

**PUNJAB STATE ELECTRICITY REGULATORY COMMISSION
SCO NO. 220-221, SECTOR 34-A, CHANDIGARH**

**Petition No. 44 of 2016
Date of Order: 13.12.2017**

Present: Ms. Kusumjit Sidhu, Chairperson
Sh. S.S. Sarna, Member
Ms. Anjali Chandra, Member

In the matter of : Petition for approval of PSTCL's Capital Investment Plan for MYT Control Period (FY 2017-18 to FY 2019-20) under Section 62 and 64 of the Electricity Act, 2003 read with Regulation 9 of PSERC (Terms and Conditions for Determination of Generation, Transmission, Wheeling and Retail Supply Tariff) Regulations, 2014.

AND

In the matter of: Punjab State Transmission Corporation Limited

.....Petitioner

ORDER

Punjab State Transmission Corporation Limited (PSTCL) filed the petition for approval of Capital Investment Plan for MYT Control Period (FY 2017-18 to FY 2019-20). The Commission vide its order dated 09.06.2016 admitted the petition and ordered that the petition shall be examined and in case it is found that any further information/ clarification is required, same shall be asked from PSTCL separately and if required date of hearing of the petition shall be fixed and conveyed subsequently.

On scrutiny of the petition, some deficiencies were

observed. Bringing out the same in its order dated 16.08.2016, the Commission ordered as under:

“.....The petition filed by PSTCL for approval of its Capital Investment Plan for MYT Control Period (FY 2017-18 to FY 2019-20) is deficient on various points as discussed above. PSTCL is directed to resubmit the Capital Investment Plan to the Commission by 26.08.2016, after attending to above deficiencies/ observations. PSTCL is further directed to ensure that the filing of Capital Investment Plan is strictly as per Regulations 4, 7 and 9 of MYT Regulations.”

PSTCL vide its letter no. 2446/FA/Comml.-703 dated 23.08.2016 requested the Commission to allow it to resubmit the Capital Investment Plan by 30.09.2016 on the plea that to comply with the Commission observations, number of inputs/data is required to be obtained from the concerned offices and needs to be discussed with them. PSTCL, in compliance to the Commission's order dated 16.08.2016, submitted the reply/revised submissions on the observation/deficiencies, observed by the Commission, vide its letter no. 2693/FA/Comml.-703 dated 26.09.2016. PSTCL submitted additional submissions vide its letter nos. 3467 dated 14.12.2016, 15 dated 02.01.2017, 251 dated 18.01.2017 and 303 dated 23.01.2017.

A Public Notice was issued by PSTCL in various newspapers, inviting objections/suggestions from the general public and stakeholders on the petitions filed by it i.e. (i) Petition No. 44 of 2016 for approval of Capital Investment Plan (ii) Petition No. 45 of 2016 for approval of Business Plan and (iii) Petition No. 89 of 2016 for determination of ARR for MYT Control Period from FY 2017-18 to FY 2019-20. The Public Notice appeared in leading newspapers on 30/31.12.2016. In response thereto, four (4)

objections were received. PSTCL submitted its reply to the same, which were made available to the respective objectors. The Commission also held public hearings in connection with the petitions at Jalandhar on 06.02.2017, at Bathinda on 07.02.2017 and at Chandigarh on 08.02.2017, 09.02.2017 & 08.03.2017. The views of PSTCL on the objections/comments received from public and other stakeholders were heard by the Commission on 10.03.2017. PSTCL further submitted additional submissions vide its letter nos. 1354 dated 08.05.2017, 1725 dated 05.06.2017 and 1857 dated 22.06.2017.

The Commission vide its letter nos. 816-17 & 820 dated 18.08.2017 directed PSTCL to submit the data regarding priority of schemes/works and make a presentation before the Commission in respect of the proposed Capital Investment Plan. PSTCL made the said presentation on 25.08.2017.

The Commission decided to hold another public hearing at Chandigarh on 05.09.2017 and 06.09.2017. The comments of PSTCL to the objections raised by the public besides Corporation's own point of view regarding the petitions were again heard on 08.09.2017. In compliance of Commission's letter dated 18.08.2017, PSTCL also submitted the revised list indicating priority of schemes vide its letter no. 3333 dated 04.10.2017. The summary of issues raised, reply of PSTCL and the view of the Commission thereon are contained in Annexure-II of the Tariff Order for PSTCL for MYT Control Period from FY 2017-18 to FY 2019-20 issued by the Commission on 23.10.2017. **The Capital Expenditure amounting to ₹328.29 crore for FY 2017-18, ₹248.01 for FY 2018-19 and ₹202.64 crore for FY 2019-20 for**

Transmission Business and ₹10.00 crore for the respective year of Control Period for SLDC Business was provisionally approved by the Commission in its Tariff Order dated 23.10.2017 for PSTCL for MYT Control Period from FY 2017-18 to FY 2019-20.

The Commission therefore, carefully examined the list of works submitted by PSTCL to be executed during FY 2017-18 to FY 2019-20. Based upon various submissions made by PSTCL, clarifications provided and presentations made during various meetings regarding priority of works/ spillover works of previous years to be carried out in the control period and considering them, **the Commission hereby approves scheme wise the Capital Investment Plan for the Transmission Business of PSTCL (in addition to deposit works, if any) for the MYT Control Period from FY 2017-18 to FY 2019-20 as per Annexure-A.**

Sd/-

(Anjuli Chandra)

Member

Sd/-

(S.S. Sarna)

Member

Sd/-

(Kusumjit Sidhu)

Chairperson

Chandigarh

Dated: 13.12.2017

Annexure-A

**Capital Investment Plan of PSTCL for MYT Control Period
from FY 2017-18 to FY 2019-20**

1. For Transmission Business

Sr. No.	Name of Scheme/Project	General Description of Scheme	Capital Expenditure (₹crore)		
			FY 2017-18	FY 2018-19	FY 2019-20
A.	Spill over works under progress				
1	220 kV S/Stn Dharamkot	Replacement of 1x50 MVA, 132/66 kV T/F with 1x100 MVA, 220/66 kV T/F	4.50	-	-
2	Stringing of 2nd ckt of 220 kV line from 220 kV S/Stn Focal Point Nabha to 220 kV S/Stn Bhawanigarh.	18 km line length on DC towers/ 420 sq mm ACSR (Zebra) conductor	0.67	-	-
3	Stringing of 2nd ckt of 220 kV line from 220 kV S/Stn Focal Point Nabha to 220 kV S/Stn Bhawanigarh.	1.5 km line length on Multi Ckt towers/ 420 ACSR (Zebra) conductor	0.08	-	-
4	Stringing of 2nd ckt of 220 kV line from 220 kV S/Stn Focal Point Nabha to 220 kV S/Stn Bhawanigarh.	2 Nos. Bays (1no. at 220 kV S/Stn Focal Point Nabha and 1 no. at 220 kV S/Stn Bhawanigarh)	0.10	-	-
5	220 kV S/Stn Mansa	1 no. 66 kV line bay for M/s Photon Ojas Pvt. Ltd. for its 1x25 MW Ground based Solar Power Plant	0.25	-	-
6	132 kV S/Stn Badal	1no. 66 kV line bay for M/s Azure Power Pluto Pvt. Ltd. for its 1x25 MW Ground based Solar Power Plant	0.35	-	-
7	132 kV S/Stn Anandpur Sahib	Extension in the control room building	0.34	-	-
8	400 kV Dhuri Sub Station	1X500 MVA, 400/220 kV Addl. T/F	1.00	-	-
9	220 kV Goindwal Sahib-Botianwala DC line	64.735 km line length/ 0.4 sq inch ACSR (Zebra) conductor	2.00	-	-
10	220 kV Rajpura-Devirgarh DC line	37 km line length/0.4 sq inch ACSR (Zebra) conductor	0.30	-	-
11	220 kV Nakodar-Rehanajattan DC line	35 km line length/0.4 sq inch ACSR (Zebra) conductor	0.40	-	-
12	220 kV Mukatsar-Kotkapura DC line	38 km line length/0.4 sq inch ACSR (Zebra) conductor	0.50	-	-
13	220 kV Makhu-Algon DC line	50.445 km line length /0.4 sq inch ACSR (Zebra) conductor	2.00	-	-

Sr. No.	Name of Scheme/Project	General Description of Scheme	Capital Expenditure (₹crore)		
			FY 2017-18	FY 2018-19	FY 2019-20
14	220 kV Makhu-Rashiana DC line	30 km line length /0.4 sq inch ACSR (Zebra) conductor	1.00	-	-
15	220 kV Abohar- Malout DC line	29.994 km line length /0.4 sq inch ACSR (Zebra) conductor	10.00	-	-
16	220 kV Moga- Mehalkalan DC line	50 km line length /0.4 sq inch ACSR (Zebra) conductor	1.00	-	-
17	220 kV PGCIL(Ludhiana)- Doraha DC line	27 km line length/0.4 sq inch ACSR (Zebra) conductor	2.00	-	-
18	220 kV Mukatsar-Malout DC line	23.6 km line length/0.4 sq inch ACSR (Zebra) conductor	1.00	-	-
19	220 kV Nakodar- Ladowal DC line	40 km line length/0.4 sq inch ACSR (Zebra) conductor	10.00	-	-
20	LILO of one ckt of Humbran - Ferozpur Road Ludhiana line at Ladowal	17 km line length /0.4 sq inch ACSR (Zebra) conductor	5.00	-	-
21	220 kV S/S Ladowal(New)	160 MVA, 220/66 kV T/F	0.10	-	-
22	LILO of Patran- Kakrala & Patran-Rajla lines at 400 kV PGCIL Patran	6 km line length/0.4 sq inch ACSR (Zebra) conductor	0.50	-	-
23	220 kV S/S Kotla Jangan	Repl. of 100MVA with 160MVA, 220/66 kV T/F	0.10	-	-
24	220 kV S/S Maur (U/G from 132 kV)	100 MVA, 220/66 kV T/F	4.00	-	-
25	LILO of one ckt of GHTP- Talwandi Sabo line at Maur	10 km line length/0.4 sq inch ACSR (Zebra) conductor	7.00	-	-
26	LILO of one ckt of Nakodar-Rehana Jattan line at Hoshiarpur	18 km line length/0.4 sq inch ACSR (Zebra) conductor	1.00	-	-
27	220 kV S/S Hoshiarpur (upgradation from 132 kV)	160 MVA, 220/66 kV T/F	0.10	-	-
28	220 kV S/S Baghapurana	Addl. 2nd 100MVA, 220/66 kV T/F	6.20	-	-
29	220 kV S/S Kanjali	3rd 100MVA, 220/66 kV T/F	6.90	-	-
30	220 kV S/S Mastewal	2nd MVA, 220/66 kV T/F	6.10	-	-
31	220 kV S/S Verpal	100 MVA, 220/66 kV T/F in place of 30/50 MVA, 220/66 kV T/F	0.20	-	-
32	220 kV S/S Mahilpur	Addl. 100 MVA, 220/66 kV T/F	0.20	-	-
33	220 kV S/S Ablowal	Addl. 100 MVA, 220/66 kV T/F	6.42	-	-
34	LILO of both ckts.of Patiala-Mandi Gobindgarh DC line at 400 kV Rajpura	16.4 km line length /0.4 sq inch (Loop in) 17.49 km/0.4 sq inch) (Loop out)	0.10	-	-

Sr. No.	Name of Scheme/Project	General Description of Scheme	Capital Expenditure (₹crore)		
			FY 2017-18	FY 2018-19	FY 2019-20
35	220 kV Bajakhana-Baghapurana DC line	35.591 km line length/0.4 sq inch ACSR (Zebra) conductor	0.50	-	-
36	132 kV S/S Ekalgadda	Addl. 12.5 MVA, 66/11kV T/F	0.30	-	-
37	132 kV G.T. Road Amritsar	2X50 MVA, 132/66kV T/Fs in place of 1X16/20 MVA & 1X20/25 MVA T/Fs	0.29	-	-
38	132 kV Power Colony Amritsar	Addl. 50 MVA, 66/11 kV T/F	0.19	-	-
B.	New works already taken in hand				
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	—	1.82	-	-
40	220 kV S/Stn Jadla (U/G from 132 kV)	Replacement of 1x20 MVA, 132/11 kV with 1x20 MVA, 66/11 kV T/F.	2.03	-	-
41	220 kV S/Stn Dera Bassi/Saidpura	Augmentation of existing twin Zebra (0.4 sq inch) conductor with twin Moose (0.5 sq inch) conductor at 220 kV bus bar	0.75	-	-
42	220 kV S/Stn Dera Bassi/Saidpura	Augmentation of existing twin Zebra (0.4 sq inch) conductor with quad Zebra (0.4 sq inch) conductor at 66 kV bus bar	0.75	-	-
43	220 kV S/Stn Dharamkot	Replacement of 1x20 MVA, 132/11 kV T/F with 1x20 MVA, 66/11 kV T/F	1.61	-	-
44	220 kV S/Stn Badhni Kalan (U/G from 132 kV)	1x100MVA, 220/66 kV T/F	5.00	9.05	-
45	LILO of 220 kV line from 400 kV S/Stn Moga to 220 kV S/Stn Himmatpura at 220 kV S/Stn Badhni Kalan	3 Km line length/ 420 sq mm ACSR (Zebra) conductor	0.80	1.60	-
46	220 kV S/Stn Alawalpur (U/G from 132 kV)	1x100MVA, 220/66 kV T/F	5.00	8.21	-
47	LILO of one ckt. of 220 kV S/Stn BBMB, Jalandhar - 220 kV S/Stn Pong DC line (ckt-3) at 220 kV S/Stn Alawalpur	6 km line length/ 420 sq mm ACSR (Zebra) conductor	1.00	3.80	-
48	220 kV S/Stn Talwandi Bhai	Addl. 2nd 1x160MVA, 220/66 kV T/F	9.84	-	-
49	220 kV S/Stn Amlah	Repl. of 1x100 MVA, 220/66 kV T/F with 1x160 MVA, 220/66 kV T/F	8.81	-	-

Order in Petition No. 44 of 2016

Sr. No.	Name of Scheme/Project	General Description of Scheme	Capital Expenditure (₹crore)		
			FY 2017-18	FY 2018-19	FY 2019-20
50	220 kV S/Stn Mansa	Repl. of 1x100 MVA, 220/66 kV T/F with 1x160 MVA, 220/66 kV T/F	8.81	-	-
51	220 kV S/Stn Kartarpur	Repl. of 1x100 MVA, 220/66 kV T/F with 1x160 MVA, 220/66 kV T/F	8.81	-	-
52	220 kV S/Stn Ghulal	Repl. of 1x20 MVA and 1x10/12.5 MVA 132/11 kV T/Fs with 2x20 MVA, 66/11 kV T/Fs	3.22	-	-
53	Procurement of Emergency Restoration System (ERS)	2 Sets of 10 Towers each	24.20	-	-
54	NIFPES Systems for 31 no. 220 kV, 100 MVA T/Fs	31 Nos.	3.12	3.12	-
55	400 kV S/S Mukatsar	1X500MVA, 400/220 kV T/F	5.00	12.00	-
56	132 kV Verpal-Mall Mandi Line	Replacement of 23 No. damaged Towers & Augmentation of 0.2 sq inch conductor with HTLS conductor (12 km line length)	3.00	4.40	-
57	220 kV S/S Gobindgarh-II	Addl. 4th 12.5MVA, 66/11 kV T/F	0.30	-	-
58	220 kV S/S Mukatsar	1 No. Addl. 20/25MVA, 132/66 kV T/F	1.06	-	-
59	Truck - Trailer	200 Ton GCW	2.50	-	-
60	220 kV S/S Derabassi	Addl. 100MVA, 220/66 kV T/F	9.00	-	-
61	132 kV Shanan- Kangra- Pathankot line with new ACSR wolf conductor	Replacement of damaged ACSR conductor of 0.15 sq inch with 0.15 sq inch ACSR (Wolf) conductor. 124.5 km line length	3.86	15.64	-
62	400 kV S/Stn. Makhu	Addl 500MVA 400/220 kV T/F	2.00	15.00	-
63	Transmission System for 400 kV Rajpura Thermal Plant	Addl. Civil works at 400 kV S/Stn. Rajpura	3.00	-	-
64	Transmission System for 400 kV Talwandi Sabo Thermal Plant	For addl. eqpt. at 400 kV S/Stn. Covered in the scheme	5.00	-	-
65	Automation of 5 no. 220 kV Sub Stations	220 kV S/Stns Mohali 1 &2, Kharar, Dera Bassi,Lalru	6.62	2.50	-
66	132 kV S/S Tanda	Addl. 20MVA,132/11 kV T/F	0.50	-	-

Sr. No.	Name of Scheme/Project	General Description of Scheme	Capital Expenditure (₹crore)		
			FY 2017-18	FY 2018-19	FY 2019-20
67	220 kV S/S Sarna	Addl. 100 MVA, 220/66 kV T/F	7.21	-	-
68	220 kV Tibber	Addl. 12.5 MVA, 66/11 kV T/F	0.30	-	-
69	220 kV Nurmehal	Addl. 20MVA, 66/11 kV T/F in place of 10/12.5 MVA 132/11 kV T/F	1.73	-	-
70	LILO of 2nd ckt. of 400 kV S/S PGCIL Jalandhar-220 kV S/S Kotla Jagan (Nakodar) line at 220 kV S/S Kartarpur	2 km line length/0.4 sq inch ACSR (Zebra) conductor	1.40	-	-
71	220 kV S/S Bajakhana	Repl. of 2X12.5 MVA, 66/11 kV T/F with 2X20MVA, 66/11 kV T/F	2.96	-	-
72	Power System Development Fund (PSDF) scheme for second source of Battery at 220 and 132 kV S/stn.(90% funding Under PSDF, 10% amount accounted for in FY 2017-18	—	1.53	-	-
73	Stringing of 1no. 66 kV ckt on existing 66 kV multi ckt towers of 66 kV line from 220 kV S/Stn Bhawanigarh to 220 kV S/Stn BBMB Sangrur.	Length = 2.5 Km (approx.) on existing 66 kV multi ckt towers with 200 sq mm ACSR (Panther) Conductor	0.18	-	-
74	132 kV S/Stn Malout	Repl. of 12.5/16 MVA, 132/66 kV T/F with 1x20/25 MVA, 132/66 kV T/F	0.30	-	-
75	220 kV S/Stn Bangan	Addl. 2nd 100 MVA, 220/66 kV T/F	4.33	2.88	-
76	220 kV S/Stn Rajla	Repl. of 100 MVA with 160 MVA, 220/66 kV T/F	5.29	3.52	-
77	LILO of 220 kV line from 220 kV S/Stn Himmatpura to 220 kV S/Stn Jagraon at 220 kV S/Stn Ajitwal.	3 km Line Length/ 420 sq mm ACSR (Zebra) Conductor	2.23	-	-
78	220 kV S/Stn Ajitwal	2 nos. Bays (in line with Sr. No. 81)	2.60	-	-
79	220 kV S/Stn Ferozepur Rd. Ludhiana	Extension in the control room building	0.40	-	-
80	220 kV S/Stn Ferozepur Rd. Ludhiana	1 no. 66 kV O/G line bay for 66 kV S/Stn Sarabha Nagar, Ludhiana	0.39	-	-
81	220 kV S/Stn Majitha	Extension in the control room building	0.39	-	-

Sr. No.	Name of Scheme/Project	General Description of Scheme	Capital Expenditure (₹crore)		
			FY 2017-18	FY 2018-19	FY 2019-20
82	220 kV S/Stn Majitha	1 no. 66 kV O/G line bay for 66 kV S/Stn Nag Kalan (Ckt.-II)	0.39	-	-
83	220 kV S/Stn Wadala Granthian	Planning for 1no. 66 kV O/G line bay for 66 kV S/Stn Qadian.	0.39	-	-
84	220 kV S/Stn Bangan	1 no. 66 kV line bay for 66 kV Bangan - Mandvi DC on DC line	0.39	-	-
85	220 kV S/Stn Patran	1 no. 66 kV line bay for 66 kV Dirba DC on DC line	0.39	-	-
86	220 kV S/Stn Jadla (U/G from 132 kV)	Uplifting of old 132 kV/66 kV yard by level earth filling	1.50	-	-
87	132 kV S/S Phillaur	1X25 MVA, 132/66 kV T/F in place of 1X 12.5/16 MVA, 132/66 kV T/F	0.30	-	-
88	220 kV S/S Rashiana	Extension of 66 kV double busbar & Shifting of 2no. 66 kV O/G line bays for 66 kV Tarn Taran ckt 1 & 66 kV Fatahabad ckt.-1	0.47	-	-
89	220 kV S/S Dhandhari Kalan 1 and 2	Provision of 220 kV Double bus bar arrangement	2.00	7.23	-
90	220 kV S/S Sahnewal	Provision of making 66 kV double bus arrangement including dismantlement & erection of new towers	0.50	1.70	-
91	132 kV Jamalpur-Moga line Ckt. No. 1	Providing 14 Nos. additional towers instead of replacement of conductors on existing 132 kV Jamalpur- Moga line Ckt No. 1	0.91	-	-
92	132 kV Mastewal	1 no 66 kV line bay for 66kv S/s Gurali	0.39	-	-
93	220 kV Talwandi Sabo	1 No.66 kV line bay for its 25MW Solar Power Plant	0.39	-	-
94	220 kV Talwandi Sabo	Extension of Existing 66 kV bus bar	0.32	-	-
95	133 kV Malout	1 no. 66 kV line bay for 66 kV S/S Malout (new)	0.39	-	-
96	Setting up of Out Door Testing Laboratory	P&M Organization work	0.50	0.50	0.40
97	Testing benches & lab safety equipment	P&M Organization work	0.06	0.02	0.02

Sr. No.	Name of Scheme/Project	General Description of Scheme	Capital Expenditure (₹crore)		
			FY 2017-18	FY 2018-19	FY 2019-20
98	Water content measurement kit	P&M Organization work	0.06	-	-
99	Air conditioning of S/Stn's	P&M Organization work	0.30	0.15	0.15
100	DC E/F locator for 400 kV S/Stn's	P&M Organization work	0.05	-	-
101	Vibration meter	P&M Organization work	0.05	-	-
102	New Civil Works in respect of 5 no. stores such as sheds, plinths and Boundry walls etc.	HR, IT, S&D Organization work	2.50	2.50	-
103	Installation of CCTV Cameras at 5 No. stores	HR, IT, S&D Organization work	0.40	-	-
104	Procurement of Hardwares, Server, Furniture, IT Space renovation (Civil Works) & Unforeseen Capital Expenditure	HR, IT, S&D Organization work	2.02	0.35	0.36
C.	Works yet to be taken in hand				
105	220 kV S/Stn Sultanpur	Erection of 2nd 220 kV Bus bar (Twin zebra conductor)	1.00	3.50	-
106	Replacement of conductor of 220 kV line from 400 kV S/Stn Ludhiana to 220 kV S/Stn Lalton Kalan (2nd ckt) with HTLS conductor	2.787 Km Line Length with suitable HTLS conductor	0.80	-	-
107	220 kV S/Stn Sadiq	Repl. of 100 MVA with 160 MVA, 220/66 kV T/F	2.29	6.52	-
108	220 kV S/Stn Bajakhana	Repl. of 100 MVA with 160 MVA, 220/66 kV T/F	2.29	6.52	-
109	220 kV S/Stn Jamsher	Repl. of 100 MVA with 160 MVA, 220/66 kV T/F	2.29	6.52	-
110	220 kV S/Stn Ghubaya	Repl. of 100 MVA with 160 MVA, 220/66 kV T/F	2.29	6.52	-
111	220 kV S/Stn Talwandi Bhai	Repl. of (1x16/20+ 1x10/12.5 MVA), 132/11 kV with 2x20 MVA, 66/11 kV T/Fs	1.93	1.29	1.72
112	220 kV S/Stn Chogawan	Addl. 2nd 160 MVA, 220/66 kV T/F	2.90	6.94	-
113	220 kV S/Stn Badal	Addl. 2nd 100MVA, 220/66 kV T/F	2.33	4.88	-
114	220 kV S/Stn Dasuya	Addl. 2nd 1x100MVA, 220/66 kV	0.16	4.05	-
115	220 kV S/Stn Badhni Kalan (U/G from 132 kV)	Replacement of existing (1x20+1x12.5) MVA, 132/11 kV with 2x20 MVA, 66/11 kV T/Fs.	0.50	3.24	-

Sr. No.	Name of Scheme/Project	General Description of Scheme	Capital Expenditure (₹crore)		
			FY 2017-18	FY 2018-19	FY 2019-20
116	220 kV S/Stn Banga (U/G from 132 kV)	1x100 MVA, 220/132 kV T/F as spared from 220 kV S/Stn Mahilpur	3.68	4.51	-
117	LILO of 220 kV Jadla - Jamsher SC line at 220 kV S/Stn Banga (Proposed)	2 km Line Length / 420 sq mm ACSR (Zebra) conductor on Multi circuit Towers	1.00	2.36	-
118	LILO of 220 kV Jadla - Jamsher SC line at 220 kV S/Stn Banga (Proposed)	5 km Line Length / 420 sq mm ACSR (Zebra) conductor DC on DC Towers	1.00	3.00	-
119	220 kV Line bays at 220 kV S/Stn Banga (Proposed)	2 Nos. (cost of 1no. Line bay already included in s/stn.	0.52	0.78	-
120	220 kV S/Stn Sherpur (Focal Point) (U/G from 66 kV grid with 220 kV side GIS and 66 kV side Conventional)	1x160 MVA, 220/66 kV T/F	0.30	1.00	8.90
121	LILO of both ckts of 220 kV S/Stn Jamalpur - 220 kV S/Stn Dhandari Kalan-I line at 220 kV S/Stn Sherpur (Focal Point)	13 Km Line Length / 420 sq mm ACSR (Zebra) Conductor	0.20	1.00	3.00
122	Replacement of conductor of 220 kV line from 400 kV S/Stn Ludhiana to 220 kV S/Stn Lalton Kalan (1st ckt) with HTLS conductor	1.932 Km Line Length with suitable HTLS conductor	0.42	0.38	-
123	220 kV S/Stn Budhlada (U/G from 66 kV)	1x160 MVA, 220/66 kV T/F	0.46	3.97	4.00
124	220 kV S/Stn Mansa - 220 kV S/Stn Budhlada DC Line	40 Km Line Length/520 sq mm ACSR (Moose) DC on DC	1.00	7.21	10.01
125	220kv S/S Alawalpur	Repl. of existing 1X20 MVA + 1X12.5 MVA, 132/11 kV T/Fs with 2 no. 20 MVA, 66/11 kV T/Fs	0.74	3.00	-
126	220 kV S/S Patran	Extension in the S/S Control room building complex	0.54	-	-
127	220 kV S/S Baghapurana	Repl. of 2X20MVA, 132/11 kV T/Fs with 2X20MVA, 66/11 kV T/Fs.	1.08	2.00	-
128	400 kV S/Stn Doraha (New at Village Dhanansu)	2x500 MVA, 400/220 kV T/Fs	0.56	11.50	21.60
129	LILO of both ckts. of 400 kV line from 400 kV S/Stn Rajpura Thermal to 400 kV S/STn Nakodar at 400 kV S/Stn Doraha (New at village Dhanansu)	11.1 Km. Line Length (2xDC /Twin Moose Conductor)	0.20	1.26	6.00

Sr. No.	Name of Scheme/Project	General Description of Scheme	Capital Expenditure (₹crore)		
			FY 2017-18	FY 2018-19	FY 2019-20
130	(i) 400 kV Bays (ii) 220 kV Bays at 400 kV S/Stn Doraha	(i) 4 Nos. (ii) 10 Nos.	0.50	1.03	5.00
131	220 kV Banur-Mohali (GMADA) DC line	4 km Line Length ACSR ZEBRA Conductor	0.20	0.20	1.00
132	220 kV DC line from 400 kV Grid near Doraha to 220 kV Ikolaha	12 km (approx.) Line Length / 420 sq mm DC ACSR Zebra	0.20	0.50	2.00
133	220 kV DC line from 400 kV Grid near Doraha to 220 kV Doraha	10 km (approx.)/ 420 sq mm DC ACSR Zebra	0.20	0.50	2.00
134	220 kV DC line from 400 kV Grid near Doraha to 220 kV Kohara	10 km (approx.)/ 420 sq mm DC ACSR Zebra	0.20	0.50	2.00
135	220 kV Bays (2Nos. at 220 kV Ikolaha, 2 Nos. at Doraha, 2Nos. at Kohara and 6 Nos. at 400 kV Grid new Doraha (220 kV bus))	12 Nos.	0.50	0.50	3.00
136	LILO of 220 kV S/Stn Mansa - Sunam (SC) at 400 kV S/Stn Patran (220 kV bus).	40 km (approx.) Line Length / 1xDC with 420 sq mm ACSR (Zebra)	0.50	0.34	21.64
137	Aug/Strengthening of bus bars	----	5.00	-	-
138	Extension in Switchyard buildings, Provision for AC etc.	----	4.00	-	-
139	Provision for Reactive Compensation	----	4.00	-	-
140	Addition of bays/system strengthening required on account of RE generation	----	4.00	-	-
141	Replacement of 11 kV VCBs with SCADA Complaint VCBs at various sub stations in the city of Ludhiana, Jalandhar & Amritsar	—	10.00	-	-
142	Replacement of Disc Insulators of 400 kV PSTCL lines with Polymer Insulators		12.50	12.50	-
D.	New Works planned for FY 2018-19				
143	220 kV DC line from 220 kV S/Stn Gaunsgarh to 220 kV S/Stn Ladhowal.	18 km Line Length DC on DC/ 420 sq mm ACSR (Zebra) Conductor	-	2.00	12.40
144	220 kV S/Stn Alawalpur	Addl. 2nd 100 MVA, 220/66 kV T/F	-	2.33	4.88
145	220 kV S/Stn Maur	Addl. 100MVA, 220/66 kV T/F	-	2.33	4.88

Sr. No.	Name of Scheme/Project	General Description of Scheme	Capital Expenditure (₹crore)		
			FY 2017-18	FY 2018-19	FY 2019-20
146	220 kV Sahnewal	Repl. of 100 MVA with 160 MVA, 220/66 kV T/F	-	1.29	7.52
147	220 kV S/Stn Kharar	Repl. of (16/20+20) MVA, 132/11 kV with 2x20 MVA, 66/11 kV T/F	-	2.44	1.63
148	220 kV S/Stn Lalru	Repl. of 1x100 MVA, 220/66 kV T/F with 1x160 MVA, 220/66 kV T/F	-	1.29	7.52
149	220 kV S/Stn Tibber	Addl. 2nd 100 MVA, 220/66 kV T/F	-	2.33	4.68
150	220 kV S/Stn Udhoke	Addl. 2nd 160 MVA, 220/66 kV T/F	-	1.94	7.90
151	220 kV S/Stn Hoshiarpur	Addl. 2nd 160 MVA, 220/66 kV T/F	-	1.90	7.94
152	Aug/Strengthening of bus bars	----	-	5.00	-
153	Extension in Switchyard buildings, Provision for AC etc.	----	-	4.00	-
154	Provision for Reactive Compensation	----	-	4.00	-
155	Addition of bays/system strengthening required on account of RE generation	----	-	4.00	-
156	Partial Discharge Set	P&M Organization work	-	0.50	-
157	132 kV Moga-II (Dhalleke)	Replacement of 1 x 12.5 MVA, 132/11 kV T/F with 1x20 MVA, 132/11 kV T/F	-	0.30	-
158	132 kV Arson	Replacement of 1 x 12.5 MVA, 132/11 kV T/F (T-3) with 1x20 MVA, 132/11 kV T/F	-	0.30	-
159	220 kV Sunam	1 No. 66 kV O/G line bay for 66 kV Sub-Station Sheran (CKT.II)	-	0.39	-
160	220 kV Banga	1 No. 66 kV O/G line bay for 66 kV Sub-Station Moonak (CKT.II)	-	0.39	-
161	220 kV Jamsher	Augmentation of existing 220 kV twin zebra Double Bus-Bar Conductor with quadruple zebra double bus bar conductor	-	0.90	-
162	220 kV Kotla Jangan	Augmentation of existing 220 kV twin zebra Single Bus- Bar Conductor with quadruple zebra Single bus bar conductor	-	0.50	-

Sr. No.	Name of Scheme/Project	General Description of Scheme	Capital Expenditure (₹crore)		
			FY 2017-18	FY 2018-19	FY 2019-20
163	132 kV Samadh Bhai	Construction of a new Switch House Building at a new raised level	-	1.15	-
164	132 kV Pathankot	Construction of a new control-room building by replacing old control - room building	-	1.15	-
165	220 kV Mohali	1 no O/G Bay for 66 kV Sub-Station Phase 8-B Mohali ckt II	-	0.39	-
E.	New works planned for FY 2019-20				
166	220 kV S/Stn Bhawanigarh	Addl. 2nd 100 MVA, 220/66 kV T/F	-	-	4.33
167	220 kV S/Stn Jadla	Addl. 2nd 100MVA, 220/66 kV T/F	-	-	4.33
168	220 kV S/Stn Botianwala (Thatha Sahib)	Addl. 3rd 160 MVA, 220/66 kV T/F	-	-	5.90
169	220 kV S/Stn Majitha	Addl. 2nd 100 MVA, 220/66 kV T/F	-	-	4.33
170	132 kV S/Stn Pathankot	Repl. of 1x12.5/16 MVA, 132/66-33 kV T/F with 1x20/25 MVA, 132/66 kV T/F	-	-	0.21
171	132 kV IGC, Bathinda	Repl. of 1x25 MVA, 132/66 kV T/F with 1x50 MVA, 132/66 kV T/F	-	-	0.18
172	Aug/Strengthening of bus bars	----	-	-	5.00
173	Extension in Switchyard buildings, Provision for AC etc.	----	-	-	4.00
174	Provision for Reactive Compensation	----	-	-	4.00
175	Addition of bays/system strengthening required on account of RE generation	----	-	-	4.00
176	Replacement of Existing conductor of 220 kV Mohali-I - Mohali-II line	13 km Line Length /with suitable HTLS conductor (with min 1200 A rating)	-	-	1.00
177	220 kV S/Stn Fazilka (U/G from 66 kV)	1x160 MVA, 220/66 kV T/F	-	-	1.00
178	400 kV S/Stn Mukatsar - 220 kV S/Stn Fazilka 220 kV DC line	25 km Line Length / 520 sq mm ACSR (Moose)	-	-	1.00
179	220 kV Bays	4 Nos.	-	-	0.50

Sr. No.	Name of Scheme/Project	General Description of Scheme	Capital Expenditure (₹ crore)		
			FY 2017-18	FY 2018-19	FY 2019-20
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	-	-	5.01
181	High End Thermo-vision Cameras	P&M Organization work	-	-	0.70
182	Un-foreseen emergency works		-	5.00	5.00
Total			328.29	248.01	202.64

2. For SLDC Business

Sr. No.	Name of Scheme/Project	Capital Expenditure (₹ crore)		
		FY 2017-18	FY 2018-19	FY 2019-20
A.	Spill over works under progress			
1	Procurement of additional RTUs for remaining/upcoming substations of PSTCL	3.10	4.05	5.65
2	Implementation of Intrastate Boundary Metering cum Transmission Level Energy Audit Schemes	4.00	3.30	-
3	Furniture & Fixtures (9 Nos. AC's)	0.05	0.03	0.80
4	Islanding Schemes in Punjab	-	0.50	1.00
B.	New works			
5	Additional ABT/CEM Meters	2.50	1.07	1.00
6	Data Acquisition System for Solar Power Plants	0.10	0.50	1.00
7	Implementation of SAMAST Scheme	0.05	0.50	0.50
8	Server and Computers	0.20	0.05	0.05
Total		10.00	10.00	10.00