Moga - Kishanpur line (20km, Quad moose)																															
19	400 kV Makhu	To give second ISTS connectivity	Under Study	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00									0.00	0.00	0.00	0.00	0.00
20	220 kV Sultanpur	LILO of one circuit 220 kV Kanjli-Science city at 220 kV Sultanpur with Moose conductor (20km, 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 area of Jalandhar	40.60	6.09	1.62	48.31	0.00	0.00	0.00	0.00	20.30	3.05	0.81	24.16	20.30	3.05	0.81	24.16	48.31									40.60	6.09	1.62	48.31	48.31
21	To provide second source to 220 kV S/S Badhni Kalan		Under study	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	220 kV Jadla	LILO of M.G.S Gangowal-Dhanansu at Jadla (2 km, 0.4")	When GOSSTF flows is down Gurdas/Banga/Jadla are fed from Jamsher via Kotla Jungu-Kartarpur-PGCIL Jalandhar, thereby overloading the system. This will give additional source of power especially to Jadla/Banga S/S's from Gangowal and 400 KV Dhanansu	4.85	0.73	0.19	5.77	0.00	0.00	0.00	0.00	2.43	0.36	0.10	2.89	2.43	0.36	0.10	2.89	5.77									4.85	0.73	0.19	5.77	5.77
23	220KV PGCIL Panchkula (Barwala) - Derabassi Line	220KV PGCIL Panchkula (Barwala)-Derabassi Line (D/C) (14km, 0.4Sq")	To feed upcoming loads in Lalru, Mubarikpur, Dera Bassi belt, additional source of supply is required to give relief to 400 KV Rajpura-Lalru circuits and Halogarh-Mohali circuits. Tripping of Mohali-2 to Lalru circuit will cause constraint on Lalru-Dera Bassi-Mubarakpur-Mohali S/C line. Subject to the approval of NRPC.	22.23	3.33	0.89	26.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.23	3.33	0.89	26.45	26.45									22.23	3.33	0.89	26.45	26.45
24	Strengthening of Verka-Mall Mandi Link and to establish link with Civil Lines ASR	(A) Disconnecting 132 kV Verka - Mall Mandi line and 132 kV Verka - Jayantipura link.	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 Mall Mandi but also Kathunangal and Jayantipur to de-load 132 kV Sosian-Dastaspur Line.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		(B) Connecting 132 kV Mall Mandi with 132 kV Jayantipur		16.50	2.48	0.66	19.74	16.50	2.48	0.66	19.74									19.74	16.50	2.48	0.66	19.74									19.74
		(C) Connecting 132 kV Civil lines ASR with 132 kV Verka (overhead 15 km + 1 km modern techniques)		12.00	1.81	0.48	14.30	12.00	1.81	0.48	14.30									14.30	12.00	1.81	0.48	14.30									14.30
		(D) Connecting 132 kV Civil lines ASR with 132 kV Mall Mandi (overhead 20 km + 1 km underground)		26.80	4.03	1.08	32.00					26.80	4.03	1.08	32.00					32.00					26.80	4.03	1.08	32.00					32.00

Sr. No.	Substation Name	Scope of work	Remarks	Total Cost	EC@10%	IDC@4%	Project Cost	CAPEX COST													CAPITALISATION COST												
								TOTAL Exp. in 2023-24				Total Exp.in 2024-25				TOTAL Exp. in 2025-26				Grand TOTAL	TOTAL Exp. in 2023-24				Total Exp.in 2024-25				TOTAL Exp. in 2025-26				Grand TOTAL
								Cost	EC@10%	IDC@4%	TOTAL (T1)	Cost	EC@10%	IDC@4%	TOTAL (T2)	Cost	EC@10%	IDC@4%	TOTAL (T3)	T1+T2+T3	Cost	EC@10%	IDC@4%	TOTAL (T1)	Cost	EC@10%	IDC@4%	TOTAL (T2)	Cost	EC@10%	IDC@4%	TOTAL (T3)	T1+T2+T3
25	Requirement of Capacitor bank at various S/Stns 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.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	400 kV Rajpura	4th 500 MVA additional T/F	To achieve ATC/TTC limit of 10000/10500 MW	32.00	4.80	1.20	38.00	5.00	0.70	0.20	5.90	27.00	4.06	1.08	32.13		0.00	0.00	0.00	38.00					32.00	4.80	1.20	38.00					38.00
27	To curtail overloading during N-1 conditions at Sherpur-Kangra-Pathankot corridor	Under Study	PSDF funding, if permissible shall be availed	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00													
28	S/C on D/C 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.	20.07	3.01	0.80	23.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.07	3.01	0.80	23.88	23.88									20.07	3.01	0.80	23.88	23.88
29	220 kV Hoshiarpur	2nd source connectivity to Hoshiarpur via D/C on D/C line 220 kV Dasuya-Hoshiarpur (40 km, 0.4 sq") & using existing M/Ckt Towers	To provide 2nd source of supply to Hoshiarpur as now it is fed radially from 400 kV Rakbadar. In case there is 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 Mahilpur by using one circuit of Mahilpur D/C line. Similarly 132 kV Chohal circuit will be bypassed to Mahilpur by using second circuit of Mahilpur D/C line. The work being specific to the PSTCL needs, required to be executed urgently to maintain continuity of supply, exemption may be given from TBCB Mode.	52.83	7.92	2.11	62.86	10.58	1.58	0.42	12.57	15.85	2.38	0.63	18.86	26.41	3.96	1.06	31.43	62.86									52.83	7.92	2.11	62.86	62.86
30	220 kV Banga (Nawanshahar)	Replacement of 2x50MVA 132/66 kV transformers with 2x100MVA 220/66 kV transformers	As per requirement of PSPCL, because 1050 MVA+1000 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	18.23	2.73	0.73	21.69	0.00	0.00	0.00	0.00	9.12	1.37	0.36	10.85	9.12	1.37	0.36	10.85	21.69					9.12	1.37	0.36	10.85	9.12	1.37	0.36	10.85	21.69
31	220 kV S/S Chajli	Augmentation of 66 kV single bus bar from double conductor to quadruple conductor	Proposal received from CE/P&M, PSTCL to increase the loading capacity	0.50	0.08	0.02	0.60	0.50	0.08	0.02	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.50	0.08	0.02	0.60									0.60
32	400kV Dhuri to 400KV Patran	To increase ISTS point of drawl for ATC/TTC and injection of surplus Power from Rajpura via TBCB Patran	Under study.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00													
33	Double bus bar arrangement at 220 kV Butari	Making 220 kV Bus at Butari as double and shifting of 220/132 kV T/F at Butari to 220 kV Jandiala	For reliability of supply to consumers and Railways	1.80	0.27	0.07	2.14	0.90	0.14	0.04	1.07	0.90	0.14	0.04	1.07	0.00	0.00	0.00	0.00	2.14					1.80	0.27	0.07	2.14					2.14

Sr. No.	Substation Name	Scope of work	Remarks	Total Cost	EC@15%	IDC@4%	Project Cost	CAPEX COST TOTAL Exp. in 2023-24 Cost	EC@15%	IDC@4%	TOTAL (T1)	Total Exp. in 2024-25 Cost	EC@15%	IDC@4%	TOTAL (T2)	TOTAL Exp. in 2025-26 Cost	EC@15%	IDC@4%	TOTAL (T3)	Grand TOTAL T1+T2+T3	CAPITILISATION COST TOTAL Exp. in 2023-24 Cost	EC@15%	IDC@4%	TOTAL (T1)	Total Exp. in 2024-25 Cost	EC@15%	IDC@4%	TOTAL (T2)	TOTAL Exp. in 2025-26 Cost	EC@15%	IDC@4%	TOTAL (T3)	Grand TOTAL T1+T2+T3
34	220 kV D/C link between 220 kV S/S Butari and 400 kV S/S Wadala Granthian	220 kV D/C Line 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-Bassi section and for downstream evacuation plan of 400 kV substation Wadala Granthian.	44.30	6.65	1.76	52.81	0.00	0.00	0.00	0.00	11.10	1.66	0.44	13.20	22.19	3.33	0.89	26.41	39.61													
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) LILO of S/C line 220 kV Fatehgarh Churian - 220 kV Civil Lines Amritsar (LILO length 18 km, 0.4Sq")	Proposed by PSPCL for reliable supply to consumers in the border areas of Amritsar District and to de-load 220 kV Fatehgarh Churian, 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 sparing 100 MVA Power T/F from some other work where the augmentation of 100MVA to 160MVA is planned.	48.65	7.30	1.95	57.89	4.87	0.73	0.19	5.79	9.73	1.46	0.39	11.58	14.60	2.19	0.58	17.37	34.74									0.00	0.00	0.00	0.00	0.00
36	Upgradation of 66 kV Bhagta Bhai ka to 220 kV level	Creation of 220kV Bhagta Bhai Ka with 1X160MVA + 1X100MVA, 220/66kV T/F's (4 line bays, 2 T/F bays & 1 no. Bus Coupler Bay) LILO of both circuits of 220 kV Himmatpura - GHTP Line (Line length 24 km, 0.4Sq")	Upgradation of Bhagta Bhai Ka to 220kV 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/Stns to Bhagta Bhai ka and one 66 kV S/Stn 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. 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. 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. 15/3/2017-Trans-Pt(1) dated 15.3.2021 (Annexure-B)	58.87	8.83	2.36	70.07	5.90	0.88	0.24	7.02	11.78	1.77	0.47	14.03	17.68	2.65	0.71	21.05	42.10													0.00
37	Upgradation of 66 kV Aerocity 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38	Upgradation of 66 kV Kurali to 220 kV level	Under Study	Proposed by PSPCL in TPC Meeting to de-load 220 kV Kharar by shifting [illegible] S/S to Kurali Table 15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	Upgradation of 66 kV Bhabat to 220 kV level	Under Study	As proposed by PSPCL in TPC meeting held on 19.7.2022	0.00																0.00													
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 [illegible] meeting on 28.7.2022	21.08	3.16	0.84	25.08	10.54	1.58	0.42	12.54					10.54	1.58	0.42	12.54	25.08	10.54	1.58	0.42	12.54					10.54	1.58	0.42	12.64	25.08
41	220 kV Maur	Addl. 220/66 kV 100 MVA T/F	Proposed by PSPCL as per sr. no. 1 of Table-3 of MOM of TPC meeting as loading has crossed 80% and violation of n-1 condition being a single transformer	9.12	1.37	0.36	10.85					9.12	1.37	0.36	10.85					10.85					9.12	1.37	0.36	10.85					10.85

Sr. No.	Substation Name	Scope of work	Remarks	Total Cost	EC@15%	IDC@4%	Project Cost	CAPEX COST													CAPITALISATION COST												
								TOTAL Exp. in 2023-24				Total Exp.in 2024-25				TOTAL Exp. in 2025-26				Grand TOTAL	TOTAL Exp. in 2023-24				Total Exp.in 2024-25				TOTAL Exp. in 2025-26				Grand TOTAL
								Cost	EC@15%	IDC@4%	TOTAL (T1)	Cost	EC@15%	IDC@4%	TOTAL (T2)	Cost	EC@15%	IDC@4%	TOTAL (T3)	T1+T2+T3	Cost	EC@15%	IDC@4%	TOTAL (T1)	Cost	EC@15%	IDC@4%	TOTAL (T2)	Cost	EC@15%	IDC@4%	TOTAL (T3)	T1+T2+T3
42	220 kV Kartarpur	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%	10.53	1.58	0.42	12.53					10.53	1.58	0.42	12.53					12.53					10.53	1.58	0.42	12.53					12.53
43	220 kV S/S Jhalla Isarhar (Amend No. 11/2021-22)	1 No. Additional 220/66 kV 100 MVA T/F		9.12	1.37	0.36	10.85									9.12	1.37	0.36	10.85	10.85									9.12	1.37	0.36	10.85	10.85
44	220 kV Mear	Addl. 66/11 kV, 20 MVA T/F	Proposed by PSPCL as per sr. no. 11 of Table-3 of MOM of TPC Meeting as loading has crossed 80%	3.00	0.45	0.12	3.57					3.00	0.45	0.12	3.57					3.57					3.00	0.45	0.12	3.57					3.57
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-3 of MOM of TPC Meeting held on 19.07.2022 as loading has crossed 80%	2.73	0.41	0.11	3.25	2.73	0.41	0.11	3.25									3.25	2.73	0.41	0.11	3.25									3.25
46	220 kV [illegible]	Aug. of 66/11 kV, 12.5 MVA T/F to 20 MVA	PSMPSTCL proposal as loading has crossed 80%	2.73	0.41	0.11	3.25									2.73	0.41	0.11	3.25	3.25									2.73	0.41	0.11	3.25	3.25
47	220 kV Baghapurana	Aug. of 66/11 kV, 12.5 MVA T/F to 20 MVA	PSMPSTCL proposal as loading has crossed 80%	2.73	0.41	0.11	3.25					2.73	0.41	0.11	3.25					3.25					2.73	0.41	0.11	3.25					3.25
48	132 kV Bhogpur	Aug. of 132/11 kV, 12.5 MVA to 20 MVA	Proposed by PSPCL as per sr. no. 3 of Table-5 of MOM of TPC Meeting as loading has crossed 80%	2.60	0.39	0.10	3.09					2.60	0.39	0.10	3.09					3.09					2.60	0.39	0.10	3.09					3.09
49	132 kV Sosan	Addl. 12.5 MVA, 132/11 kV 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	3.55	0.53	0.14	4.22	3.55	0.53	0.14	4.22									4.22	3.55	0.53	0.14	4.22									4.22
50	220 kV Devigarh	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%	3.00	0.45	0.12	3.57	3.00	0.45	0.12	3.57									3.57	3.00	0.45	0.12	3.57									3.57
51	132 kV Chamkaur Sahib	1 No. 12.5 MVA, 66/11 kV T/F with CR extension	As per sr. no. 6 of Table-10 of MOM of TPC Meeting as loading has crossed 80%	3.00	0.45	0.12	3.57	3.00	0.45	0.12	3.57									3.57	3.00	0.45	0.12	3.57									3.57

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Sr. No.	Substation Name	Scope of work	Remarks	Total Cost	EC@15%	EC@4%	Project Cost	CAPEX COST													CAPITALISATION COST												
								TOTAL Exp. in 2023-24				Total Exp.in 2024-25				TOTAL Exp. in 2025-26				Grand TOTAL	TOTAL Exp. in 2023-24				Total Exp.in 2024-25				TOTAL Exp. in 2025-26				Grand TOTAL
								Cost	EC@15%	EC@4%	TOTAL (T1)	Cost	EC@15%	EC@4%	TOTAL (T2)	Cost	EC@15%	EC@4%	TOTAL (T3)	T1+T2+T3	Cost	EC@15%	EC@4%	TOTAL (T1)	Cost	EC@15%	EC@4%	TOTAL (T2)	Cost	EC@15%	EC@4%	TOTAL (T3)	T1+T2+T3
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	2.62	0.39	0.10	3.12					2.62	0.39	0.10	3.12					3.12					2.62	0.39	0.10	3.12					3.12
53	220 kV Kotkaroor	Addl. 66/11 kV, 12.5 MVA T/f including CR Extension	As per Sr. No. 10 of Table-2 of MOM of TPC Meeting held on 19.07.2022	3.00	0.45	0.12	3.57	3.00	0.45	0.12	3.57									3.57	3.00	0.45	0.12	3.57									3.57
54	220 kV Badal 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	3.00	0.45	0.12	3.57					3.00	0.45	0.12	3.57					3.57					3.00	0.45	0.12	3.57					3.57
55	220 kV Barnala (Handiaya)	Addl. 10/12.5MVA, 66/11 kV T/F	As per Sr. No. 8 of Table-8 of MOM of TPC Meeting	3.00	0.45	0.12	3.57					3.00	0.45	0.12	3.57					3.57					3.00	0.45	0.12	3.57					3.57
56	220 kV Dhanaula	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	3.00	0.45	0.12	3.57					3.00	0.45	0.12	3.57					3.57					3.00	0.45	0.12	3.57					3.57
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. 6 of Table-13 of MOM of TPC Meeting	2.73	0.41	0.11	3.25					2.73	0.41	0.11	3.25					3.25					2.73	0.41	0.11	3.25					3.25
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	5.24	0.78	0.21	6.24	2.62	0.39	0.10	3.12					2.62	0.39	0.10	3.12	6.24	2.62	0.39	0.10	3.12	0.00	0.00	0.00	0.00	2.62	0.393	0.105	3.1178	6.24

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Sr. No.	Substation Name	Scope of work	Remarks	Total Cost	EC@15%	EC@4%	Project Cost	CAPEX COST: TOTAL Exp. in 2023-24 Cost	EC@15%	EC@4%	TOTAL (T1)	Total Exp. in 2024-25 Cost	EC@15%	EC@4%	TOTAL (T2)	TOTAL Exp. in 2025-26 Cost	EC@15%	EC@4%	TOTAL (T3)	Grand TOTAL T1+T2+T3	CAPITILISATION COST: TOTAL Exp. in 2023-24 Cost	EC@15%	EC@4%	TOTAL (T1)	Total Exp. in 2024-25 Cost	EC@15%	EC@4%	TOTAL (T2)	TOTAL Exp. in 2025-26 Cost	EC@15%	EC@4%	TOTAL (T3)	Grand TOTAL T1+T2+T3
59	132 kV S-wali Koran	extension in Control room	As per Sr. No. 4 of Table-13 of MOM of TPC Meeting	0.30	0.05	0.01	0.36	0.30	0.05	0.01	0.36									0.36	0.30	0.05	0.01	0.36									0.36
60	220 kV Malerkotla	extension in Control room	As per Sr. No. 8 of Table-8 of MOM of TPC Meeting	0.30	0.05	0.01	0.36	0.30	0.05	0.01	0.36									0.36	0.30	0.05	0.01	0.36									0.36
61	3 No. Truck mounted hydraulic cranes i.e. Loader 06 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	1.52	0.23	0.06	1.81	1.52	0.23	0.06	1.81									1.81	1.52	0.23	0.06	1.81									1.81
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	1.40	0.21	0.06	1.67	1.40	0.21	0.06	1.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.67	1.40	0.21	0.06	1.67									1.67
63	1 No. Vacuum drying Plant/ Oven For 100MVA P/TFs	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	4.00	0.60	0.16	4.76	4.00	0.60	0.16	4.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.76	4.00	0.60	0.16	4.76									4.76
64	220 kV S/S Sahnewal	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.	1.40	0.21	0.06	1.67	0.00	0.00	0.00	0.00	1.40	0.21	0.06	1.67	0.00	0.00	0.00	0.00	1.67	0.00	0.00	0.00	0.00	1.40	0.21	0.06	1.67	0.00	0.00	0.00	0.00	1.67
65	400 kV Dhanansu	Sub-station Capacity enhancement	To increase in ATC/TTC limits as per load growth requirement (Under Study)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00													

Sr. No.	Substation Name	Scope of work	Remarks	Total Cost	EC@15%	IDC@4%	Project Cost	CAPEX COST: TOTAL Exp. in 2023-24				Total Exp.in 2024-25				TOTAL Exp. in 2025-26				Grand TOTAL	CAPITALISATION COST: TOTAL Exp. in 2023-24				Total Exp.in 2024-25				TOTAL Exp. in 2025-26				Grand TOTAL
								Cost	EC@15%	IDC@4%	TOTAL (T1)	Cost	EC@15%	IDC@4%	TOTAL (T2)	Cost	EC@15%	IDC@4%	TOTAL (T3)	T1+T2+T3	Cost	EC@15%	IDC@4%	TOTAL (T1)	Cost	EC@15%	IDC@4%	TOTAL (T2)	Cost	EC@15%	IDC@4%	TOTAL (T3)	T1+T2+T3
66	Replacement of Disc insulators of 400 kV PSTCL lines with Polymer insulators			10.00	1.50	0.40	11.90	2.00	0.30	0.08	2.38	4.00	0.60	0.16	4.76	4.00	0.60	0.16	4.76	11.90	2.00	0.30	0.08	2.38	4.00	0.60	0.16	4.76	4.00	0.60	0.16	4.76	11.90
67	Malhu, Rajpura, Muktsar/ Behman Jassa Singh (Mallara), and Dhanansu	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.	0.00																0.00													
68	Miscellaneous	Augmentation of bus bars, extension in control room building, providing room for second source for station battery etc	Miscellaneous	30.00	4.50	1.20	35.70	10.00	1.50	0.40	11.90	10.00	1.50	0.40	11.90	10.00	1.50	0.40	11.90	35.70	10.00	1.50	0.40	11.90	10.00	1.50	0.40	11.90	10.00	1.50	0.40	11.90	35.70
69	Miscellaneous	Augmentation/Additions of T/fs at 220/132/66 kV kV S/Stns of PSTCL	Miscellaneous	30.00	4.50	1.20	35.70	10.00	1.50	0.40	11.90	10.00	1.50	0.40	11.90	10.00	1.50	0.40	11.90	35.70	10.00	1.50	0.40	11.90	10.00	1.50	0.40	11.90	10.00	1.50	0.40	11.90	35.70
70	Miscellaneous	Additional 220/132/66 kV line bays related with feasibility cases or as per PSPCL/PSTCL Requirement	Miscellaneous	30.00	4.50	1.20	35.70	10.00	1.50	0.40	11.90	10.00	1.50	0.40	11.90	10.00	1.50	0.40	11.90	35.70	10.00	1.50	0.40	11.90	10.00	1.50	0.40	11.90	10.00	1.50	0.40	11.90	35.70
71	Miscellaneous	Unforeseen emergency works	Miscellaneous	30.00	4.50	1.20	35.70	10.00	1.50	0.40	11.90	10.00	1.50	0.40	11.90	10.00	1.50	0.40	11.90	35.70	10.00	1.50	0.40	11.90	10.00	1.50	0.40	11.90	10.00	1.50	0.40	11.90	35.70
			Total (A)	1921.09			1929.09				298.43				565.52				666.66	1530.60				153.24				223.32				626.71	1003.27

Note - Attached copy of TPC minutes may be considered as Annexure-C

Sr. No.	Substation Name	Scope of work	Remarks	Total Cost	EC@15%	IDC@4%	Project Cost	Cost	EC@15%	IDC@4%	TOTAL (T1)	Cost	EC@15%	IDC@4%	TOTAL (T2)	Cost	EC@15%	IDC@4%	TOTAL (T3)	T1+T2+T3	Cost	EC@15%	IDC@4%	TOTAL (T1)	Cost	EC@15%	IDC@4%	TOTAL (T2)	Cost	EC@15%	IDC@4%	TOTAL (T3)	T1+T2+T3
HR/S&D Works																																	
72		Procurement of Fork lifter for Jamsher Store and Procurement of Weighing Machine for PSTCL Stores	HR,IT, S&D Organisation work	0.12	0.00	0.00	0.12	0.12	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.12	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12
73		Procurement of IT related Hardware items, Software Licences, Cyber security related and unforeseen Capital expenditure	Procurement of IT related Hardware items, Software Licences, Cyber security related and unforeseen Capital expenditure	3.00	0.00	0.00	3.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	3.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	3.00
			Total (B)	3.12			3.12				1.12				1.00				1.00	3.12				1.12				1.00				1.00	3.12

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Sr. No.	Substation Name	Scope of work	Remarks	Total Cost	IDC@15%	IDC@4%	Project Cost	CAPEX COST: TOTAL Exp. in 2023-24 Cost	IDC@15%	IDC@4%	TOTAL (T1)	Total Exp. in 2024-25 Cost	IDC@15%	IDC@4%	TOTAL (T2)	TOTAL Exp. in 2025-26 Cost	IDC@15%	IDC@4%	TOTAL (T3)	Grand TOTAL T1+T2+T3	CAPITILISATION COST: TOTAL Exp. in 2023-24 Cost	IDC@15%	IDC@4%	TOTAL (T1)	Total Exp. in 2024-25 Cost	IDC@15%	IDC@4%	TOTAL (T2)	TOTAL Exp. in 2025-26 Cost	IDC@15%	IDC@4%	TOTAL (T3)	Grand TOTAL T1+T2+T3
R&M Works																																	
74		To provide/replace ACs in existing 220 KV & 400 KV S/S's	To maintain temperatures for numerical relays	1.50	-	-	1.50	0.5	0	0	0.5	0.5	0	0	0.5	0.5	0	0	0.5	1.50	0.5	0	0	0.5	0.5	0	0	0.5	0.5	0	0	0.5	1.50
75		To provide man lifter cum working platform at new 400 KV S/Stns i.e Behman Jassa Singh, Dhanansu and Rajpura	For doing work on equipment installed at 400 KV sub-stations	2.50	-	-	2.50	2.5	0	0	2.4	0	0	0	0	0	0	0	0	2.50	2.5	0	0	2.5	0	0	0	0	0	0	0	0	2.50
76		15 KV Insulation Tester for new 400 KV & 220 KV S/Ss (15 No.)	Insulation Testers for new and up-coming Sub-stations	1.20	-	-	1.20	0.4	0	0	0.4	0.4	0	0	0.4	0.4	0	0	0.4	1.20	0.4	0	0	0.4	0.4	0	0	0.4	0.4	0	0	0.4	1.20
77		T&P for new upcoming S/Ss and existing S/Ss	Required to maintain the 400 Kv, 220 Kv sub-stations by manpower	0.60	-	-	0.60	0.2	0	0	0.2	0.2	0	0	0.2	0.2	0	0	0.2	0.60	0.2	0	0	0.2	0.2	0	0	0.2	0.2	0	0	0.2	0.60
78		T&P for new upcoming S/Ss and existing lines inc. new HTLS lines	Required to maintain the 400 Kv, 220 Kv transmission lines by the manpower	0.60	-	-	0.60	0.2	0	0	0.2	0.2	0	0	0.2	0.2	0	0	0.2	0.60	0.2	0	0	0.2	0.2	0	0	0.2	0.2	0	0	0.2	0.60
79		Camera for testing porcelain disc insulators (One No.)	Required for testing of porcelain insulator discs for their healthiness in online mode	0.25	-	-	0.25	0.25	0	0	0.25	0	0	0	0	0	0	0	0	0.25	0.25	0	0	0.25	0	0	0	0	0	0	0	0	0.25
80		Tower footing resistance sets (5 Nos i.e one per circuit)	To measure the transmission line tower footing resistance by ADDTL	0.15	-	-	0.15	0	0	0	0	0.15	0	0	0.15	0	0	0	0	0.15	0	0	0	0	0.15	0	0	0.15	0	0	0	0	0.15
81		High end Contact resistance meter (1 No.)	For the measurement of contact resistance of isolators, circuit breakers etc at 400 KV sub-stations.	0.15	-	-	0.15	0.15	0	0	0.15	0	0	0	0	0	0	0	0	0.15	0.15	0	0	0.15	0	0	0	0	0	0	0	0	0.15
82		High end Earth tester cum soil resistivity measurement (1 No.)	For use at 400 KV sub-stations	0.20	-	-	0.20	0.2	0	0	0.2	0	0	0	0	0	0	0	0	0.20	0.2	0	0	0.2	0	0	0	0	0	0	0	0	0.20
83		Up-gradation of existing BDV Kits (2 Nos.) from OEM as per new IEC standards for ODTL	Required for Oil & Diagnostic Testing Lab due to change in IS/IEC oil testing standards.	0.06	-	-	0.06	0.06	0	0	0.06	0	0	0	0	0	0	0	0	0.06	0.06	0	0	0.06	0	0	0	0	0	0	0	0	0.06
84		PCB (polychlorinated Biphenyl) test kit for oil as per new IEC standards	Required for Oil & Diagnostic Testing Lab due to change in IS/IEC oil testing standards.	0.30	-	-	0.30	0.3	0	0	0.3	0	0	0	0	0	0	0	0	0.30	0.3	0	0	0.3	0	0	0	0	0	0	0	0	0.30
85		Up-grading of HPLC kit at ODTL from OEM to conduct additional oil tests of metal passivator and DBDS as per new IEC standards	Required for Oil & Diagnostic Testing Lab due to change in IS/IEC oil testing standards	0.15	-	-	0.15	0.15	0	0	0.15	0	0	0	0	0	0	0	0	0.15	0.15	0	0	0.15	0	0	0	0	0	0	0	0	0.15
86		Up-gradation of two existing omicron-relay test kits for enhanced distance relay testing functions	For accurate testing of distance protection relays of all makes using OEM setting tools/ files at 400 KV level	0.10	-	-	0.10	0.1	0	0	0.1	0	0	0	0	0	0	0	0	0.10	0.1	0	0	0.1	0	0	0	0	0	0	0	0	0.10

Sr. No.	Substation Name	Scope of work	Remarks	Total Cost	EC@15%	CC@5%	Project Cost	CAPEX COST													CAPITALISATION COST												
								TOTAL Exp. in 2023-24				Total Exp.in 2024-25				TOTAL Exp. in 2025-26				Grand TOTAL	TOTAL Exp. in 2023-24				Total Exp.in 2024-25				TOTAL Exp. in 2025-26				Grand TOTAL
								Cost	EC@10%	IDC@4%	TOTAL (T1)	Cost	EC@10%	IDC@4%	TOTAL (T2)	Cost	EC@10%	IDC@4%	TOTAL (T3)	T1+T2+T3	Cost	EC@10%	IDC@4%	TOTAL (T1)	Cost	EC@10%	IDC@4%	TOTAL (T2)	Cost	EC@10%	IDC@4%	TOTAL (T3)	T1+T2+T3
87		OTDR (1) for T&C Cell under Communication circle	For testing of OPGW	0.28			0.28	0.28	0	0	0.28	0	0	0	0	0	0	0	0	0.28	0.28	0	0	0.28	0	0	0	0	0	0	0	0	0.28
88		Medium and Earth testers (25)	For all P&M Divisions to check earth resistance of S/S yard and various other switchgears	0.50			0.50	0	0	0	0	0	0	0	0	0.5	0	0	0.5	0.50	0	0	0	0	0	0	0	0	0.5	0	0	0.5	0.50
89		Low and thermo-vision cameras for TL gangs (6)	To detect hot points	0.50			0.50	0	0	0	0	0	0	0	0	0.5	0	0	0.5	0.50	0	0	0	0	0	0	0	0	0.5	0	0	0.5	0.50
90		Cable fault locator	For newly laid 132 KV cable at Amritsar	2.00			2.00	0	0	0	0	2	0	0	2	0	0	0	0	2.00	0	0	0	0	2	0	0	2	0	0	0	0	2.00
91		Cable analyzer	For power cables of 132 KV at Amritsar	4.00			4.00	0	0	0	0	0	0	0	0	4	0	0	4	4.00	0	0	0	0	0	0	0	0	4	0	0	4	4.00
92		Up-gradation of old ULDC fibre optic system (Comm.)	For reliable telemetry data to SLDC	5.25			5.25	1.25	0	0	1.25	2	0	0	2	2	0	0	2	5.25	1.25	0	0	1.25	2	0	0	2	2	0	0	2	5.25
93		Remote Control Operation along with VMS of 400KV S/S's Behman Jassa Singh, Dhanansu and Ropar	For RHM operation of 400 KV S/Ss and to reduce operational manpower	3.00			3.00	0	0	0	0	0	0	0	0	3	0	0	3	3.00	0	0	0	0	0	0	0	0	3	0	0	3	3.00
94		Up-gradation of server cum gateways of existing SAS equipped sub-stations with IEC 60870-5-104 licenses	To improve reliability of data telemetry to SLDC as per 104 protocol for seamless flow of data	0.20			0.20	0.2	0	0	0.2	0	0	0	0	0	0	0	0	0.20	0.2	0	0	0.2	0	0	0	0	0	0	0	0	0.20
95		SAS software along with relevant licenses and associated hardware	For trouble shooting fault detections in SAS networking without disturbing online SAS system in automated S/S's	0.60			0.60	0	0	0	0	0.6	0	0	0.6	0	0	0	0	0.60	0	0	0	0	0.6	0	0	0.6	0	0	0	0	0.60
96		For Cyber Security- intrusion detection system and hardware based firewall for SAS equipped S/Ss	For cyber security threats of SAS equipped 400 KV S/Ss of PSTCL	6.00			6.00	0	0	0	0	6	0	0	6	0	0	0	0	6.00	0	0	0	0	6	0	0	6	0	0	0	0	6.00
97		Construction of safety walls between transformers in adjacent bays	For safety of power transformers in case of fire	6.00			6.00	2	0	0	2	2	0	0	2	2	0	0	2	6.00	2	0	0	2	2	0	0	2	2	0	0	2	6.00
98		Transformer diagnosis system with facility of all types of major tests in-built in one kit	Proposed as a pilot project for one protection gang	0.45			0.45	0	0	0	0	0	0	0	0	0.45	0	0	0.45	0.45	0	0	0	0	0	0	0	0	0.45	0	0	0.45	0.45
Total (C)				36.54			36.54				8.74				14.05				13.75	36.54				8.74				14.05				13.75	36.54
Total [A+B+C]				1660.75			1960.75				308.29				580.57				681.41	1570.26				163.10				238.37				641.46	1042.93

Appendix-O

SLDC Works list

Sr. No.	Sr. No. as per CP Order	Particulars	Scope of Work	DPR approved / Cost (Rs Cr)	Total Cost of Project	Project Start Date	Actual / Anticipated Year of completion	CAPEX during 2021-22 Works Exp	IDC	EC	Total	Capitalisation during 2021-22 Works Exp	EC	IDC	Total	CAPEX during 2022-23 Works Exp	EC	IDC	Total	Capitalisation during 2022-23 Works Exp	EC	IDC	Total
Works which have been Completed or likely to be completed on or before 31.03.2023																							
1		Procurement of 80 Nos Energy meters (Energy... Work Approved through Petition No 45/2021)	[illegible]	0.240	0.240	12.07.2021	2022-23	[illegible]	0	0	[illegible]	[illegible]	0	0	[illegible]	[illegible]	0	0	[illegible]	[illegible]	0	0	0.227
(A) : Spill Over Works of 1st MYT Control Period (From FY 2017-20)																							
1	1	Scheme for providing 45 Nos Remote Terminal Units for SCADA/EMS system at 220 & 132 KV Substations of PSTCL in Punjab (Spill over from 1st MYT)	Supply and Installation of 45 nos. RTUs	[illegible]	[illegible]	[illegible]	2023-24	[illegible]	0	[illegible]	[illegible]	0	0	0	0	[illegible]	0	[illegible]	[illegible]	1.5	0	[illegible]	[illegible]
2	2	Centralised AC system, Furniture & Fixtures (including office ACs)(Spill over from 1st MYT)	Centralised AC system, Furniture & Fixtures (including office ACs)	[illegible]	1.45 (Tentative)	[illegible]	2024-25	[illegible]	0	0	[illegible]	[illegible]	0	0	[illegible]	0.2	0	0	0.2	0	0	0	0
3	3	IT equipments including Server, computer, Displays, software etc. for SLDC, Web site and its offices. (Spill over from 1st MYT)	IT equipments including Server, computer, Displays, software etc. for SLDC, Web site and its offices	[illegible]	0.43 (Tentative)	[illegible]	2022-23	0	0	0	0	0	0	0	0	0.3	0	0	0.3	0.3	0	0	0.3
(B) : Spill Over Works of 2nd MYT Control Period (From FY 2020-23)																							
4	4	Implementation of SAMAST scheme in Punjab (Procurement of meters, communication equipments and hardware and software for Scheduling, Accounting, Metering and settlement of transactions of Electricity) (Spill over from 2nd MYT)	Implementation of SAMAST scheme in Punjab	[illegible]	[illegible]	[illegible]	2023-24	0	0	0	0	0	0	0	0	[illegible]	0	0	[illegible]	0	0	0	0
5	5	Procurement / Replacement of RTUs for various substations of PSTCL (66 nos. RTUs) (Spill over from 2nd MYT)	[illegible]	[illegible]	[illegible] (Tentative)	[illegible]	2024-25	[illegible]	0	0	[illegible]	[illegible]	0	0	[illegible]	1.0	0	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]
6	6	Extension of SLDC Building (Spill over from 2nd MYT)	Extension of building Shall be required for equipment under SLDC Phase-3/New Parking Shed/URAN (Unified Network Management System) project	[illegible]	1.50 (Tentative)	[illegible]	2025-26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
New works for MYT 2023-26																							
1		Purchase of equipments/software as per instructions of central agencies like NLDC, NCRPC, CERT-IN, for cyber security etc. or any other unforeseen SLDC related works	Purchase of IT equipments/software as per instructions of central agencies like NLDC, NCRPC, CERT-IN, for cyber security etc. or any other unforeseen SLDC related works (i.e. for RTU, IT, SAMAST, etc.)	NIL	1.5 (Tentative)	01.04.23	2025-26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2		SLDC Phase III (Under Study)	Replacement of SCADA System. The proposal for this work is under review at central level. The work will be covered under capital works only in case proposal of execution through tariff mode is rejected.	NIL	As per MAP, this project is to be implemented by CTU (PGCIL); the modalities of which are under discussion stage.																		
		Total (D) (New Works Cost)																					

Sr. No.	CAPEX during 2023-24 Works Exp	EC	IDC	Total	Capitalisation during 2023-24 Works Exp	EC	IDC	Total	CWIP Upto 2023-24 Total	CAPEX during 2024-25 Works Exp	EC	IDC	Total	Capitalisation during 2024-25 Works Exp	EC	IDC	Total	CAPEX during 2025-26 Works Exp	EC	IDC	Total	Capitalisation during 2025-26 Works Exp	EC	IDC	Total	Remarks
1 (completed)	0.000	[illegible]	[illegible]	0.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.000	[illegible]	[illegible]	0.000	0.000	[illegible]	[illegible]	0.000	0.000	[illegible]	[illegible]	0.000	0.000	[illegible]	[illegible]	0.000	-
1	[illegible]	[illegible]	[illegible]	[illegible]	1.221	[illegible]	[illegible]	1.271	0.000	0.000	[illegible]	[illegible]	0.000	0.000	[illegible]	[illegible]	0.000	0.000	[illegible]	[illegible]	0.000	0.000	[illegible]	[illegible]	0.000	Scheme for providing 45 No. RTUs mentioned at Sr. No. 1 of 2nd MYT CP. Total 45 Nos RTUs have been installed. The major work is expected to be completed in 2023-24. [illegible]
2	0.700	[illegible]	[illegible]	0.700	1.000	[illegible]	[illegible]	1.000	0.000	0.400	[illegible]	[illegible]	0.400	0.400	[illegible]	[illegible]	0.400	0.000	[illegible]	[illegible]	0.000	0.000	[illegible]	[illegible]	0.000	This work is mentioned at Sr. No. 2 of 2nd MYT CP. [illegible]
3	0.000	[illegible]	[illegible]	0.000	0.000	[illegible]	[illegible]	0.000	0.000	0.000	[illegible]	[illegible]	0.000	0.000	[illegible]	[illegible]	0.000	0.000	[illegible]	[illegible]	0.000	0.000	[illegible]	[illegible]	0.000	Providing additional display for conference room. Procuring of IT items for SLDC building. [illegible]
4	4.000	[illegible]	[illegible]	4.000	[illegible]	[illegible]	[illegible]	[illegible]	0.000	0.000	[illegible]	[illegible]	0.000	0.000	[illegible]	[illegible]	0.000	0.000	[illegible]	[illegible]	0.000	0.000	[illegible]	[illegible]	0.000	The project has been started on [illegible] and scheduled date of completion is [illegible]. [illegible]
5	2.500	[illegible]	[illegible]	[illegible]	0.000	[illegible]	[illegible]	0.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.000	[illegible]	[illegible]	0.000	0.000	[illegible]	[illegible]	0.000	Out of 66 No., 45 No. RTU have been procured out of which [illegible] have been installed. [illegible]
6	0.000	[illegible]	[illegible]	0.000	0.000	[illegible]	[illegible]	0.000	0.000	1.000	[illegible]	[illegible]	1.000	1.000	[illegible]	[illegible]	1.000	0.400	[illegible]	[illegible]	0.400	0.400	[illegible]	[illegible]	0.400	This work was kept in Extension of building required for additional equipment for CAM/SAMAST. [illegible]
1 (new)	0.500	[illegible]	[illegible]	0.500	0.500	[illegible]	[illegible]	0.500	0.000	0.500	[illegible]	[illegible]	0.500	1.000	[illegible]	[illegible]	1.000	0.500	[illegible]	[illegible]	0.500	0.500	[illegible]	[illegible]	0.500	
2 (new)																										
Total (D) (New Works Cost)				0.5				0.5	0	0.5			0.5				1				0.5				0.5	

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Regd. No. NW/CH-22

Regd. No. CHD/0092/2018-2020

Punjab Government Gazette

EXTRAORDINARY

Published by Authority

CHANDIGARH, MONDAY, NOVEMBER 5, 2018 (KARTIKA 14, 1940 SAKA)

PUNJAB STATE ELECTRICITY REGULATORY COMMISSION

NOTIFICATION

The 5th November, 2018

No. PSERC/Secy/132.-In accordance with para 5.3 of National Tariff Policy, the Punjab State Electricity Regulatory Commission hereby decides that intra-state transmission projects costing more than Rs. 50 Crore shall be developed by State Govt./STU through tariff based competitive bidding.

By order of the Commission
Sd/-
SECRETARY

1634/11-2018/Pb. Govt. Press, S.A.S. Nagar

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Annexure-B

No. 15/2/2017-Trans-Pt(1)
Government of India
Ministry of Power
Shram Shakti Bhawan, Rafi Marg, New Delhi- 110001

To

Dated, 15th March, 2021

Addl. Chief Secretaries/ Pr. Secretaries/
Secretaries of Power/ Energy Departments
of all the States and UTs.

Subject: Adoption of Tariff Based Competitive Bidding (TBCB) for intra-State transmission projects- reg.

Sir,

You are aware that Electricity Act 2003 has created conducive environment for investments in all segments of the electricity industry, both for public and private sectors, by removing barrier to entry in different segments. Section 63 of the Electricity Act provides for participation of private sector on competitive basis in different segments so as to encourage private sector investment.

2. National Electricity Policy 2005, envisages that role of private participation in generation, transmission and distribution would become increasingly imortant in view of the rapidly growing investment needs of the sector. It also states that the Central Government and the State Governments need to develop workable and successful models for public private partnership for leveraging private investment with the public sector finances.

3. In continuation of the National Electricity Policy 2005, Tariff Policy was notified by the Central Government in 2006 for ensuring optimal development of the transmission network to promote efficient utilization of generation and transmission assets in the country, as well as for attracting the required investments in the transmission sector and providing adequate returns.

4. In line with above policy framework, Ministry of Power notified "Tariff Based Competitive Bidding (TBCB) Guidelines for Transmission Service" and "Guidelines for Encouraging Competition in Development of Transmission Projects" under section 63 of the Electricity Act, 2003 on April 13, 2006. Subsequently, Standard Bidding Documents, viz. Request for Qualification (RfQ), Request for Proposal (RfP) and Transmission Service Agreement (TSA), were notified by Ministry of Power, Govt. of India in the year 2008, followed by subsequent amendments in these documents. With this, tariff based competitive bidding started for development of inter-state transmission sector since 2010.

5. Subsequently, the Central Government notified revised Tariff Policy in January 2016 with following provisions regarding Transmission System:

> *7.1 (6) :Investment by transmission developer including CTU/STUs would be invited through competitive bids in accordance with the guidelines issued by the Central Government from time to time.*

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7.1 (7) While all future inter-state transmission projects shall, ordinarily, be developed through competitive bidding process, the Central Government may give exemption from competitive bidding for (a) specific category of projects of strategic importance, technical upgradation etc. or (b) works required to be done to cater to an urgent situation on a case to case basis.

6. In line with provisions of the Tariff Policy 2016, generally inter-state transmission systems are developed through competitive bidding only, except for certain categories of transmission system as specified in the Tariff Policy 2016. With adoption of Tariff Based Competitive Bidding for development of transmission system, following key benefits have been observed:

(i) Lower Tariff compared to Cost Plus: With large number of bidders participating in development of a transmission project, discovered tariff for a transmission project can be lower than cost-plus tariff by about 30-40%
(ii) Less burden on government finances: It will attract private investments for development of projects, and scarce government fund can be spared for other priority sectors
(iii) Risk sharing: It encourage risk sharing with private sector. Innovative Technology: It encourages use of advanced technology for improving cost and efficiency

7. As intra-state transmission system has major share in the transmission sector in the country, adoption of Tariff Based Competitive Bidding (TBCB) in development of intra-state transmission system can effectively reduce burden on State Governments' finances as well as reduce tariff of intra-State transmission system, leading to consumers' benefit. The matter was also discussed in a meeting taken by Hon'ble Union Minister of State (Independent Charge) for Power and New and Renewable Energy on 03.02.2021 and it was decided to request the State/UT Governments to adopt TBCB in development of intra-State transmission system.

8. In light of above and in the larger interest of consumers, it is strongly recommended that tariff based competitive bidding may be adopted for development of Intra-State Transmission system also.

9. This issues with the approval of Competent Authority.

Yours faithfully,

15.03.2021
(Mritunjay Kr. Narayan)
Joint Secretary to the Govt. of India

Copy to

1. Chairpersons of all SERCs and JERCs.
2. Chairperson, CEA, New Delhi.
3. PS to Hon'ble MoSP (IC) / Sr PPS/ PPS/ PS to Secretary (Power) / AS (SKGR) I AS (VKD) / AS&FA / Sr Advisor/ All JSs/ CE(Th), MoP
4. Technical Director, NIC, Ministry of Power- with the request to host this letter on the website of Ministry of Power

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Annexure-C

Minutes of Transmission Pla ing Committee Meeting

Meeting of the Transmission Planning Committee was held on 19.07.2022 at PSTCL Conference Room at Head office, Mall Road, Patiala. Following officers were present:-

1. Chief Engineer/TS,PSTCL,Patiala
2. Chief Engineer/P&M,PSTCL , Ludhiana
3. Chief Engineer/West Zone,PSPCL,Bathinda
4. Chief Engineer/South Zone,PSPCL,Patiala
5. Chief Engineer/Central Zone,PSPCL,Ludhiana
6. Chief Engineer/Border Zone, PSPCL,Amritsar
7. Chief Engineer/North Zone, PSPCL, Jalandhar
8. Chief Engineer/P&M, PSPCL,Ludhiana
9. Chief Engineer/Planning,PSPCL,Patiala
10. Chief Engineer/TS,PSPCL,Patiala
11. Dy. CE/Transmission Planning,PSPCL,Patiala
12. SE/Planning,PSTCL,Patiala
13. ASE/Procurement,P&M,PSPCL, Ludhiana
14. ASE/PO&S, PSTCL, Ludhiana
15. ASE/Planning-1,PSTCL,Patiala
16. SR.XEN./Planning,PSPCL,Patiala
17. SR.XEN./Planning,PSPCL,Patiala
18. AEE/Planning-1,PSTCL,Patiala
19. AEE/Planning-2,PSTCL,Patiala

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Agenda circulated vide SE/Planning, PSTCL, Patiala vide memo no. 403/12 dated 11/07/2022 was discussed in detail and it was decided as under:-

WEST ZONE

Sr. No.	MOM
1	**Expansion of 220 kV S/S Moga, 132 kV S/s Moga-1 & 132 kV S/S Moga-2** - CE/DS, West Zone, PSPCL, Bathinda apprised that it is not easy to take 66 kV line from 220 kV Moga. PSTCL asked PSPCL to set up a new 66KV S/S with initial connectivity via power cable for reliability as all the 132 KV S/Ss in Moga were overloaded and there is no long term space for expansion. CE/TS PSPCL & CE/DS (West) Bathinda informed that committee of Sr. Xen/TLSC PSPCL , SE/DS Faridkot and SE/SS Design PSPCL will study the proposal of downstream system of 66 kV at Monopoles/underground Cables for new 66kv S/S nearby Singhawala and PSPCL will send the proposal accordingly. However, PSPCL stressed upon PSTCL for installing 2 nos. 20MVA 66/11 kV T/fs along with 220/66 kV T/F and extension of control room for 11 kV loads.PSPCL also stressed upon PSTCL to expedite the installation of 20 MVA 132/11kV T/F at 132kV Dhalleke.
2	**To establish new 220 kV S/S at Fazilka as approved in the 2nd MYT** PSTCL informed TPC that railway connection is proposed to be given to TSS Lakhewali from 66 KV Arniwala s/s by constructing a 220 KV Switching station by LILO of one circuit of 400kV Muktsar(220 KV bus)- Abohar D/C Line. Apart from this, PSTCL apprised that there is overloading on 220 KV Muktsar (400 KV) -Malout S/C line. So, to give relief to this line, load of 66 KV D/C Arniwala is proposed to be shifted to 220 kV Muktsar (400 kV)- Abohar line in the second stage at Arniwala. It was also informed to PSPCL that 66 kV Guru Hrasahai Is also being upgraded to 220 KV which will give relief of about 90 MVA to 220 kV Ghubaya S/S & hence there is no urgent requirement of 220 kV near Fazilka. PSPCL informed that by up-grading Guru Harsahai issue of overloading of 220 KV Ghubaya will be addressed but the issue of overloading of 66 KV Ladhuka/Fazilka lines will still remain. CE/DS, West Zone, PSPCL, Bathinda proposed setting up of greenfield substation at Talliwal Bodla between Arniwala- Fazilka and with this there 66 KV Line length to Fazilka will decrease by about 12-15 km in comparison to Arniwala. But still the length of 66 KV Fazilka- Tahliwal will be around 13-15 km. However, it was apprised by PSTCL that if Tahliwala Bodla is considered the length of 220 KV LILO will increase by about 12- 13 km. Moreover at the proposed land location, Panchayat is not willing to give land free of cost and was demanding lease amount of about Rs 15000- 20000/year per acre for first 10 years and subsequent increase there-off for about 10 acres. So PSTCL informed that it would be more appropriate if suitable land is made available at the load center i.e Fazilka or about 2-3 kms from it to have more benefits and consider Arniwala separately for relief to 220 KV Malout/ Katorewala.
3	**220 kV S/S Jhoke Harihar-** Upgradation of 66 kV Jhoke Harihar has been planned vide Amend No. 11/2021-22 dated 08.07.21. PSPCL stressed upon early completion of work to address the overloading of 132/66 KV Transformers at 220 KV Ferozepur

4	**220 Kv S/S Jeewa Arian-** CE/DS West PSPCL had proposed upgradation of 66 kV S/S Jeew Arian to 220 kV S/S to deload 220 kV S/S Ghubaya but PSTCL apprised that upgradation of 66 kV Guru Harsahai to deload Ghubaya can be considered in 3rd MYT 2023-26 of PSTCL as the transfer of land owned by Village Panchayat has not matured for upgradation of 220 kV S/S Jeew Arain. Therefore, PSPCL agreed to the proposal for upgradation of 66 kV Guru Harsahai as it would give relief to both 220 KV Ghubaya and 220 KV Sadiq. This S/S would be connected by D/C from 220 KV Ghubaya and 220 KV Jhoke Harihar.
5	**Upgradation of 66 kV Bhalaina to 220 KV-** Since sufficient land is not available at 66 kV S/S Kauni, so instead of upgradation of 66 kV Kauni, PSPCL proposed upgradation of 66 kV Bhalaina to 220 kV level to de-load 220 KV and 132 KV S/Ss at Muktsar. It was also agreed upon that PSPCL will plan a 66 kV link from Bhalaiana to Doda and Kauni to deload 3X100 MVA, 220 /132 KV auto transformers at 220 kV Muktsar. The proposal for these links will be sent by CE/P&M, PSPCL to Planning/PSPCL.

TABLE 2

Sr.no	Name of S/S	Capacity of T/F's	Overall %age loading of S/S	Loading anticipated	MOM
1.	220KV Himmatpura	66/11, 2 x 12.5 MVA	89.12%	92.68%	PSTCL apprised that Aug of 12.5 MVA 66/11 kV to 20 MVA already planned at Sr. No. 54 of 2nd MYT.
2.	132KV Ferozeshah	132/11,2x12.5+1x20	85.37%	88.79%	PSTCL apprised that Aug of 12.5 MVA 132/11 kV to 20 MVA already planned at Sr. No. 60 of 2nd MYT.
3.	220KV Talwandi Sabo	66/11, 20+12.5 MVA	79.38%	82.56%	PSTCL apprised that Aug of 12.5 MVA 66/11 kV to 20 MVA will be included in 3rd MYT 2023-26.
4.	132KV Samadh Bhai	132/11, 3 x 20 MVA	85.43%	88.84%	PSTCL apprised that Addl. 12.5 MVA 132/11 kV already planned at Sr. No. 58 of 2nd MYT.
5.	132KV Gholian Kalan	132/11, 1x20MVA	89.50%	93.00%	PSTCL apprised that Addl. 20 MVA 132/11 kV already planned at Sr. No. 84 of 2nd MYT.
6.	220KV Baghapurana	66/11, 2x20+1x12.5	79.80%	82.99%	PSTCL apprised that Addl. 12.5 MVA 66/11 kV already planned at Sr. No. 57 of 2nd MYT.
7.	132KV Panj Grayian	132/11, 2x12.5	90.05%	94.14%	PSTCL apprised that Aug of 12.5 MVA 132/11 kV to 20 MVA already planned at Sr. No. 81 of 2nd MYT.
8.	132KV Kotakpura-1	132/11, 1x10/12.5	82.25%	85.54%	PSTCL agreed that proposal for augmentation of 132/11 kV, 10/12.5 MVA to 20 MVA 66/11 KV shall be included in MYT 2023-26 of PSTCL to reduce 132 KV system

9.	220KV Bajakhana	66/11, 2x20	91.42%	95.00%	PSTCL apprised that loading is less than 80 %, so no augmentation is required and as and when loading crosses 80%, PSTCL will take action accordingly. PSPCL also agreed to the proposal.
10.	220KV Mansa	66/11, 2x20	82.8%	86.16%	PSTCL apprised that loading is less than 80 %, so no augmentation is required and as and when loading crosses 80%, PSTCL will take action accordingly. PSPCL also agreed to the proposal.
11.	220KV Maur	132/11, 2x20	77.1%	80.21%	PSTCL agreed to the proposal for installation of Addl. one no. 20 MVA, 66/11 kV T/F in MYT 2023-26 of PSTCL to increase 66 KV System and decrease 132 KV system as suggested by CE/TS, PSPCL.
12.	220KV Kotkarore	66/11, 2x20	90.27%	93.88%	PSTCL agreed to the proposal for installation of additional 66/11 kV, 10/12.5 MVA in MYT 2023-26 of PSTCL.
13.	132 KV Sosan	132/11, 10/12.5	82.24%	85.5%	It was agreed for 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 as per request of CE/P&M PSTCL for N-1 contingency
14.	132 KV Srainaga	132/11, 2x12.5	85.9%	89.3%	PSTCL apprised that loading is less than 80 %, so no augmentation is required and as and when loading crosses 80%, PSTCL will take action accordingly. PSPCL also agreed to the proposal.
15.	132KV Kotkapura-2	132/11, 1x20	82.25%	85.54%	PSTCL apprised that there is no space available in yard and control room for additional T/F, as such PSPCL should explore some other alternative or set up a new 66 kV S/S nearby.
16.	132KV IGC Bathinda	132/11, 2x12.5	80.44%	83.65%	PSTCL apprised that Aug of 2X12.5 MVA 132/11 kV to 2X20 MVA already planned at Sr. No. 83 of 2nd MYT.
17.	220KV Abohar	66/11, 2x20	91.12%	94.77%	PSTCL apprised that Addl. 12.5 MVA 66/11 kV is already planned at Sr. No. 40 of 2nd MYT.
18.	132KV Faridkot	132/11, 20+12.5	80.92%	84.16%	PSTCL apprised that Aug of 12.5 MVA 132/11 kV to 20 MVA is already planned at Sr. No. 59 of 2nd MYT.

TABLE-3

Sr. no.	Name of S/S	Capacity of T/F's	Overall %age loading of S/S	Loading anticipated	MOM
1.	220KV Talwandi Sabo	220/66 KV, 1x100	89.14%	92.70%	PSTCL apprised that Addl. 100 MVA already covered in N-1 non-compliant substations list in 2nd MYT20-23 of PSTCL.
2.	220KV Mansa	220/66 KV,2x100 + 1x160	94.49%	98.2%	PSTCL apprised that 220 KV substation Budhlada is likely to be commissioned in next 6 months and it will de-load Mansa
3.	220KV Botianwala	220/66KV, 2x100(1X160+1X100)	88.29%	93.41%	PSTCL apprised that 1X 100 MVA, 220/66 kV transformer already stands replaced with 160 MVA T/F.
4.	220KV Ghubaya	220/66,2x100 + 1x160	85.23%	86.92%	PSTCL apprised that upgradation of 66 kV substation Guru Har Sahai to 220 kV level is already under study. PSPCL requested for augmentation of 100 MVA to 160 MVA at 220kV Ghubhaya as upgradation of Guru HarSahai will take time but PSTCL apprised that loading is less than 90% and as and when loading crosses 90%, PSTCL will take action accordingly. PSPCL also agreed to the proposal.
5.	220KV Maur	220/66, 1x100	85.73%	89.15%	PSTCL apprised that 1 No. additional 220/66KV, 100 MVA transformers shall be included in 3rd MYT 2023-26 to meet N-1 criteria.
6.	132KV IGC Bathinda	132/66, 2x50	81.15%	84.39%	PSTCL apprised that loading is less than 80 %, so no augmentation is required and as and when loading crosses 80%, PSTCL will take action accordingly. PSPCL also agreed to the proposal.
7.	132KV Malout	132/66, 2x25	95.12%	98.92%	PSTCL apprised that last year's maximum demand was temporary, otherwise the loading of 132/66 kV T/F is under 80% and PSPCL should shift some 66 KV sub-stations from Malout to 220 kV Katorewala. PSPCL also agreed upon this.
8.	220KV Ferozepur	132/66, 2x50	101.96%	106.03%	Regarding upgradation of Jhoke Hari Har from 66 kV to 220 kV, PSTCL requested PSPCL to give "Right to Use" to them to enable them to start work. PSPCL apprised that right to use of land case shall be put up for approval of WTDs of PSPCL. Meanwhile, PSPCL may shift some loads from 220 kV Ferozepur to nearby substations to manage the overloading at 220 kV Ferozepur.

9.	132KV Ferozeshah	132/66, 20+50	79.42%	82.60%	PSTCL apprised that loading is less than 100 %, so no augmentation is required and as and when loading crosses 80%, PSTCL will take action accordingly. PSPCL also agreed to the proposal.

NORTH ZONE & BORDER ZONE

TABLE 4

Sr. No.	
	Regarding installation of 4th 132/11 kV, 20 MVA, PT/f at 132 kV S/S Pathankot PSTCL has already planned 4th additional 132/11 kV, 20 MVA T/F at 132 kV S/S Pathankot vide Amendment No. 21/2021-22 dated 30.9.21.
1	PSPCL apprised that demolition of the building at 132KV S/S Pathankot and is under process. PSTCL requested PSPCL to expedite it.
2	Overloading at 132 kV S/S Nawanshahr CE/DS North Zone PSPCL Jalandhar apprised that66 KV loads have been shifted from 132 kV Nawanshahar to 220 kV S/S Jadla to deload 132 kV Nawanshahr.
3	PSPCL request for new 220 kV S/S at Ajnala PSPCL intimated that since 220 kV Fatehgarh Churian is loaded beyond 80% in paddy 2022, so 66 kV Ajnala be upgraded to 220 kV level for reliable supply to consumers in the border areas of Amritsar District and to deload Fatehgarh Churian for which PSTCL agreed to the proposal with LILO of one circuit of Fathegarh Churian- Civil Lines Amritsar D/C Line.
4	PSPCL request for new 220 kV S/S at Gadaipur (Jalandhar) CE/DS North Zone PSPCL Jalandhar informed that land for a new 220kV sub-station at Gadaipur proposed in last TPC meeting has been refused. So an alternate proposal is being worked out by PSPCL for a new 220 kV S/S to deload the 220 kV Kartarpur and 220 kV BBMB. PSPCL will submit the complete proposal (including 66 kV line connectivity, proposed load and status of land) to PSTCL for further action.
5	PSPCL request for new 132 kV S/S at Partapura (Jalandhar) PSTCL apprised that Upgradation of 66 kV Chitti to 220 kV to deload 220 kV S/S Badshahpur and 66 kV Chitti has already been planned vide PSTCL/Planning amendment no 7/2022-23.
6	Augmentation of 132/11 kV, 12.5 MVA to 132/11 kV at 220 kV S/S Sultanpur- PSTCL apprised that Augmentation of 132/11 kV, 12.5 MVA to 132/11 kV, 20 MVA has already been planned vide Amendment No. 07/2018-19.
7	Augmentations at 220 kV S/S Kartarpur PSPCL has requested for augmentation of 220/66 kV T/F, 100 MVA to 160 MVA as loading has reached more than 80%. PSTCL agreed for the same in the 3rd MYT. Regarding 66/11kV T/F, PSTCL apprised that one no. additional 10/12.5 MVA T/F stands planned.
8	Augmentations at 220 kV S/S BBMB Jalandhar Regarding augmentation of one no. 100 MVA 220/66kV T/F to 160 MVA, PSPCL agreed to take up the matter with BBMB as the sub-station is under their control.

9	**Up-gradation of 132 kV S/S Tanda to 220 KV S/S** It was informed by PSTCL that 132 KV Tanda is proposed to be upgraded to 220 KV S/S with LILO of one circuit of 220 KV Jalandhar-Dasuya line to address issue of low voltage as reported by CE/P&M PSTCL with one 100 MVA auto transformer. It will also provide relief if the generation is very less at MHP. CE/DS North Zone PSPCL Jalandhar apprised the committee that 132/66 KV transformers at Bhogpur are fully loaded and two 66kV stations Kandhala Jattan and Kalyanpur will be shifted from 132 kV Bhogpur to 220 kV Tanda for which one 100 MVA, 220/66 kV T/F is required. PSTCL agreed to include the proposal in the MYT of 2023-26.
10	**Additional 20 MVA 132/11 kV transformer 132 kV S/S Kapurthala** It was apprised the committee that an additional 20 MVA 132/11 kV transformer has already been commissioned.
11	**Aug. of 1 No. 12.5 MVA to 20 MVA 132/11 kV transformer at 132 kV S/S Kathunangal**-PSTCL apprised that Aug. of 1 No. 12.5 MVA to 20 MVA 132/11 kV transformer has already been included in 2nd MYT 2020-23 at Sr. No. 63.
12	**Overloading at 220 kV S/S Patti-** CE/DS Border Zone PSPCL Amritsar proposed up-gradation of 66 KV Toot to 220 KV with LILO of one circuit of 220 KV Makhu-Algon to give relief to 220 KV Patti. PSTCL intimated that the proposal is being included in the 3rd MYT 2023-26. Moreover PSTCL stated that there is no space for 66 KV bay for 66 KV second circuit to Toot at Patti.
13	**Addl. 20 MVA 132/11 KV T/F at 132 kV Focal Point Jalandhar-** CE/DS North Zone PSPCL Jalandhar informed that maximum demand plus feasibility cases exceeds the 80% loading of 3x20MVA 132/11kV T/fs and requested for installation of addl 20MVA 132/11 kV with extension of control room. PSTCL agreed for the same subject to loading crossing 80%.
14	**132 kV Kahanpur** PSPCL requested for installation of 132/66 kV with extension of control room to provide 66 kV system at Kahanpur for meeting the requirement of industrial consumers. It was decided that the proposal regarding the same will be sent by CE/DS North Zone and PSTCL will examine it.

TABLE 5

Sr.no	Name of S/S	Capacity of T/F's	Overall %age loading of S/S	Loading anticipated	MOM
1.	220KV S/S Noormehal	66/11, 2x20	78.55%	81.69%	PSTCL apprised that loading is less than 80 %, so no augmentation is required and as and when loading crosses 80%, PSTCL will take action accordingly. PSPCL also agreed to the proposal.
2.	132KV Nakodar	132/11, 2x20	88.63%	92.17%	PSTCL apprised that Addl. 20 MVA 132/11 kV has already been planned vide Amend No. 08/22-23 dated 12.05.22.

3.	132KV Urban Estate	132/11, 2x20	77.95%	81.07%	PSTCL apprised that loading of the T/f is less than 80%. PSPCL also agreed and it was decided no additional T/f is required to be planned.
4.	220KV Mahilpur	132/11, 1x20 66/11, 1x20	96.60%	100.46%	PSTCL apprised that Addl. 12.5 MVA 66/11 kV already planned at Sr. No. 47 of 2nd MYT stands commissioned.
5.	220KV Banga	132/11, 2x20	96.30%	100.15%	PSTCL apprised that Addl. 20 MVA 132/11 kV already planned vide Amend No. 08/22-23 dated 12.05.22.
6.	220KV Kartarpur	66/11, 2x20	81.68%	84.94%	PSTCL apprised that Addl. 12.5 MVA 66/11 kV already planned at Sr. No. 48 of 2nd MYT and work is in progress.
7.	132KV Khera mandir	132/11, 2x20	78.50%	81.64%	PSTCL apprised that loading is less than 80 %, so no augmentation is required and as and when loading crosses 80%, PSTCL will take action accordingly. PSPCL also agreed to the proposal.
8.	132KV Bhogpur	132/11, 1x20+1x12.5	93.88%	97.63%	PSTCL apprised that Augmentation of 1 No. 12.5 MVA 132/11 KV to 20 MVA will be included in 3rd MYT 2023-26. PSPCL brought out this since M.D. on these T/fs has touched 97.63% as such planning of this work be preponed. PSTCL agreed for the same.
9.	132KV Sri Hargobindpur	132/11, 2x20	80.05%	83.25%	PSTCL apprised that Addl. 20 MVA 132/11 kV already planned at Sr. No. 65 of 2nd MYT.
10.	220KV Butari	66/11, 2x20	82.58%	85.88%	PSTCL apprised that Addl. 12.5 MVA 66/11 kV already planned at Sr. No. 50 of 2nd MYT .

TABLE 6

Sr. no.	Name of S/S	Capacity of T/F's	Overall %age loading of S/S	Loading anticipated	MOM
1.	220KV Badshahpur	220/66, 2X100	77.60%	80.70%	PSTCL apprised that Loading was 75.10% (8.7.21) & 80.10% (4.8.21). Further Addl. 100 MVA T/F has been included in 2nd MYT under N-1 contingency, which has been installed.
2	220KV Nawanshahr	132/66, 100	96.90%	100.78%	Already Discussed in Sr. no. 2 of Table No. 4
3	220KV Kartarpur	220/66, 160+100	78.83%	81.98%	Already Discussed in Sr. no. 7 of Table No. 4
4	132KV Bhogpur	132/66, 100	90.78%	94.41%	Already Discussed in Sr. no. 9 of Table No. 4

5	132KV Sri Hargobindpur	132/66, 5[illegible]+16	79.02%	82.18	PSTCL apprised that proposal - upgradation of 132 kV Shri Hargobindpur to 220 kV is under study for evacuation system of proposed 400 KV Wadala Granthian and generation issues at MHP. PSPCL agreed for including it in 3rd MYT 2023-26.
6	220KV Dasuya	220/66, 100	88.00%	91.52%	PSTCL apprised that 2nd TF has already been installed.
7	220KV Mahilpur	220/132, 100	93.89%	97.65%	2nd Auto T/f has already been planned at 220 kV Banga. PSPCL proposed replacement of 2X50 MVA, 132/66 KV transformers at Banga with 2X100 MVA, 220/66 KV Power Transformers to address the issue of overloading. PSTCL agreed for the same subject to the use of power cable to connect 66 KV buses
8	220KV Science City	220/132, 100	86.60%	90.06%	PSTCL apprised that there is no space available for additional T/F requested by PSPCL. So PSPCL may facilitate/arrange adjoining land in Pushpa Gujral Science city.
9.	220KV Butari	220/132, 100	86.87%	90.34%	PSTCL apprised that 220 KV Beas is already planned and an additional connectivity proposal at 220 kV Jandiala with an auto transformer is under study. PSPCL agreed for the same to provide reliable supply to consumers of Amritsar. Work for making 220 kV Bus of Butari as double and shifting of 220/132 KV T/F of Butari to 220kV Jandiala is also proposed.

TABLE 7

BORDER ZONE

Sr. no	Name of S/S	Capacity of T/F's	Overall %age loading of S/S	Loading anticipated	MOM
1.	132KV Gurdaspur	132/11, 40	78.85%	82.00%	PSTCL apprised that loading is less than 80 %, so no augmentation is required and as and when loading crosses 80%, PSTCL will take action accordingly. PSPCL also agreed to the proposal.
2.	220KV Civil Lines Asr	66/11, 2x20	81.25%	84.50%	PSTCL apprised that Addl. 12.5 MVA 66/11 kV already planned vide Amend No. 08/22-23 dated 12.05.22.
3.	132KV Kathunangal	132/11, 1x12.5+1x20	80.86%	84.10%	PSTCL apprised that Aug of 12.5 MVA 132/11 kV to 20 MVA already planned at Sr. No. 63 of 2nd MYT.
4.	132KV Power Colony, Asr	132/11, 2x20	80.93%	84.16%	PSTCL apprised that Addl. 12.5 MVA 132/11 kV already planned vide Amend No. 08/22-23 dated 12.05.22.

5	220KV Rashiana	66/11, 2	79.38%	8. 55%	PSTCL apprised that loading is less than 80 %, so no augmentation is required and as and when loading crosses 80%, PSTCL will take action accordingly. PSPCL also agreed to the proposal.
6.	132KV Bhikhiwind	132/11, 1x12.566/11, 1x20	85.08%	88.48%	PSTCL apprised that loading is less than 80 %, so no augmentation is required and as and when loading crosses 80%, PSTCL will take action accordingly. PSPCL also agreed to the proposal.
7.	220KV Algon Kothi	66/11, 1x12.5+1x20	79.45%	82.62%	PSTCL apprised that Aug of 12.5 MVA 66/11 kV to 20 MVA already planned at Sr. No. 46 of 2nd MYT.
8.	220KV Chohla Sahib	66/11, 40	83.00%	86.32%	PSTCL apprised that loading is less than 80 %, so no augmentation is required and as and when loading crosses 80%, PSTCL will take action accordingly. PSPCL also agreed to the proposal.
9.	220KV Khasa	66/11, 32.5	85.57%	88.99%	PSTCL apprised that Aug of 12.5 MVA 66/11 kV to 20 MVA already planned at Sr. No. 45 of 2nd MYT.
10.	220KV Chogawan	66/11, 2x20	87.35%	90.84%	PSTCL apprised that Addl. 20 MVA 66/11 kV already planned vide Amend No. 08/22-23 dated 12.05.22.

TABLE 8

Sr no	Name of S/S	Capacity of T/F's	Overall %age loading of S/S	Loading anticipated	MOM
1.	220KV Tibber	220/66, 100	79.00%	82.16%	PSTCL informed that 2nd T/F has been commissioned.
2.	132KV Gurdaspur	132/66, 2X50	79.40%	82.58%	PSTCL apprised that the work of upgradation of 220 kV Gurdaspur is under progress.
3.	220KV Udhoke	220/66, 100	77.00%	80.08%	PSTCL apprised that work of Addl. 100 MVA T/F is under progress.
4.	220KV Majitha	220/66, 100	76.97%	80.05%	PSTCL apprised that Addl. 100 MVA has been included in the 2nd MYT
5.	220KV Patti	220/66, 260	93.11%	96.83%	Already discussed at Sr. No. 12 of Table-4
6.	132KV Tarn Taran	132/66, 75	80.47%	83.69%	PSTCL requested PSPCL to shift some 66 KV load from 132 kV Tarn Taran to Rashiana PSPCL agreed for the same.

7.	220 KV Wadala Granthian	220/132, 200	100.00%	104.00%	PSTCL apprised that Addl. 3rd 100 MVA 220/132KV T/F already been planned vide Amendment no. 28/2021-22 issued on 9.12.2021
8.	220 Civil Line Asr	220/132, 100	• 87.70% (due to temporarily load by PC Patiala)	91.21%	PSTCL apprised that 2nd T/F under N-1 already stands planned.

SOUTH ZONE

TABLE 9

Sr. No	Agenda item	MOM
1	**220 kV S/S Ablowal**	PSPCL requested for extension in 11 KV control room building but PSTCL suggested PSPCL to shift some 11 kV feeders load from 220 kV S/S Ablowal to new 66 kV S/S Thapar University which will deload 220 kV S/S Ablowal. PSPCL intimated that erection of 11 kV feeders from Thapar university is not possible and thus a new 66 kV S/S nearby is being explored. CE/TS PSPCL suggested a new 66 KV S/S at Power Colony or some other nearby place.
2	**220 kV S/S Bangan-**	PSPCL requested for extension in 11 KV control room building along with augmentation of 20 MVA power T/F to 31.5 MVA. PSTCL apprised that 66 kV bays for Sailwala and Banarasi at 220 kV S/S Bangan have been planned vide Amendment No. 34/2021-22 dated 02.02.22 & 10/2022-23 dated 12.5.22. Further PSPCL requested to augment 20 MVA to 31.5 MVA 66/11 kV T/F along with Control room extension but PSTCL intimated that there is no space for Control room extension. CE/South PSPCL agreed for site visit at Bangan to check Control room extension or PSPCL will establish a new 66 kV S/S nearby.
3	**220 kV S/S Derabassi**	PSPCL requested for augmentation of one 220/66 KV, 100 MVA to 160 MVA and one 66/11 KV, 20 MVA to 31.5 MVA T/Fs. PSTCL apprised that loading is less than 80 %, so no augmentation is required and as and when loading crosses 80%, PSTCL will take action accordingly. PSTCL apprised that augmentation of 1 No. 20 MVA, 66/11kV to 31.5MVA transformer at 220kV S/S Derabassi has been planned vide Amendment No. 08/2022-23 dated 12.5.22 along with control room extension.
4	**220 kV S/S Kharar**	PSPCL requested for extension in 11 KV control room building along with augmentation of 20 MVA power T/F to 31.5 MVA. PSTCL apprised that 1 No. Addl. 20 MVA, 66/11 kV transformer at 220 kV S/S Kharar has been planned vide Amendment No. 8/2022-23 dated 12.5.22 and Augmentation of 100 MVA 220/66kV to 160 MVA has been planned vide amendment no. 25 dated 09.12.2021. PSPCL intimated that land is available near Bhukhdi village but not acquired by PSPCL till now for new 66 kV S/S. Further there is a ROW issue in the 66 kV incoming line at Bhukdi. PSPCL also intimated that there is no scope for further expansion at 220 KV Kharar, so it has proposed to PSTCL to explore the possibility of 66 kV Morinda or Kurali to 220 kV. ROW is not available at Morinda for 220 KV line but Kurali can be upgraded to 220 KV S/S. Proposal may be sent by PSPCL to shift load of Morinda to Kurali.

5	**Overloading at 132 kV S/S Ropar** PSTCL apprised that 2 x 20/25 MVA, 132/66kV transformers already planned at 132kV Chamkaur Sahib vide amendment no. 30/2021-22. PSPCL has intimated that they will explore constructing a new 66 kV S/S in vacant Thermal colony
6	**Up-gradation of 66 kV S/S Old Patiala (bus stand) to 220 KV-** PSPCL requested for the up-gradation of 66 KV Old Patiala to 220 KV S/S. PSTCL has apprised that Up-gradation of 66 kV Old Patiala to 220 kV level is already planned vide PSTCL planning amendment no 18/2021-22. But Right to use of land is still pending from PSPCL. PSPCL has assured to expedite the same.
7	**Up-gradation of 66 kV S/S Mubarakpur to 220 KV-** PSPCL requested for the up-gradation of 66 KV Mubarakpur to 220 KV S/S. PSTCL has apprised that Up-gradation of 66kV Mubarikpur to 220 kV level already planned vide PSTCL planning amendment no. 1/2022-23 dated 12.5.2022. But Right to use of land is still pending from PSPCL. PSPCL has assured to expedite the same.
8	**220 kV S/S Barnala (Handiaya)** PSPCL has requested for additional 20 MVA 66/11 KV T/F along with control room extension. PSTCL has apprised that loading is more than 85% and agreed to include addl. 10/12.5 MVA 66/11 KV T/F in the next MYT. PSPCL has also intimated that 66 kV Khuddi Kalan has also been proposed to deload 220 kV Barnala.
9	**220 kV S/S Malerkotla** PSTCL has apprised that loading is within limit. PSPCL has requested for control room extension at 220 kV Malerkotla. PSTCL agreed upon this.
10	**Establishing new 220 Kv S/S at Aerocity** PSPCL requested that about one acre land owned by GMADA for a new 66 kV substation may be examined by PSTCL for construction of 220 kV GIS substation Aerocity. PSTCL requested PSPCL to provide a copy of the master plan of land so that the possibility of setting up a new 220 kV GIS substation may be examined.

TABLE 10

Sr. no.	Name of S/S	Capacity of T/F's	Overall %age loading of S/S	Loading anticipated	MOM
1.	220KV Ablowal	66/11, 2 x 20 MVA	82.325 %	85.16%	As already discussed in sr. No. 1 of Table-9
2	220 KV Devigarh	66/11, 2 x 20 MVA	84.35 %	87.72 %	PSTCL has apprised that Additional 10/12.5 MVA 66/11 KV T/f will be included in 3rd MYT 2023-26.
3	220 KV Dhuri	1x 20 MVA and 1x 12.5 MVA	87.26%	90.75 %	PSTCL has apprised that Aug of 12.5 MVA to 20 MVA already planned at Sr. No. 42 of 2nd MYT.
4	220 KV Dhanaula	2x 20 MVA P/T/F	90 %	93.83 %	PSTCL has apprised that Additional 10/12.5 MVA 66/11 KV T/f will be included in 3rd MYT 2023-26.
5	220 KV Kharar	3x 20 MVA P/T/F	98.6%	102.5%	As already discussed in sr. No. 4 of Table-9

6	220 KV Banu	2x 20 MVA P/T/F	93.75	97 %	PSTCL has apprised that Addl. 20 MVA 66/11 kV already planned at Sr. No. 44 of 2nd MYT.
7	220 KV Banga	2x 20 MVA P/T/F	81.5%	84.76%	PSTCL has apprised that Addl. 20 MVA 132/11 kV already planned vide Amend No. 08/22-23 dated 12.05.22.
8	132 KV Chamkaur Sahib	2x 132/11 KV, 20 MVA P/T/F	87.97 %	91.49%	PSTCL has apprised that 2 No. 20/25 MVA, 132/66 kV are planned vide Amend No. 30 dated 14.1.22. Further 1 No. 66/11 kV 12.5 MVA will be included in 3rd MYT 2023-26.
9	132 KV Ropar	2x 132/11 KV , 20 MVA P/T/F+ 1x 66/11 KV P/T/F	82 %	85.31%	As already discussed in sr. No. 5 of Table-9
10	220 KV Ghulal	1x 132/11 P/T/F(12.5)+ 2x 20 MVA 66/11 P/T/F	71.42 %	74.28%	PSTCL has intimated that replacement of 132/11 kV (12.5 MVA) with 20 MVA 66/11 kV at Ghulal is already planned.
11	220 KV BBMB Sangrur	1 x16 MVA and 1x 12.5 MVA 66/11 P/T/F	71.39 %	74.22 %	In the scope of BBMB
12	220 KV Kohara	4x20 MVA 66/11 P/T/F	71.60%	82.01%	PSTCL has apprised that Aug of 20 MVA 66/11 kV to 31.5 MVA vide Amend No. 08/22-23 dated 12.05.22 is planned.
13	220 KV Malerkotla	2x20 MVA 66/11 P/T/F	78.45%	82%	As already discussed in sr. No. 9 of Table-9

TABLE-11

Sr. no.	Name of S/S	Capacity of T/F's	Overall %age loading of S/S	Loading anticipated	MOM
1.	220 KV Toderpur (Rajla)	1x160 MVA, 1x100 MVA	75.32 %	85.21%	PSTCL apprised that the load is less than 80%. PSTCL will plan as and when required. PSPCL also agreed upon this.
2.	220 KV Kaheru (Dhuri)	3x100 MVA	73.15 %	84.61%	PSTCL apprised that the load is less than 80%. PSTCL will plan as and when required. PSPCL also agreed upon this.
3.	220 KV Malerkotla	2x160 MVA	77.69 %	82.9 %	PSTCL apprised that Recently 2X100 MVA t/fs got damaged at Malerkotla and 1X160 MVA T/f was installed in place of these two damaged transformers. 1X100 MVA T/f will be installed as and when required.

4.	220 KV Kohara	2x100 MVA	66.09 %	84.15 %	PSTCL apprised that Kohara will be deloaded with the new S/S coming up at Dhanansu.
5.	220 KV Barnala	2x100 MVA	81.64%	84.90 %	PSTCL apprised that the load is less than 80%. PSTCL will plan as and when required. PSPCL also agreed upon this.
6.	220 KV Rajpura	3x100 MVA	75.83%	85.75%	PSTCL agreed to augment 100 to 160 MVA on the request of PSPCL if loading in the current paddy season crosses 80%.
7.	220 KV Mohali -1	1x160 MVA, 2x100 MVA	86.5 %	89.96 %	PSTCL has apprised that one more 100 MVA has been augmented to 160 MVA.
8.	220 KV Kharar	1x160 MVA, 1x100 MVA	90.24%	93.85 %	PSTCL apprised that Aug. of 1x100MVA with 160 MVA vide Amendment no. 25/2021-22 issued on 9.12.2021.
9.	220 KV Banur	2x100 MVA	84.88%	88.27%	PSTCL apprised that Aug. of 1x100MVA with 160 MVA vide Amendment no. 2/2022-23 issued on 12.5.2022.
10.	220 KV Sunam	1x160 MVA, 2x100 MVA	77.01%	80.1%	PSTCL apprised that the load is less than 80%. PSTCL will plan as and when required. PSPCL also agreed upon this.
11.	132 KV Ropar	2x132/66 KV	92.8%	96.51%	Already discussed in Sr. No. 5 of Table-9
12.	220 KV Ghulal	2x100 MVA, 220/66	81%	81%	PSTCL apprised that Aug. of 1x100MVA with 160 MVA vide Amendment no. 3/2022-23 issued on 12.5.2022.

CENTRAL ZONE

TABLE 12

Sr. No	
1	**220 kV S/S Amloh** PSTCL apprised that 1 No. Addl. 20 MVA, 66/11 kV transformer at 220 kV S/S Amloh has been planned vide Amendment No. 08/2022-23 dated 12.5.22 alongwith control room extension as per demand of PSPCL.
2	**220 kV S/S Ikolaha** On the request of PSPCL to extend control room along with augmentation of 20 MVA T/F, PSTCL informed that there is no further scope of control room extension and PSPCL should shift some 11 kV load to its nearby substations to deload 220kV S/S Ikolaha. PSPCL informed that shifting of loads is already in process.
3	**220 kV S/S Gaunsgarh** On the request of PSPCL to extend control room along with augmentation of 20 MVA T/F, PSTCL apprised that 1 No. Addl. 20 MVA, 66/11 kV transformer at 220kV S/S Gaunsgarh has been planned vide Amendment No. 08/2022-23 dated 12.5.22 alongwith control room extension.
4	**220 kV S/S Lalton Kalan** On the request of PSPCL to extend control room along with augmentation of 20 MVA T/F, PSTCL apprised that load is less than 80%. PSTCL will plan as and when required. PSPCL also agreed upon this.

5	**220 kV S/S Humbran** On the request of PSPCL to extend control room along with augmentation of 20 MVA T/F, PSTCL apprised that 1 No. Addl. 20 MVA, 66/11 kV transformer at 220 kV S/S Humbran has been planned vide Amendment No. 08/2022-23 dated 12.5.22 alongwith control room extension.
6	**220 kV S/S GIS Sherpur, Ludhiana** PSTCL informed that Work is in progress and work is likely to be completed by Paddy, 2023. Civil work is in progress. Work allotted in 09/2019 and was to be completed by 03/21. But start of work got delayed due to shifting of 11 kV feeders and dismantlement of old building/ water tank by PSPCL. The site was cleared by PSPCL in March, 2021 and was handed over to the contractor for execution of work. Civil Works in the scope of PSTCL got delayed due to scarcity of material (sand, gravel and good earth).
7	**220 kV S/S Gill Road** PSPCL proposed up-gradation of 66 kV Gill Road to 220 kV which will give relief to overloaded 66 KV Lalton 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. PSTCL agreed to include the work in 3rd CP of MYT 2023-26 subject to the demolition of the 1912 complaint center and offices of DS organization. CE/DS Central & CE/P&M PSPCL gave consent to demolish/shift the complaint center 1912 to Power colony No-2 Sarabha Nagar.
8	**220 kV S/S Jhordan** PSPCL requested PSTCL to set up a new 220 KV S/S at Jhordan on land provided by panchayat to deload overloaded S/S at Pakhowal and overloaded lines from Jagraon as there is no scope for new lines from Jagraon due to ROW issues. PSTCL apprised that Amendment no. 23/2021-22 regarding creation of new 220 KV S/S Jhordan has already been issued by PSTCL. But the work could not be started as the panchayat land had not been handed over to PSTCL. PSTCL has requested to expedite the work of land handover to PSTCL. PSTCL agreed upon installation of 66/11KV T/F along with 11KV VCBs at the s/s as per MOM of CMDs of both the corporations.
9	**220 kV new S/S at 66 kV S/S Bhadson** PSPCL proposed new 220 kV S/S by upgrading 66 kV s/s Bhadson to deload 220 kV Amloh S/S to facilitate release of new connections. PSTCL intimated that this work is being included in 3rd CIP of MYT 2023-26 to evacuate power from PGCIL Patiala as one additional 500 MVA ICT is being installed.
10	**220 kV S/S Pharmaceutical Park, Wazirabad** PSTCL apprised that this work is already included in 2nd CIP of MYT 20-23. However, work could not be started because land to be handed over to PSTCL has not finalised by PSIEC.
11	**220 kV S/S Fatehgarh Neoyan** PSPCL proposed a new 220 kV S/S at Fatehgarh Neoyan to make alternative source of supply to 66 KV Substations fed from 220 KV S/S Mandi Gobindgarh-2 on panchayat land. PSPCL was requested to submit the complete proposal (including 66 kV line connectivity, proposed load and status of land) to PSTCL for further action.
12	**220 kV S/S Sahnewal** PSPCL requested for augmentation of one 20 MVA T/F to 31.5 MVA. PSTCL apprised that augmentation of 1 No. 20 MVA, 66/11 kV to 31.5 MVA transformer along with control room extension at 220 kV S/S Sahnewal has been planned vide Amendment No. 08/2022-23 dated 12.5.22.

13	220 kV S/S Ghulal PSPCL requested for augmentation of one 100 MVA T/F to 160 MVA. PSTCL apprised that augmentation of 1 No 100 MVA P/T/F with 160 MVA P/T/F at 220 KV S/S Ghulal has been planned vide amendment no. 3/12.5.22

TABLE-13

Sr. no	Name of S/S	Capacity of T/F's	Overall %age loading of S/S	Loading anticipated	MOM
1	220KV Ajitwal	66/11, 2 x 20 MVA	88.35%	91.88%	PSTCL apprised that Addl. 12.5 MVA 66/11 kV already planned vide Amend. No. 08/22-23 dated 12.05.22.
2	220KV Dharamkot	66/11, 2 x 20 MVA	78.35%	81.48%	PSTCL apprised that the load is less than 80%. PSTCL will plan as and when required. PSPCL also agreed upon this.
3	220KV Badhni Kalan	66/11, 2 x 20 MVA	91.49%	95.15%	PSTCL apprised that additional 20 MVA 66/11 KV T/F will be included in 3rd CP of MYT 2023-26.
4	220KV Swaddi Kalan	66/11, 2 x 20 MVA	85%	88.40%	PSTCL apprised that the load was less than 80%. PSTCL will plan as and when required. PSPCL also agreed upon this. PSPCL requested for building extension and PSTCL agreed to include the work in MYT.
5	220KV Doraha	66/11, 2 x 20 MVA	85.03%	88.43%	PSTCL apprised that Addl. 12.5 MVA 66/11 kV planned vide Sr. No. 56 of 2nd MYT has been commissioned
6	132KV Sihora	132/11, 2 x 20 MVA	79.07%	82.23%	PSTCL apprised that the load is less than 80%. PSTCL will plan as and when required. PSPCL also agreed upon this.
7	220KV Lalton Kalan	66/11, 2 x 20 MVA	82.28%	85.57%	PSTCL apprised that loading is less than 80%. PSTCL will plan as and when required. PSPCL also agreed upon this.
8	220KV Sahnewal	66/11, 3 x 20MVA	83.2%	86.53%	PSTCL apprised that Aug. of 20MVA 66/11kV T/F to 31.5MVA vide Amendment no. 08/22-23 dated 12.5.2022
9	220KV Humbran	66/11, 2 x 20 MVA	77.5%	80.60%	PSTCL apprised that Addl. 20 MVA 66/11 kV has already been planned vide Amend No. 08/22-23 dated 12.05.22 along with control room extension.

10	220KV Pakhowal	66/11, 2 x 20 MVA, 1x12.5	76.76%	79.83%	PSTCL agreed to augment 12.5 MVA T/F to 20 MVA in 3rd CIP of MYT
11	220KV Bassi Pathana	66/11, 2 x 20 MVA	84.08%	87.44%	PSTCL apprised that addl. 20 MVA 66/11 kV T/F has been planned vide Amend No. 08/22-23 dated 12.05.22.
12	220KV Dhandari Kalan -1	66/11, 2 x 20 MVA	78.5%	81.64%	PSTCL has intimated that Addl. T/F's can be planned at both the stations after the execution of the Double Bus bar arrangement.
13	220KV Dhandari Kalan -2	66/11, 2 x 20 MVA	80%	83.20%	
14	220KV Kohara	66/11, 2 x 20 MVA	80%	83.20%	PSTCL has apprised that Aug of 20 MVA 66/11 kV to 31.5 MVA has been planned vide Amend No. 08/22-23 dated 12.05.22.
15	220KV Goraya	66/11, 2 x 20 MVA	90.75%	94.38%	PSTCL apprised that Addl. 20 MVA 132/11 kV T/F has been planned vide Amend No. 08/22-23 dated 12.05.22.
16	220KV Gaunsgarh	66/11, 2 x 20 MVA	78.33%	81.46%	PSTCL apprised that Addl. 20 MVA 66/11 kV T/F along with control room extension has been planned vide Amend No. 08/22-23 dated 12.05.22.
17	400kV Makhu	400/200/33KV, 2 x 315 MVA (ICT-1 &2)	85.52%	88.94%	PSTCL apprised that 1 No. addl. 500 MVA ICT has already been commissioned

TABLE 14

Sr. no.	Name of S/S	MOM	
1	220 KV BBMB Jamalpur	Augmentation of 100 MVA P/T/F to 160 MVA	PSTCL apprised that Work has been completed.
2	220 KV DK-I	Augmentation of T-1 100 MVA P/T/F to 160 MVA (As per technical data in feasibility case of M/s Arora alloys (RID no. 100000015959), the percentage loading of 2 no. 100 MVA P/T/F's (220/66KV) is becoming 102.07%. The action to augment any 1 no. 100MVA P/T/F be carried out.	In the FCC meeting dated 12.05.2022, it was intimated to FCC that 1 No. 100 MVA 220/66 kV transformer at 220 kV Dhandari Kalan–1 substation can be augmented to 160 MVA by PSTCL subject to the condition that a shutdown of 100 MVA 220/66 kV T/f for 45-50 days is made available by PSPCL at the said substation. PSPCL clarified that a shutdown for so many days will not be possible. PSPCL informed in the TPC meeting that shutdown for 4-5 days may be given only after installation of 160 MVA at DK-2.

3	220 KV DK-II	Augmentation of 100 MVA P/T/F to 160 MVA (As per technical data in feasibility case of M/s National Industries (RID no. 100000017578) , the percentage loading of 2 no. 100 MVA P/T/F's (220/66KV) is becoming 103.03%. The action to augment any 1 no. 100MVA P/T/F with 160 MVA P/T/F be carried out)	PSTCL apprised that work has already been planned in MYT 2020 - 23
4	220 KV Ikolaha	Additional P/T/F of 160 MVA	PSTCL apprised that the addl. T/F has been planned under N-1 contingency conditions.
5	220 KV Amloh	Augmentation of Existing 1x 100 MVA P/T/F with 160 MVA or installing additional 1 no. new 1x100 MVA	PSTCL apprised that work has been completed to augment 100 MVA with 160 MVA vide Amendment no. 11/2022-23 issued on 27.5.2022
6	220 KV Sahnewal	Augmentation of Existing 1x 100 MVA P/T/F with 160 MVA (As per technical data in feasibility case of M/s Oster India Pvt. Ltd (RID no. 100000018186), the percentage loading of existing P/T/F's (220/66KV) is becoming 91.02%. The action to augment 100MVA P/T/F with 160 MVA P/T/F is carried out.)	PSTCL apprised that Aug. of 100 MVA with 160 MVA has been planned vide Amendment no. 3/2022-23 issued on 12.5.2022
7	220KV S/S G-3 Mandi Gobindgarh	As per technical data in FCC case of M/s ANJ Metal RECYCLING PVT. LTD., village Tooran, Amloh Road, Mandi Gobindgarh (RID no. 100000008284) , the percentage loading of 2 no. 100 MVA P/T/F's (220/66KV) is becoming 91.73%. The action to augment any 1 no. 100MVA P/T/F with 160 MVA P/T/F be carried out.	PSTCL agreed to include the proposal in next MYT
8	220KV S/S G-1 Mandi Gobindgarh	To expedite the proposal to augment 2 no. 220/66 P/T/F's 100 MVA with 160 MVA at 220KV S/S G-1 Mandi Gobindgarh be carried out.	PSTCL apprised that Aug. of 2x 100MVA with 160 MVA has been planned vide Amendment no. 6/2022-23 issued on 12.5.2022

ADDITIONAL AGENDA OF PLANNING PSPCL/PSTCL DISCUSSED IN TPC MEETING

TABLE 15

		MOM
1(PSTCL)	Regarding planning of 66 kV bays at 220 kV S/S Sandhwan-132 kV S/S Kotkapura.	The work of 132 kV Kotakpura-Sandhwan 220 kV line has been placed at PSPCL TWL 2019-20 Sr. No. 17/WZ/2019-20/ Annexure-A, TWL 2020-21/2021-22 Sr. No. 15/WZ/2020-21 &2021-22/ Annexure-A & TWL 2022-23 Sr. No. 12/WZ/2022-23/Annex-A for which 2 No. 66 kV line bays each at 220 kV Sandhwan and 132 kV Kotakpura are to be executed by PSTCL. In this regard, clarification of 66 kV bays at 220 kV Sandhwan and 132 kV Kotakpura was sought from Dy. CE/Transmission Planning, PSPCL, Patiala. PSPCL agreed to clarify the same.
2(PSTCL)	Regarding extension of control room building at various s/stns. of PSTCL.	PSTCL informed that a proposal of extension of control room building at various 132/220 kV s/stns.(56 No.) of PSTCL has been received from CE/P&M, PSPCL, Ludhiana to accommodate installation of new VCBs for bifurcation cases/ newly erected 11 kV feeders. In the TPC meeting, PSPCL informed that they will review the list and will send the priority list again to PSTCL.
3(PSTCL)	66kV HTLS lines: PSPCL has planned replacement of ACSR conductor with HTLS conductor at certain 66kV transmission lines emanating from 220kV substations.	PSPCL agreed to provide the list of 66 kV lines which are planned to be augmented to HTLS.
4(PSPCL)	Upgradation of 66 KV Bhabat S/S to 220 KV	PSPCL was requested to send a complete proposal to include the up-gradation of 66 KV Bhabat S/S to 220 KV in 3rd MYT 2023-26.
5(PSTCL)	66 KV Line from 220 KV Kharar to 220 KV S/S Banur	This work has been placed at PSPCL TWL 2019-20 Sr. No. 91/SZ/2019-20/Annex-D, TWL 2020-21/2021-22 Sr. No. 99/SZ/2020-21 &2021-22/ Annex.-D & TWL 2022-23 Sr. No. 125/SZ/2022-23/Annex-D. 1 No. 66 KV line bay for 66 KV Ansal Plaza at 220 KV S/S Kharar has already been planned vide PSTCL amendment No. 38/2014-15 dated 11.03.15. Clarification regarding the requirement of an additional 66 kV bay at Banur has been sought from PSPCL Planning. CE/South informed that no bay is required at Kharar. Further, PSPCL/Planning will also clarify the same.

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6(PSTCL)	66 KV Line from 220 KV Rashiana to 66 kV Focal Point Taran Taran	It is submitted that this work has been placed at PSPCL TWL 2019-20 Sr. No. 21/BZ/2019-20/Annexure-A, TWL 20-21/21-22 Sr. No. 21/BZ/20-21&21-22/ Annex-A & TWL 2022-23 Sr. No. 13/BZ/2022-23/Annex-A. 1 No. 66 KV line bay for 66 kV Focal Point Taran Taran at 220 KV S/S Rashiana has already been planned vide PSTCL amendment No. 38/2014-15 dated 11.03.15. Clarification regarding the requirement of an additional 66 kV bay at Rashiana has been sought from PSPCL Planning. PSPCL/Planning will clarify the same.
7(PSTCL)	66 KV line line from 220 KV Patti to 66 KV Toot.	It is submitted that this work has been placed at PSPCL TWL 2019-20 Sr. No. 33/BZ/2019-20/Annex-B, TWL 20-21/21-22 Sr. No. 36/BZ/20-21&21-22/ Annex-B & TWL 2022-23 Sr. No. 32/BZ/2022-23/Annex-B. It was intimated to PSPCL vide this memo No. 1711 dtd. 09/09/20 (email dtd. 10/09/20) & 1314 dtd. 03/06/21 (email dtd. 03/06/21) that there is no space available in the yard at 220 KV Patti for construction of 66 KV line bay. To give relief to Patti, up-gradation of Toot to 220 KV is being included in 3rd CP of MYT 2023-26.
8(PSTCL)	Upgradation of 66 kV substation Chaheru to 220 kV	PSPCL requested for up-gradation of 66 KV Chaheru to 220 KV to give relief to Jamsher, Phagwara and Rihana Jattan. PSTCL apprised that upgradation of 66 kV substation Chaheru to 220 kV will be included in 3rd CP of MYT 2023-26.

LIST OF SUBSTATIONS BEING PROPOSED IN 3rd MYT 2023-26 BY PSTCL

1	Upgradation of 132 kV Samadh Bhai to 220 kV level	LILO of both circuits of 220 kV Baghapurana – Bajakhana line (LILO Length –8km, 0.4Sq").	PSTCL apprised that this S/S will give relief to Bajakhana & Himmatpura. Shifting of load of Deena Sahib and Patto Heera Singh from Himmatpura and Bhagta Bhai Ka from Bajakhana. PSPCL informed that 2X160 MVA power T/Fs are overloaded at GHTP Lehra Mohabbat also. So they need up-gradation of Bhagta Bhai Ka to 220 KV also along with Samadh Bhai. PSPCL plans to shift from GHTP two 66 KV S/Ss to Bhagta and one 66 KV S/S to Bhagta Bhai Ka as per proposal submitted by CE/P&M PSPCL & CE/DS (West). PSTCL agreed for the same

2	Upgradation of 66 kV Bija/Chawa to 220 kV level with installation of 2 X 100 MVA, 220/66 kV transformers.	For evacuation of Dhanansu by LILO of one circuit of Dhanansu- Doraha	PSTCL apprised that proposal of this substation was received from PSPCL for upcoming loads in and around Sahnewal/ Doraha. Therefore it will be included in 3rd CP of MYT 2023-26 by PSTCL.
3	Upgradation of 66 kV Chourwala to 220 kV level with installation of 2X160 MVA, 220/66 kV transformers.	LILO of both circuits of 400 kV Rajpura – 220 kV Gobindgarh-1 line (HTLS) (8 km, 0.45q" equivalent)	Proposal of up-gradation has been received from CE/Central PSPCL to de-load 220 KV S/S G-1 to facilitate release of new connections. PSTCL agreed to include the upgradation of this S/S in 3rd CP of MYT.
4	Upgradation of 132 kV Jandiala Guru to 220 kV level with installation of 2 X 100 MVA, 220/132 kV transformers.	LILO of 220 kV Butari – Verpal circuit on multi-circuit/moder techniques (4km, 0.45q")	To address the problems in the walled city of Amritsar a committee was constituted by Director/T. As per recommendation of committee to give reliable supply to Amritsar city it was proposed to upgrade Jandiala by shifting 220/132 Kv 100 MVA auto T/F 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.
5	Upgradation of 132 kV Sri Hargobindpur to 220 kV level with installation of 1 X 100 MVA, 220/132 kV & 1X100 MVA 220/66 KV transformers.	D/C From 400 KV Wadala Granthian (28km, 0.45q")	PSTCL apprised that this substation is required for evacuation of power as a 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 silt as MHP is a run off the river project. PSPCL agreed to the proposal.
6	Upgradation of 66 kV Giaspura to 220 kV level with installation of 2X160 MVA, 220/66 kV transformers.	LILO of 400 kV Ludhiana – 220 kV Dhandari Kalan (1.5km , 0.45q") Multi circuit towers/Modern techniques	Proposal of up-gradation has been received from CE/Central and CE/P&M PSPCL to de-load 220 KV S/S Sahnewal to facilitate release of new connections in Kanganwal area and shift 66 KV Singla Cycles. PSTCL agreed to include the upgradation of this S/S in 3rd CP of MYT.

7	400KV Wadala Granthian	LILO of both circuits of 400KV Kullu/Banala - Amritsar/Jalandhar line of PGCIL **OR** LILO of both circuits of 400KV Jalandhar - Samba line of PGCIL **OR** LILO of both circuits of 400KV Moga - Kishenpur of PGCIL	To increase ATC/TTC limit of State in future

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