



DELHI TRANSCO LIMITED

(A Govt of NCT of Delhi Undertaking)

No.F.DTL/202/Opr(Plg.)/2017-18/Mgr(CE&STU)/G-32/ 94

Dt. 14.12.2017

Subject: Minutes of the 2nd Steering Committee Meeting of 2017-18 held on 30.10.2017.

Sir,

The minutes of the 2nd Steering Committee Meeting of 2017-18 held on 30.10.2017 at 10:30AM in the office of General Manager (T) Planning, Shakti Deep Bldg., Jhandewalan Extn., New Delhi are enclosed herewith for kind information and further necessary action please.

Thanking You.

Encl.: As above

Yours Faithfully,

Susheel Gupta
(Susheel Gupta)

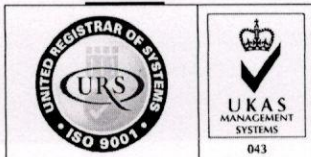
Manager (T) Planning-CE&STU

To

1. Jt. Director (Engg), DERC
2. Chief Engineer (E-I), NDMC
3. Chief Engineer (E-II), NDMC
4. CWE(Utility), MES
5. Chief Executive Officer, TPDDL
6. Chief Executive Officer, BRPL
7. Chief Executive Officer, BYPL
8. Chief Electrical Engineer(PS-2), DMRC
9. General Manager, BTPS
10. SE, HVPNL, Gurgaon
11. Executive Officer, EEREM Center, Power Deptt, GNCTD
12. Head (Electrical Terminal), GMR
13. GM (Electrical) NCRTC
14. Director (Planning-Land Policy),DDA
15. Chief Engineer (TS) BBMB, Panipat
16. GM (CM&SEM), DTL
17. GM (O&M-I), DTL
18. GM (O&M-II), DTL
19. GM (Project-I), DTL
20. GM (C&MM), DTL
21. GM (Planning), DTL
22. GM(Protection & DM),DTL
23. DGM (Planning), DTL
24. DGM(Q&I), DTL
25. DGM(D&E), DTL

Copy for favour of kind information to:-

1. CMD, DTL
2. Director(Oprs), DTL
3. Member (Technical) HVPNL
4. Member(Power) BBMB, Chandigarh
5. ED (T) SLDC, Delhi
6. Addl. Secy(Power), GNCTD



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Minutes of the 2nd Steering Committee Meeting of 2017-18 held on 30.10.2017 at 10:30AM in the office of General Manager (Planning) DTL

On the outset, General Manager (Planning) DTL welcomed the representatives of the utilities in the meeting. The list of participants is enclosed as Annexure.

A. Confirmation of Minutes of 1st Steering Committee Meeting of 2017-18 held on 29.06.2017

The minutes of the 1st Steering Committee Meeting held on 29.06.2017 were circulated vide letter No. F.DTL/202/Opr(Plg.)/2017-18/Mgr(CE&STU)/G-32/51 dated 27.07.2017. No comments were received.

The Steering Committee approved the Minutes of meeting held on 29.06.2017.

B. Follow-up action of decision taken in previous meetings:

1. Evacuation Plan of 220/66kV Papankalan-III S/Stn.

The evacuation plan of Papankalan-III S/Stn. was earlier drawn out in the Steering Committee meeting held on 10.03.2016. However, in the last Steering Committee meeting held on 29.06.2017, BRPL requested for allocation of 4 No. 66kV bays for DMICDC from Papankalan-III which were not in the earlier approved evacuation plan. Therefore, BRPL was advised to shift some of the feeders which are scheduled to be commissioned later on to the upcoming 220/66kV Bharthal village (Dwarka-26) S/Stn. It was also informed that to take care of any contingency at 220kV DIAL and to ensure reliable power supply to International Airport Delhi an inter connection between 220kV DIAL and 220kV Papankalan-III at 66kV level was also agreed during year 2012.

The matter was again deliberated in the presence of DIAL/GMR and keeping in view the current availability of 11no. 66kV feeders, the evacuation plan from 220/66kV PPK-III Sub-station was finalized as under:

Sr. No.	Name of Feeder	Expected date of Commissioning
1.	G-6 Dwarka	January 2018
2.	G-7 Dwarka	January 2018
3.	G-4 circuit-I	February 2018
4.	G-4 circuit-II	February 2018
5.	DMICDC Circuit-I	2019-20
6.	DMICDC Circuit-II	
7.	DMICDC Circuit-III	2020-21
8.	DMICDC Circuit-IV	
9.	Palam RSS (DMRC)	January 2018
10.	DIAL circuit-I	Interconnectors between 220/66kV PPK-III and 220/66kV DIAL which will be laid by BRPL and later may be utilized by BRPL for connectivity to the grid substations to be established by BRPL in future. At 220kV DIAL, there are 16 No. 66kV Bays out of which 05 No. bays are spare. The S/stn. was commissioned during Oct, 2010. The present 66kV bays arrangement are as under:
11.	DIAL circuit-II	

S.N.	Bay No.	Bay name	Position
1.	101	Spare	OFF
2.	102	Spare	OFF
3.	103	I/C-I	ON
4.	104	DMRC-I	ON
5.	105	DMRC-II	ON
6.	106	Airport-I	ON
7.	107	Airport-II	ON
8.	108	I/C-II	ON
9.	109	B/C	ON
10.	110	Airport-III	ON
11.	111	Airport-IV	ON
12.	112	Aerocity-I	ON
13.	113	Aerocity-II	ON
14.	114	Spare	OFF
15.	115	Spare	OFF
16.	116	Spare	OFF

Two 66kV Feeder bays are for Rajokari S/Stn. of BRPL whose land could not be identified so far. So, there won't be any problem to connect two 66kV feeders as interconnector between 220kV Pappankalan-III and DIAL.

The substation is likely to be commissioned in December 2017. Therefore, BRPL was requested to expedite the commissioning of the 66kV feeder links for timely evacuation of power from the 220kV sub-station.

2. 66kV Additional bays at 400/220/66kV Harsh Vihar and 220kV Patparganj, Gazipur & South of Wazirabad Sub-stations.

The matter of establishment of 6 no. additional bays at 400/220/66kV Harsh Vihar was discussed in the last Steering Committee meeting dated 29.06.2017 wherein considering the technical difficulties being faced to operate long 66kV feeders, Steering Committee opined that it is not advisable to connect 66KV Dilshad Garden and Vivek Vihar at 400/220/66KV Harsh Vihar as they are comparatively far-off from the 400/220/66KV Harsh Vihar substation. Though the schemes were earlier considered in the Steering Committee meeting held on 10.03.2016, yet it was advised to carry out a joint site visit of BYPL and DTL for exploring the land options for new 220kV substation in the area instead of taking long 66kV feeders from 400/220/66kV Harsh Vihar.

Accordingly, a joint site visit was made by BYPL and DTL on 27.09.2017 to explore the feasibility of land for the new 220kV substation. During the site visit, 2-3 locations were identified for the 220kV substation. However, it would take at least 2-3 years to establish the new 220 KV substation along with associated evacuation system. To meet the immediate requirement, BYPL requested DTL to explore the possibility to establish additional 2 no. 66kV bays at Wazirabad 220kV substation.

BYPL further submitted that the Steering Committee in its meeting held on 12.03.2014 decided to allocate 02 no. 66kV bays (earlier allocated to BYPL Mandoli Jail Grid) to DMRC subject to LILO arrangement of one of these two circuits at proposed 66kV Grid at Harsh Vihar by BYPL in the future. BYPL submitted that the LILO of one of DMRC circuit at Harsh Vihar is required to meet their future load growth. However, DMRC representative strongly objected the above LILO arrangement of one of the DMRC circuit and informed that both the cables were laid by them to take power directly from Harsh Vihar in order to meet reliability. BYPL representatives also suggested that loop in loop out of one circuit will not help to completely overcome the reliability issue being faced by them in BYPL area and requested if it is not possible to allocate bays directly from Harsh Vihar, two bays from South of Wazirabad may be provided.

However, BYPL requested for bay extension at 400/220/66kV Harsh Vihar to feed their upcoming Mandoli Jail 66/11 KV and Harsh Vihar 66/11 KV Grid Substations. It was also informed that 66kV Harsh Vihar S/Stn. was approved by DERC as a Capex of 14-15 but due to non picking up of load requirement the S/Stn. has not yet been established by BYPL. It was also informed that the load requirement of Mandoli Jail Complex Grid S/Stn. is more important and if land is not made available at Mandoli Jail Complex they have to develop 66kV Harsh Vihar substation before Summer 2019. As such, BYPL requested to extend 6 no. 66kV GIS bays at 400/220/66kV Harsh Vihar (two each for 66kV Mandoli Jail Complex and Harsh Vihar grids and two for future requirements) before Summer 2019.

BYPL also requested to expedite the commissioning of two 66kV additional bays at Patparganj (as agreed in Steering Committee Meeting held on 30.06.2016) and at Gazipur S/Stn. as agreed in the Steering Committee meeting held on 12.08.2016. Number of joint site visits have been taken place earlier. They requested that the bays must be made available at the earliest at Patparganj as cables have already been laid for 66kV Mayur Vihar-I ckt. no. 2 and Khichripur ckt. no. 2.

Concluding the discussion Steering Committee agreed for the following:

- 1. Additional 6 No. 66kV bays at Harsh Vihar are required to be established to accommodate 66kV Mandoli Jail Complex ckt. No.1 & 2 (Substation is likely to be taken for establishment after the NOC from Jail Authority), 66kV Harsh Vihar ckt. No.1 & 2 (66kV Harsh Vihar S/Stn. has been approved by DERC for 14-15) and two for future requirements. Thus, total 6 no. 66kV GIS bays are to be extended at 400/220/66kV Harsh Vihar.**
- 2. As the 66kV Bay addition at Harsh Vihar requires extension of 66kV GIS Building and would take more time, 2 No. additional 66kV bays be created at 220kV South of Wazirabad for giving 2 no. 66 KV direct feeders to Bhagirathi Grid S/Stn. This would enable BYPL to discard 66kV LILO of one ckt. of DMRC at Bhagirathi. Therefore, 2 No. additional 66kV bays be created at 220kV South of Wazirabad before Summer 2019.**

3. The 66kV double circuits from 400/220/66kV Harsh Vihar has been laid by DMRC at their cost and the system is likely to be loaded very soon. As such the 2 no. 66kV bays allocated to DMRC at Harsh Vihar shall be retained by DMRC for feeding their RSS.
4. The two bays at 66kV level at 220/66kV Gazipur be provided before Summer 2019 to feed 66kV Vivek Vihar ckt-II and Patparganj Industrial area ckt-II feeders which have been agreed in the Steering Committee meeting held on 12.08.2016.
5. The additional 2 No. 66kV bays at Patparganj be provided by Summer 2018 after providing bay equipments in Bay No.6 and 66kV 20MVAR Capacitor Bank No.1 (which is having double bus selection facility) by O&M Deptt. for termination of 66kV Mayur Vihar-I ckt. no. 2 and Khichripur ckt. no. 2 as approved by Steering Committee meeting held on 30.06.2016 for which cables have been laid by BYPL. It has also been considered the fact that following the commissioning of 220kV Harsh Vihar –Preet Vihar-Patparganj 1200 sq mm cable ckt. the voltage profile at all levels at Patparganj remains high even during peak demand season. The capacitor bank which would be dismantled to pave way for connection of feeder would be treated as “Deemed Available”.

3. Power Evacuation Plan of 220/33kV Preet Vihar S/Stn.

DTL informed BYPL that there are 16 no. 33kV feeder bays at 220kV Preet Vihar and requested to provide complete evacuation plan of the sub-station alongwith the latest status.

The evacuation plan submitted by BYPL for 13 no. feeder bays is as under:-

S. No.	Name of the 33kV feeder	Status/Target Year of commissioning
1.	CBD-I Grid	Energised
2.	Preet Vihar 33kV Grid	Energised
3.	Guru Anand Nagar Grid	17-18
4.	Shakar Pur Grid	17-18
5.	Dwarkapuri Grid Ckt-I	18-19
6.	Dwarkapuri Grid Ckt-II	18-19
7.	CBD-II Grid	19-20
8.	Karkardooma Grid	19-20
9.	Kanti Nagar Grid	19-20
10.	DSIDC Jhilmil Grid	20-21
11.	GT Road Grid	20-21
12.	Laxmi Nagar District Centre	20-21
13.	Preet Vihar 33kV Grid Circuit-II	20-21

BYPL further informed that the 3 no. remaining 33kV feeders shall be utilized in future for meeting the requirement of huge complex infrastructure coming in Karkardooma.

Steering Committee stressed that BYPL should make all out efforts and expedite the commissioning of the remaining 33kV feeders to evacuate power from 220/33kV Preet Vihar Sub-station for optimum utilization of the infrastructure which was commissioned about one year back.

4. Establishment of 400kV S/Stn. Gopalpur

In the 39th Standing Committee Meeting of Power System Planning for Northern Region (CEA) held on 29th & 30th May, 2017, it was decided to establish 400kV S/Stn. at Gopalpur at Intra State Level by DTL. The extracts of the minutes of the meeting were cited as under:-

11.9 DTL stated that as POWERGRID is not inclined to take up the establishment of 400/220kV S/s at Gopalpur (relocation of 400/220kV ISTS Rajghat S/s) , they may be allowed to take up the construction of 400/220kV S/s at Gopalpur as an intra- state scheme. POWERGRID has stated that they have no reservation for establishment of Gopalpur S/s along with its 400kV inter-connection as an intra-state scheme.

11.10 After deliberations, following was agreed:-

ISTS Scheme (under PGCIL scope of already awarded scheme):

i) LILO of both circuits of Mandola-Bawana 400 kV D/C line at Maharani Bagh (existing) with Twin HTLS conductor on multi circuit towers (already under construction by PGCIL).

(Note: This would take care the requirement of additional interconnection at Maharani Bagh. In view of above LILO, NRSS-XXXIX scheme was agreed to be dropped.)

ISTS Scheme (to be taken up):

- i) 4 no. of 400 kV bays at 400/220kV Maharani Bagh (existing) substation
- ii) By-passing of LILO one circuit of 400 kV Dadri-Ballahgarh D/C line at Maharani Bagh (existing) (to be used during emergency)

Intra State Scheme (to be implemented by DTL):

- i) Establishment of 4x500MVA, 400/220kV GIS Substation at Gopalpur along with 125 MVAR bus reactor - **by DTL.**
- ii) LILO of Maharani Bagh-Bawana 400 kV D/C line at Gopalpur 400/220 kV substation on multicircuit towers - **by DTL**

In the last Steering Committee meeting, it was mentioned that to pave way for the establishment of the 400kV S/Stn. at Gopalpur remodeling of the existing 220kV Gopalpur S/Stn. is required wherein all the 66kV and 33kV O/H lines need to be shifted for clearing the land for establishment of 400 kV S/Stn. under Intra State Scheme.

After deliberation, it was decided that a joint site visit of TPDDL and DTL may be carried out at 220kV Gopalpur for determining the shifting work required to clear the land for establishment of 400 kV substation.

5. Establishment of 66kV Molarband S/Stn. by BRPL

In the last Steering Committee meeting held on 29.06.17, it was mentioned that 220kV BTPS yard is likely to be handed over to DTL by April, 2018 as the Supreme Court appointed Environment Pollution Prevention & Control Authority (EPCA) has directed to close the BTPS generating units by 30.06.2018 due to Pollution Stipulations. To meet the load being catered through 220kV Yard at BTPS, the 220kV Yard would have to be taken over by DTL. Following the taking over of the 220kV BTPS yard, DTL has proposed to establish 220/66kV system at BTPS instead of 220kV at Molar Band. The 220/33kV Jasola S/Stn. is also required to be shelved off due to its proximity to BTPS 220kV yard.

Subsequently, on 30.08.2017, a meeting was also held in the office of Director(Operations) DTL, wherein BRPL agreed 'In Principle' to take over the land allotted to DTL for its licensed use. Accordingly, the land was also handed over to BRPL on 05.09.2017.

In view of the above, BRPL was requested to plan the downward system for power evacuation from BTPS 220/66kV system proposed to be established by DTL.

It was also informed that BRPL intends to establish a transformer repair workshop in Okhla Industrial Area.

The matter was deliberated and it was decided that BRPL may establish the 66kV S/Stn. at Molar band and evacuate power from BTPS 220/66kV system proposed to be established by DTL. It was further advised that BRPL may explore the possibility to use the space available after establishment of the substation at Molar band for transformer repair workshop.

6. Hot Reserve Transformers

The matter regarding Hot Reserve Transformers was discussed in details and the Steering Committee agreed for the provision of Hot Reserve as listed in the table given below. The latest updated hot reserve capacity along with the details is given here under:

S. No.	Transformati on Capacity	Population in no.	Hot Reserve (No.) Decided	Status as on present date
1.	400/220kV, 500MVA ICT	2	1x500MVA	One of the 315MVA transformers damaged at 400kV Bawana was to be treated as Hot Reserve after its repair. However, it has now been informed that the same may not be possible for repair.
2.	400/220kV, 315MVA ICT	14		<p>In view of the above, the matter was deliberated in the Steering Committee Meeting wherein it was decided that in case of damage of 315 MVA transformer in future, the same would also be replaced with 500 MVA transformer as the future upcoming transformers are of 500MVA capacity. Thus, one transformer of 500MVA capacity would serve as Hot Reserve for both 500MVA and 315 MVA Power Transformers and the same would be placed at Bannauli in 2019-20.</p> <p>By the time 2000MVA (4x500 MVA) Tughlakabad and 2000MVA (4x500 MVA) Dwarka sub-station would also be commissioned easing the loading condition of the existing 400kV sub-stations and creating further redundancy in the 400kV transmission system.</p>

Minutes of 2nd Steering Committee Meeting of 2017-18 held on 30.10.17

S. No.	Transformati on Capacity	Population in no.	Hot Reserve (No.) Decided	Status as on present date																																													
3.	220/66kV, 160MVA	22	2x160MVA +1x100 MVA	1 No. 160 MVA Hot Reserve transformer is to be kept at Mundka as approved in last SCM held on 29.06.17.																																													
4.	220/66kV, 100MVA	42		<p>Considering the population and ageing of 100 MVA, 220/66kV Transformers, it was decided that 1 more 160 MVA, 220/66kV transformer is to be kept as Hot reserve which will serve as Hot reserve for both 220/66kV, 100 MVA and 160 MVA transformers. Thus, there will be 2 No. 220/66kV, 160 MVA transformers as Hot Reserve. The 2nd 160 MVA Hot Reserve transformer will be placed at 220kV Rohini-II. The hot reserve would be provided by the year 2019-20.</p> <p>The 100MVA, 220/66kV Transformer damaged at Pappankalan-I would also be placed as Hot Reserve at PPK-I after its repair.</p>																																													
5	220/33kV, 100MVA	37	2	1 No. 220/33kV, 100MVA transformer as hot reserve has already been approved for 220kV Patparganj. Considering the population and ageing of 100 MVA, 220/33kV Transformers, it was decided in the SCM held on 30.10.17 that 1 more 100 MVA, 220/33kV transformer is to be kept as Hot reserve. Thus, there will be 2 No. 220/33kV, 100 MVA transformers as Hot Reserve . The second Hot reserve will be placed at 220kV Kashmiri Gate. The second hot reserve would be provided by 2019-20.																																													
6	66/11kV 20MVA	24	NIL	Steering Committee in its meeting held on 15.03.2017 has decided that in case of exigency, the Discoms may provide these transformer on returnable basis.																																													
7	33/11kV 16MVA	16		<p>As per the Business Plan 2017-22, the outlived transformers would be replaced in a phased manner as below:-</p> <table border="1"> <thead> <tr> <th>S. N</th> <th>Sub Station</th> <th>Details of existing Tx.</th> <th>Augmentation Plan</th> <th>Year as per Business Plan</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Lodhi Road</td> <td>2 no 33/11kV 16MVA</td> <td>2 no 33/11kV 25MVA</td> <td>2018-19</td> </tr> <tr> <td>2</td> <td>Najafgarh</td> <td>2 no 66/11kV 20MVA</td> <td>2 no 33/11kV 31.5MVA</td> <td>2019-20</td> </tr> <tr> <td>3</td> <td>Okhla</td> <td>2 no 66/11kV 20MVA</td> <td>2 no 66/11kV 31.5MVA</td> <td>2019-20</td> </tr> <tr> <td>4</td> <td>Sarita Vihar</td> <td>2 no 66/11kV 20MVA</td> <td>2 no 66/11kV 31.5MVA</td> <td>2019-20</td> </tr> <tr> <td>5</td> <td>Gopalpur</td> <td>2 no 33/11kV 16MVA</td> <td>2 no 33/11kV 25MVA</td> <td>2018-19</td> </tr> <tr> <td>6</td> <td>Subzi Mandi</td> <td>2 no 33/11kV 16MVA</td> <td>2 no 33/11kV 25MVA</td> <td>2019-20</td> </tr> <tr> <td>7</td> <td>Pappankalan-I</td> <td>2 no 66/11kV 20MVA</td> <td>2 no 66/11kV 31.5MVA</td> <td>2020-21</td> </tr> <tr> <td>8</td> <td>Mehrauli</td> <td>2 no 66/11kV 20MVA</td> <td>2 no 66/11kV 31.5MVA</td> <td>2021-22</td> </tr> </tbody> </table> <p>In the Steering Committee Meeting held on 30.10.17 it was decided that since the entire load of 11kV at 220kV Gopalpur has been shifted to Dheerpur substation by TPDDL, the 33/11 kV transformer will not be replaced at 220kV Gopalpur.</p> <p>It was also decided not to replace the 33/11kV transformers at 220kV Subzi Mandi also as TPDDL has plan to shift the entire load of 11kV system in near future.</p>	S. N	Sub Station	Details of existing Tx.	Augmentation Plan	Year as per Business Plan	1	Lodhi Road	2 no 33/11kV 16MVA	2 no 33/11kV 25MVA	2018-19	2	Najafgarh	2 no 66/11kV 20MVA	2 no 33/11kV 31.5MVA	2019-20	3	Okhla	2 no 66/11kV 20MVA	2 no 66/11kV 31.5MVA	2019-20	4	Sarita Vihar	2 no 66/11kV 20MVA	2 no 66/11kV 31.5MVA	2019-20	5	Gopalpur	2 no 33/11kV 16MVA	2 no 33/11kV 25MVA	2018-19	6	Subzi Mandi	2 no 33/11kV 16MVA	2 no 33/11kV 25MVA	2019-20	7	Pappankalan-I	2 no 66/11kV 20MVA	2 no 66/11kV 31.5MVA	2020-21	8	Mehrauli	2 no 66/11kV 20MVA	2 no 66/11kV 31.5MVA	2021-22
S. N	Sub Station	Details of existing Tx.	Augmentation Plan	Year as per Business Plan																																													
1	Lodhi Road	2 no 33/11kV 16MVA	2 no 33/11kV 25MVA	2018-19																																													
2	Najafgarh	2 no 66/11kV 20MVA	2 no 33/11kV 31.5MVA	2019-20																																													
3	Okhla	2 no 66/11kV 20MVA	2 no 66/11kV 31.5MVA	2019-20																																													
4	Sarita Vihar	2 no 66/11kV 20MVA	2 no 66/11kV 31.5MVA	2019-20																																													
5	Gopalpur	2 no 33/11kV 16MVA	2 no 33/11kV 25MVA	2018-19																																													
6	Subzi Mandi	2 no 33/11kV 16MVA	2 no 33/11kV 25MVA	2019-20																																													
7	Pappankalan-I	2 no 66/11kV 20MVA	2 no 66/11kV 31.5MVA	2020-21																																													
8	Mehrauli	2 no 66/11kV 20MVA	2 no 66/11kV 31.5MVA	2021-22																																													

Note: Further, it was also noted that the O&M Department of DTL has proposed for replacement of outlived transformers at various locations as per the details given below:

1. Augmentation of 100MVA, 220/66kV Transformer with 160MVA, 220/66kV Transformer:

S. No.	Transformer Details	Qty.	Reason
1.	100MVA Transformer at 220kV S/Stn. Sarita Vihar	1 No.	Outlived
2.	100MVA Transformer at 220kV S/Stn. Narela	1 No.	Outlived
3.	100MVA Transformer at 220kV S/Stn. Najafgarh	2 No.	Outlived
4.	100MVA Transformer at 220kV S/Stn. Okhla	2 No.	Outlived
5.	100MVA Transformer at 220kV S/Stn. Mehrauli	1 No.	Outlived
6.	100MVA Transformer at 220kV S/Stn. Patparganj	2 No.	Outlived
7.	100MVA Transformer at 220kV S/Stn. Mehrauli commissioned in 1984	1 No.	Outlived
8.	100MVA Transformer at 220kV S/Stn. Rohini-I commissioned in 1993	1 No.	Approaching end of useful life of 25 years.
Total		11 No.	

2. Replacement of 100MVA, 220/33kV Transformers:

Sr. No.	Transformer Details	Qty.	Reason
1.	100MVA Transformer at 220kV S/Stn. Rajghat commissioned in 1986	1 No.	Outlived
2.	100MVA Transformer at 220kV S/Stn. Subzi Mandi commissioned in 1992	1 No.	Outlived
3.	100MVA Transformer at 220kV S/Stn. Lodhi Road commissioned in 1994	1 No.	Approaching end of useful life of 25 years (damaged)
4.	100MVA Transformer at 220kV S/Stn. Shalimar Bagh commissioned in 1989	1 No.	Outlived
Total		4 No.	

However, the Steering Committee has noted the proposals incorporated in Business Plan of DTL for the period 2017-22 as under:

Augmentation of 100MVA, 220/66kV Transformer with 160MVA as per Business Plan

Sr. No.	Name of the Sub Station	Qty. (No.)	Year	Scheme status as on date
1.	Sarita Vihar	1	2018-19	Under tendering stage
2.	Narela	1	2018-19	Under Preparation
3.	Najafgarh	2	2018-19	Under tendering stage
4.	Okhla	1	2018-19	Under Preparation
5.	Mehrauli	1	2019-20	To be prepared
6.	Patparganj	2	2019-20	To be prepared
Total		8		

From the above, it was observed that most of the transformers proposed for replacement on account of outlived transformers have already been covered in the Business Plan. Further, the No. of hot reserve transformers for 220/66kV, 160/100MVA and 220/33kV, 100MVA has been increased from 3 to 5. In case the transformer results of any of the out lived

transformer go beyond the permissible limit, the same shall be replaced/ augmented with the Hot Reserve transformers.

The Steering Committee was also of the view that ageing of the transformer should not be the only criterion for replacement but other health assessment factors should also be considered before taking the decision of replacement to optimize the Asset utilization.

Similarly, it was observed that most of the transformers proposed for replacement at 66/11kV and 33/11kV level on account of outlived transformers have also been covered in the Business Plan. Further, it was decided that the 33/11kV transformers at 220kV Gopalpur and Subzi Mandi will not be replaced since the entire load of 11kV at 220kV Gopalpur has been shifted to Dheerpur sub-station by TPDDL and the entire load of 11kV at 220kV Subzi Mandi is planned to be shifted in near future. Thereafter, these 33/11kV transformers of 220kV Gopalpur and Subzi Mandi may be utilized in future for replacement of the 33/11kV transformers whose results go beyond the permissible limit.

Further, the scheme for augmentation of 33/11kV, 16 MVA transformers with 25 MVA at Gopalpur shall now be utilized to replace the 2 No. 16 MVA transformers at Lodhi Road. The scheme for augmentation of other 2 No. 33/11kV, 20 MVA with 25 MVA transformers at Lodhi Road has already been approved earlier in the Steering Committee. Thus all the 4 No. 33/11kV transformers at Lodhi Road will be augmented.

7. Handing over of land for 220kV at Nehru Place and Zakhira by DMRC

DTL informed that DMRC had agreed to facilitate establishment of 220kV substations at Nehru Place and Zakhira. DMRC informed that as far as land at Nehru Place is concerned it is not in their possession; however, the space where upcoming 220kV Nehru Place substation of DTL is proposed is occupied by the Contractor by keeping the T&P of the ongoing DMRC project. The completion of the project has been delayed and is expected to be commissioned by December 2018. By the time T&P would no longer be required. DTL may go ahead with the land allocation process. It was also informed by DTL that the Power Department of Govt. of NCT of Delhi has already approached DDA for allocation of land for Nehru Place.

As far as Zakhira is concerned it was informed that it is under the phase-IV project proposed beyond 2020-21 and is still under finalization. DMRC further assured that as and when the location for electrical substation of DMRC is finalized they will take care the requirement of DTL also for establishment of 220kV sub-station.

Steering Committee noted the above.

8. Power Evacuation Plan of 220kV sub-station Nehru Place

DTL informed that as per Business Plan of DTL the 220/33kV sub-station Nehru Place is likely to be commissioned by 2020-21 and requested BRPL to provide the Power Evacuation Plan for the sub-station.

BRPL submitted the evacuation plan of 220kV Nehru Place as under:

S. No.	Name of proposed Feeder	Status	Load (MW)	Time Line	Remarks
1	Nehru Place Ckt-1	Existing	15	Immediate	By LILO of VSNL – Nehru Place
2	VSNL	Existing	12	Immediate	
3	Nehru Place Ckt-2	Existing	15	Immediate	By LILO of 220 KV Nehru Place – DTL Okhla & then extension upto Okhla ph-2
4	Okhla phase -2	Existing	15	Immediate	
5	East of Kailash	Existing	15	Immediate	By LILO of Balaji – EOK
6	Balaji	Existing	15	Immediate	
7	Okhla phase -3 Ckt-1	Proposed	10	2018-19	New Grid
8	Okhla phase -3 Ckt-2	Proposed	10	2018-19	New Grid
9	Future Ckt-1				
10	Future Ckt-II				
	TOTAL		107		

Steering Committee advised BRPL to align the power evacuation plan in accordance with the commissioning schedule of 220kV sub-station Nehru Place.

With regard to location, it was informed that the space where upcoming 220kV Nehru Place substation is proposed is occupied by the Contractor by keeping the T&P of the ongoing DMRC project which would be cleared by Dec, 2018. It was advised that by the time, DTL may go ahead with land allocation process and scheme approval and award. DTL informed that they are pursuing for the land allocation and the Power Department of Govt. of NCT of Delhi has already approached DDA for allocation of land for 220kV Nehru Place.

9. Power Evacuation Plan of 220/66kV Bhartal (Dwarka Sector-26)

DTL informed that as per Business Plan the 220/66kV sub-station Bhartal (Dwarka Sector-26) is likely to be commissioned by 2020-21 and requested BRPL to provide the Power Evacuation Plan for the sub-station.

BRPL submitted the evacuation plan of 220kV Bhartal as under:

S. No.	Name of proposed Feeder	Status	Load (MW)	Time Line	Remarks
1.	DMICDC circuit-1	Proposed	25	2018-19	Customer Bulk Supply
2.	DMICDC circuit-2	Proposed	25	2018-19	
3.	G-14 circuit-1	Proposed	15	2019-20	New Grid
4.	G-14 circuit-2	Proposed	15	2019-20	
5.	IOC Bijwasan ckt-1	Existing	30	Immediate	
6.	IOC Bijwasan ckt-2	Existing	30	Immediate	
7.	Bhartal circuit-1	Proposed	15	2020-21	New Grid
8.	Bhartal circuit-2	Proposed	15	2020-21	New Grid
9	Future Ckt-1				These circuits will be used to provide feed to the Mehrauli Road, Gurugram substation of HVPNL.
10	Future Ckt-II				
	TOTAL		170		

Steering Committee advised BRPL to align the power evacuation plan in accordance with the commissioning schedule of 220kV sub-station Bhartal as per Business Plan of DTL.

10. Power Evacuation Plan of 220/66/33kV R. K. Puram S/Stn.

DTL informed that the 66kV and 33kV feeders from 220kV R. K. Puram have already been allocated in SCM held on 10.03.2016 as under:-

220/66kV level:

S. No.	Name of Feeder	Expected date of commissioning
1	DMRC RK Puram Circuit -1	66kV DMRC S/stn is under Commissioning stage
2	DMRC RK Puram Circuit -2	
3	JNU Circuit -1	Existing grid Substation- Power evacuation from R K Puram DTL grid shall be aligned with its commissioning.
4	JNU Circuit -2	
5	West of JNU new Circuit -1	Expected by 2019-20
6	West of JNU new Circuit -2	Expected by 2019-20
7	B-Block Vasant Kunj Circuit – 1	Existing grid Substation- Power evacuation from R K Puram DTL grid shall be aligned with its commissioning.
8	B-Block Vasant Kunj Circuit – 2	

220/33kV level:

S. No.	Name of Feeder	Expected date of commissioning
1	R K Puram -1 Circuit-1	All are existing grid Substation- Power evacuation from R K Puram DTL grid shall be aligned with its commissioning
2	R K Puram -2 Circuit-1	
3	Bikaji Kama Place Circuit	
4	VasantVihar Circuit	
5	Adchini circuit -1	
6	Adchini Circuit -2	
7	IIT Circuit	
8	Shivalik Circuit	
9	Siri Fort Circuit -1	
10	Siri Fort circuit -2	

It was further informed that as per the scheme 220kV R.K. Puram sub-station has 11 No. 66kV bays (2 I/C + 8 Feeder + 1 B/C) and 12 No. 33kV bays (2 I/C + 9 Feeder + 1 B/C).

Thus, there are total 8 No. 66kV and 9 No. 33kV feeder bays out of which 2 No. 66kV feeders are for DMRC. BRPL has to evacuate power by laying feeders for 6 No. 66kV feeder bays and 9 No. 33kV feeder bays. The 220kV sub-station is going to be commissioned by March 2018.

In the meeting BRPL updated the latest status of evacuation plan of R.K. Puram as follow:

220/33kV level R K Puram:

S. No	Previously Proposed Feeders	Proposed Feeder (revised)	Reason for revision	DERC Approval status	Load on 220kV Grid (MW)	Time Line	Remarks
1.	Bhikajee Cama	Bhikaji Cama	No Change	Under Submission	20	Immediate	By LILO JNU-Bhikaji Cama & Shorting JNU & IIT at JNU
2.	IIT	IIT	No Change	Under Submission	10	Immediate	
3.	R K Puram-I Ckt-I	R K Puram Ckt-I	No Change	Under Submission	15	Immediate	Fresh Ckt sin place of JNU-RKP Ckt-1 & 2
4.	R K Puram-2 Ckt-I	R K Puram Ckt-2	No Change	Under Submission	15	Immediate	
5.	Siri Fort	Masjid Moth	LILO Proposed	Under Submission	15	Immediate	By LILO of Masjid Moth – Adhchini circuit
6.	Adchini	Adhchini	No Change	Under Submission	15	Immediate	
7.	Vasant Vihar	Future circuit -1	--	Under Planning			
8.	Shivalik	Future circuit -2	--	Under Planning			
9.	Shivalik	Future circuit -3	--	Under Planning			
		TOTAL			90		

220/66kV Level R.K.Puram

S. No	Previously Proposed Feeders	Proposed Feeder (revised)	Reason for revision	DERC Approval status	Load on 220kV Grid (MW)	Time Line	Remarks
1.	Vasant Kunj C block ckt-1	Vasant Kunj B block ckt-1	B Block Vasant Kunj is not in Ring	Existing	30	2019-20	
2.	Vasant Kunj C block ckt-2	Vasant Kunj B block ckt-2	B Block Vasant Kunj is not in Ring	Existing	30	2019-20	
3.	West of JNU circuit-1	West of JNU circuit-1	No Change	Existing	20	2019-20	
4.	West of JNU circuit-2	West of JNU circuit-2	No Change	Existing	20	2019-20	
5.	JNU Ckt-1	Future circuit -1	--	Under Planning			
6.	JNU Ckt-2	Future circuit -2	--	Under Planning			
		TOTAL			100		

Steering Committee noted that though BRPL has planned 33kV evacuation system almost in alignment with commissioning schedule, the 66kV evacuation system is delayed. It is imperative that the 66kV asset would remain unutilized for more than two years. As such BRPL was advised to expedite the 66kV evacuation system in alignment with the commissioning schedule of the 220/66/33kV substation.

11. Power Evacuation Plan of 220/33kV Timarpur S/Stn.

DTL informed that during the last Steering Committee Meeting held on 29.06.2017, TPDDL was requested to submit the revised evacuation plan for taking out the feeders from 220kV Timarpur as the location of the earlier proposed 220kV Chandrawal S/Stn. was shifted to Timarpur.

TPDDL requested to provide exact location and latest status/completion time of 220kV Timarpur so that timely Power evacuation at 33kV level can be carried out with respect to same.

DTL informed that they have sent the location map of the sub-station to TPDDL on email and the 220kV sub-station Timarpur is likely to be commissioned by 2019-20.

The matter was deliberated and it was decided that a joint site visit of TPDDL and DTL may be carried out at 220kV Timarpur after which TPDDL may submit the revised evacuation plan for taking out the feeders from 220kV Timarpur.

C. New Issues:

1. Revised no load losses for LT Transformer up to 2500kVA as per BIS Level 2 applicable from 01.01.2017

DTL informed that as per the revised BIS Level 2 standards the applicable no load and load losses have been reduced for LT Transformers upto 2500kVA. The impedance rating has also been revised from 5% to 4.5% as per IS:1180. The above issue has an impact on the LT transformer design and cost for DTL's ongoing projects. The Discoms were requested to provide the input regarding the above based on their experience and also provide list of vendors providing the LT transformers conforming to the above standards.

TPDDL submitted that they follow IS: 1180 stringently and designs the specification of LT Transformers accordingly. General Technical Parameters designed at TPDDL, implying the specifications of Distribution Transformers are in conjunction with IS: 1180. An excerpt from BIS (IS: 1180) regarding Total Losses at 50% and 100% load is as follow:

IS 1180 (Part 1) : 2014								
Table 3 Maximum Total Losses Upto 11kV Class Transformers (Clauses 6.8.1.1, 6.8.1.2, 6.8.1.3 and 6.8.2)								
Sl No.	Rating (kVA)	Impedance (Percent)	Maximum Total Loss (W)					
			Energy Efficiency Level 1		Energy Efficiency Level 2		Energy Efficiency Level 3	
			50 % Load	100 % Load	50 % Load	100 % Load	50 % Load	100 % Load
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
i)	16	4.5	150	480	135	440	120	400
ii)	25	4.5	210	695	190	635	175	595
iii)	63	4.5	380	1 250	340	1 140	300	1 050
iv)	100	4.5	520	1 800	475	1 650	435	1 500
v)	160	4.5	770	2 200	670	1 950	570	1 700
vi)	200	4.5	890	2 700	780	2 300	670	2 100

NOTE — For non-preferred ratings of Table 1, maximum losses are subject to agreement between the user and the supplier.

Table 6 Maximum Total Losses Up to 11 kV Class Transformer
(Clause 7.8.1.1)

Sl No.	Rating (kVA)	Impedance (Percent)	Maximum Total Loss (W)					
			Energy Efficiency Level 1		Energy Efficiency Level 2		Energy Efficiency Level 3	
			50% Load	100% Load	50% Load	100% Load	50% Load	100% Load
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
i)	250	4.50	1 050	3 150	980	2 930	920	2 700
ii)	315	4.50	1 100	3 275	1 025	3 100	955	2 750
iii)	400	4.50	1 300	3 875	1 225	3 450	1 150	3 330
iv)	500	4.50	1 600	4 750	1 510	4 300	1 430	4 100
v)	630	4.50	2 000	5 855	1 860	5 300	1 745	4 850
vi)	1 000	5.00	3 000	9 000	2 790	7 700	2 620	7 000
vii)	1 250	5.00	3 600	10 750	3 300	9 200	3 220	8 400
viii)	1 600	6.25	4 500	13 500	4 200	11 800	3 970	11 300
ix)	2 000	6.25	5 400	17 000	5 050	15 000	4 790	14 100
x)	2 500	6.25	6 500	20 000	6 150	18 500	5 900	17 500

4

TPDDL also informed that some of the LT Transformers that they have installed are of manufacturers such as Kotsons, Toshiba, Sudhir and Raychem etc. conforming the Standards.

BRPL, BYPL and NDMC could not provide the details.

After the deliberations Steering Committee was of the opinion that the LT Transformer to be utilized at the substations of DTL to provide local substation supply operates at low load with only a few of such transformers in operation, the new stringent norms regarding losses may not be insisted in the ongoing projects, however, for new projects, the new specification be adopted.

2. Connectivity at 66kV level for Badarpur Waste to Energy Plant to be set up by NTPC

NTPC intimated that they are planning to install the first 4 MW Waste to Energy Plant within the existing Badarpur Thermal Power Station Complex. The plant is likely to be commissioned by April 2019. They require connectivity for evacuation of power from their WTE plant.

NTPC further informed that they are in process of obtaining various regulatory approvals for proposed Badarpur Waste to Energy plant project and requested DTL to provide connectivity for one unit for meeting the requirement of startup power in April 2019.

It was noted that in the National Tariff Policy notified on 28.01.2016, it was made compulsory for the distribution licensees to procure 100% power produced from all the waste to energy plant in the state in the ratio of power procured by them from all sources. The relevant provision of the said policy was cited as under:

"6.4 Renewable sources of energy generation including Cogeneration from renewable energy sources:

.....
.....

(ii) Distribution Licensee(s) shall compulsorily procure 100% power produced from all the Waste-to-Energy plants in the State, in the ratio of their procurement of power from all sources including their own, at the tariff determined by the Appropriate Commission under Section 62 of the Act."

Section 62 of Electricity Act 2003 was also cited as under:

Section 62. (Determination of tariff): ---

- (1) The Appropriate Commission shall determine the tariff in accordance with the provisions of this Act for -*
- (a) supply of electricity by a generating company to a distribution licensee: Provided that the Appropriate Commission may, in case of shortage of supply of electricity, fix the minimum and maximum ceiling of tariff for sale or purchase of electricity in pursuance of an agreement, entered into between a generating company and a licensee or between licensees, for a period not exceeding one year to ensure reasonable prices of electricity;*
 - (b) transmission of electricity ;*
 - (c) wheeling of electricity;*
 - (d) retail sale of electricity:*

Provided that in case of distribution of electricity in the same area by two or more distribution licensees, the Appropriate Commission may, for promoting competition among distribution licensees, fix only maximum ceiling of tariff for retail sale of electricity.

(2) The Appropriate Commission may require a licensee or a generating company to furnish separate details, as may be specified in respect of generation, transmission and distribution for determination of tariff.

(3) The Appropriate Commission shall not, while determining the tariff under this Act, show undue preference to any consumer of electricity but may differentiate according to the consumer's load factor, power factor, voltage, total consumption of electricity during any specified period or the time at which the supply is required or the geographical position of any area, the nature of supply and the purpose for which the supply is required.

(4) No tariff or part of any tariff may ordinarily be amended, more frequently than once in any financial year, except in respect of any changes expressly permitted under the terms of any fuel surcharge formula as may be specified.

(5) The Commission may require a licensee or a generating company to comply with such procedures as may be specified for calculating the expected revenues from the tariff and charges which he or it is permitted to recover.

(6) If any licensee or a generating company recovers a price or charge exceeding the tariff determined under this section, the excess amount shall be recoverable by the person who has paid such price or charge along with interest equivalent to the bank rate without prejudice to any other liability incurred by the licensee.

The Owner of the plant is NTPC and hence the tariff would be determined by CERC.

DTL informed that the 220kV Yard at BTPS would have to be taken over by DTL in view of the impending closure of BTPS generating units on account of pollution stipulations and it is proposed to establish 220/66kV system at BTPS from which connectivity will be provided to the Waste to Energy Plant. DTL advised NTPC to sign connection agreement in line with requirements of Delhi Grid Code as soon as all requisite clearances are available.

Steering Committee suggested that to reduce the cost of generation NTPC may explore the possibility of clubbing up the generation of the units through the step up transformers to avoid power evacuation of individual units through individual 66kV feeders.

Steering Committee further advised DTL to establish 220/66kV system at BTPS in line with commissioning schedule of the WTE plant and considering other requirements of the surrounding area. NTPC was also advised to complete the legal and regulatory formalities such as PPA with DISCOMs etc. by the time.

3. Requirement of Power by DMRC and NCRTC at Maharani Bagh/ Sarai Kale Khan for their upcoming MRTS and RRTS projects respectively

DTL informed that requests from DMRC and NCRTC have been received for providing power supply at Maharani Bagh for their upcoming MRTS and RRTS projects respectively. DTL requested DMRC and NCRTC to provide complete details so that the Steering Committee can deliberate and suggest proper arrangements to provide power supply as per their requirement.

DMRC submitted that in the Steering Committee meeting held on 10.03.2016, it was decided that 2 No. 66kV bays for Nabi Karim (Ph-IV Corridor of DMRC which is yet to be formalized) may be provided to DMRC from 220kV Park Street S/Stn. by converting the existing two 66kV bays (supplying to DMRC) into hybrid system and establishing two bays for providing additional supply in space so created.

DMRC informed that they will utilize the above said 66kV bays for supply and do not require power at Maharani Bagh.

National Capital Region Transport Corporation Ltd. (NCRTC) informed that they have been mandated for implementing the rail based Regional Rapid Transit System (RRTS) in the following three prioritized corridors:

- (i) Delhi – Ghaziabad – Meerut
- (ii) Delhi – Sonapat – Panipat
- (iii) Delhi – Gurgaon – Rewari - Alwar

The RRTS needs electrical power for the operation of the trains and running & maintaining the various services like lighting, lift, escalators, HVAC system and operating the signaling & tele communication system etc. at RRTS station & train depot near Sarai Kale Khan, New Delhi.

Sarai Kale Khan station of RRTS is a junction station for all the three RRTS corridors. It is proposed to construct two Traction Receiving Substations to cater for loads on the two RRTS corridors. The estimated electric load for these RSS/TSS is 50 MW each. As per the information available with them, the nearest source of reliable power from 220 KV Grid of Delhi Transco Ltd. is at Maharani Bagh.

They requested the confirmation regarding the following;

(i) Feasibility of 2 No. bays at 220 kV level for drawing 2 x 50 MW load at DTL 220 kV Grid Maharani Bagh

(ii) Availability of space of 70M x 50M each for constructing 2 sub stations adjacent to DTL grid.

DTL informed that 400/220kV Maharani Bagh is a GIS substation. The 400 kV GIS is operated and maintained by PGCIL whereas 220kV GIS is operated and maintained by DTL. There are no spare bays available at 220kV level. Another scheme for extension of 220kV GIS is also under tendering and expected by 2019-20. There are also no spare 220kV bays to accommodate the requirement. As far as space is concerned, it was informed that DTL is in the process of establishing the new 220kV GIS along with 3x100 MVA Transformers, 1x100 MVA Transformer (future), 2 No. Reactors (25MVAR) and other associated transmission link works. The 400kV bays (PGCIL side) are also to be extended at Maharani Bagh as per the decision of CEA Forum. Therefore, the vacant space now seen in the vicinity shall be occupied in future. Technically also the drawing of maximum 100MW power through two 220kV cables is also not viable. The system is already reeling in high voltage conditions during off peak hours in winter season. The traction load would also be very less, particularly nil during the period 0000hrs to 0500hrs would further aggravate high voltage problem leading to possible damage of switchgear.

TPDDL suggested that Discoms should be taken into confidence by allocating bays at DTL's S/stns. as DMRC and the upcoming NCRTC are consumers of Discoms.

It was decided that NCRTC may take up the matter with concerned DISCOM as it is the responsibility of Discoms to provide stable supply to DMRC and such vital transport system like the upcoming NCRTC considering the fact that these utilities are the consumer groups of Discoms.

D. TPDDL Agenda

1. Clarification regarding proposed DTL Grids

a) Establishment of 400KV S/Stn at Gopalpur

TPDDL requested DTL to apprise with the approved Construction plan /Electrical Layout/ Single Line Diagram of 400/220/66/33KV S/Stn at Gopalpur. DTL was also requested to carry out joint site visit so that clear picture is available to TPDDL. This will facilitate modification /shifting /realignment /alteration in the existing 66kV and 33kV feeders. DTL

was further also requested to share the milestones of establishment of additional Bays at 66KV Level so as to connect the circuits which are currently connected back to back.

The matter has already been covered at B.4.

b) Power Evacuation Plan for 220/33kV Timarpur

TPDDL submitted that the Power Evacuation Plan from 220/33kV Chandrawal S/Stn was already approved in Steering Committee Meeting held on 10th July 2015 and 20th Oct 2015. Now as per Steering Committee held on 29th June 2017, TPDDL was asked to submit revised proposal regarding Power evacuation from 220/33kV Timarpur instead of 220/33kV Chandrawal. DTL informed in same meeting that due to RoW constraints 220kV Chandrawal was being relocated to Timarpur.

TPDDL requested DTL to provide exact location and latest status/completion time of 220kV Timarpur so that timely Power evacuation at 33kV level can be carried out with respect to same.

The matter has already been covered at B.11.

2. Status of DTL's critical Projects related to TPDDL licensed area

TPDDL informed that they have already expressed their concern at numerous platforms about the inordinate delay in Projects to be commissioned by DTL to provide quality and reliable power supply in TPDDL licensee area.

Above matter was also deliberated in the Steering Committee meeting held on 29.06.2017 and DTL shared the status of the projects. TPDDL requested DTL to apprise with the latest status (commencing date and completion date) of below critical projects:

a) 220/66 KV SGTN Grid

It may be noted that the issue also figured in the last meeting of Steering Committee held on 29.06.2017– Refer B.2 of the last MoM.

In the meeting, it was informed that the tentative commissioning is by July 2019.

b) Additional 160 MVA PTR at Gopalpur Grid with 4 no. additional 66kV bays.

It may be noted that the issue was also figured in the last meeting of Steering Committee held on 29.06.2017– Refer B.2 of the last MoM.

In the meeting, it was informed that the tentative commissioning is by April 2019.

c) 220/66kV Tikrikhurd Grid

It may be noted that the issue also figured in the last meeting of Steering Committee held on 29.06.2017 – Refer G.7 of the last MoM.

In the meeting it was informed that as per the Business Plan of DTL the commissioning schedule of the project is in 2021-22.

d) 220/33kV Dev Nagar Grid

It may be noted that the issue also figured in the last meeting of Steering Committee held on 29.06.2017 – Refer B.2 of the last MoM.

In the meeting it was informed that BOD of DTL in its meeting held on 26.09.2017 has approved the scheme. As per the Business Plan of DTL the commissioning schedule of the project is in 2019-20.

e) 220/33kV Punjabi Bagh Grid

It may be noted that the issue also figured in the last meeting of Steering Committee held on 29.06.2017 – Refer B.2 of the last MoM.

In the meeting it was informed that the 220kV at Punjabi Bagh was conceived as upgradation of existing 33kV Vishal grid of BRPL. Considering the practical difficulties to remodel the existing S/Stn. without affecting the power supply of the areas fed from the S/Stn, new location for establishment of 220kV S/Stn. is being explored at Zakhira. As per the Business Plan of DTL the commissioning schedule of the project is in 2019-20.

f) 1X160MVA PTR along with new 66kV Bays at 220kV Shalimar Bagh.

It may be noted that the issue was also figured in the last meeting of Steering Committee held on 29.06.2017– Refer G.10 of the last MoM.

In the meeting it was informed that Board of Directors of DTL has approved the Scheme in its meeting held on 26.09.17. It is under tendering stage. As per the Business Plan of DTL the commissioning schedule of the project is in 2020-21.

g) 220kV Multi circuit T/L from proposed 400kV Rajghat S/Stn to Kashmiri Gate

It may be noted that the issue was also figured in the last meeting of Steering Committee held on 29.06.2017– Refer B.2 of the last MoM.

In the meeting it was informed that PGCIL is executing the scheme. It will be realigned with upcoming 220/33 kV GIS at Rajghat. Kashmiri Gate will further be connected to 220kV Timarpur S/Stn. by 220kV D/C cable to be established by DTL. After the commissioning of 400/220kV S/Stn. at Gopalpur, the main feed of 220kV Timarpur would be from 400kV Gopalpur completing the 220kV connectivity from Gopalpur-Timarpur-Kashmiri Gate-Rajghat-IP.

h) 220kV Bawana – Rohini D/C T/L (Augmentation with HTLS Conductor)

It may be noted that the issue also figured in the last meeting of Steering Committee held on 29.06.2017– Refer B.2 of the last MoM.

The scheme is under tendering stage and as per the Business Plan of DTL the commissioning schedule of the project is in 2018-19.

3. Additional 66/11kV 31.5 MVA 3rd Power Transformer at Dheerpur Grid.

TPDDL submitted that peak loading of 66/11kV Dheerpur Grid is currently 43.7 MVA w.r.t. installed capacity of 50 MVA as per peak loading of summer' 17.

Considering 9% load growth & Load Transfer, Projected loading of Dheerpur Grid in summer'19 would be 40 MVA (Approx. 9.9 MVA is already proposed to be shifted to Burari Grid from Dheerpur Grid in Summer 18) and average Grid loading would be 80 % in summer'19. Currently, both 25 MVA PTR-1& 2 are overloaded & have lost their N-1.

Loading details (Existing scenario):

Grid Name	T/F No.	T/F Capacity (MVA)	Date of Grid Peak	Time of Grid Peak	PTR Load MVA (Summer'17 Grid Peak)	% Loading	% Load Growth	Projected Summer'18 Load (MVA) after load transfer to Burari Grid	Projected Summer'19 Load (MVA)	% loading (Summer '19)
						(Summer 17)				
Dheerpur	TRF-1	25	19-07-17	23:30	21.70	87%	9%	18.03	19.65	79%
Dheerpur	TRF-1	25	19-07-17	23:30	22.02	88%	9%	18.84	20.53	82%

It was further informed that the Steering Committee Meeting held on 04.01.2017 MoM of which was issued vide letter No F.DTL/202/Opr(plg.)/2016-17/Mgr(CE&STU)/G-32/101, TPDDL was advised for 31.5 MVA PTR at 66/11kV level which would take care future load growth.

Hence, TPDDL proposed for additional 66/11kV 31.5 MVA 3rd PTR at Dheerpur Grid to mitigate the overloading and to achieve N-1 of 66/11 kV PTR-1 & 2.

The matter was deliberated and proposal was agreed 'In Principle'.

4. Additional 33/11kV 20 MVA 3rd Power Transformers (Dry) at Model Town Grid.

TPDDL submitted that peak loading of 33/11kV Model Town Grid is currently 19 MVA w.r.t. installed capacity of 40 MVA as per peak loading of summer'17. Considering 5% load growth & Load Transfer, Projected loading of Model Town Grid in summer'19 would be 30 MVA (Approx. 8 MVA is already proposed to be shifted to Model Town Grid in Summer 18) and average Grid loading would be 76 % in summer'19.

Loading details (Existing scenario):

Grid Name	T/F No.	T/F Capacity (MVA)	Date of Grid Peak	Time of Grid Peak	PTR Load MVA (Summer'17 Grid Peak)	% loading (summer '17)	% Load Growth	Projected Summer'18 Load (MVA)	Load Transfer (in Summer 18) (MVA)	Projected Summer'19 Load (MVA)	% loading (summer '19)
Model Town	TRF-1	20	14.05.17	23:15	12	60%	5%	13	3	17	84%
Model Town	TRF-1	20	14.05.17	23:15	7	37%	5%	8	5	14	68%

Hence, TPDDL proposed for additional 33/11kV 20MVA 3rd (Dry) PTR at Model Town Grid to mitigate the overloading and N-1 of 33/11 kV PTR-1 & 2.

The matter was deliberated and the proposal was agreed 'In Principle'.

5. Revised No Load Loss & Load Loss for LT Transformer up to 2500KVA as per BIS Level 2 applicable from 01.01.2017

The matter has already been covered at C.1.

6. Additional 100MVA PTR at DTL's 220kV Peeragarhi

TPDDL submitted that peak loading at 220kV Peeragarhi as on 06.06.2017 at 15:31 hrs was as under:

SUB-STATION NAME	TRANSFORMER	MVA capacity	Capacity	Load in MW at the time of peak demand
			in MW at 0.95PF	
PEERAGARHI	220/33KV 100MVA TX-2	100	95	87
	220/33KV 100MVA TX-3	100	95	87
	Total	200	190	174

During peak hours TPDDL was instructed by SLDC to shift the load of its 33kV Sudershan Park circuit & 33kV Ranibagh circuit to avoid overloading of its TX - 2 & TX -3 at 220kV Peeragarhi. TPDDL requested DTL to install additional 100MVA Transformer at Peeragarhi S/Stn to mitigate n-1 and overloading issue.

DTL informed that the 3rd 100 MVA Power Transformer at 220kV Peera Garhi has been energized on 20.07.2017 at 220kV side. Due to implementation of GST w.e.f from 01.07.2017, the P.O was under revision for the commissioning of 33kV I/C cable. The scheme is expected to be completed by the end of January, 2018.

E. BYPL Agenda

1. Addition of 1 No. 20 MVA Transformer with associated equipments at 33/11KV DSIDC Jhilmil Grid Sub-Station.

BYPL submitted that presently two no. 33/11KV, 20 MVA Power Transformers are installed at DSIDC Jhilmil grid Sub-Station. Peak load of grid substation is 23MVA which is higher than the N-1 installed capacity of 20 MVA. Also load growth in the area is expected at the rate of 5% per annum which will lead to reach N-1 Capacity to 127% during summer of 2018. Based on above, it is proposed to install 3rd power transformer of 20 MVA at this grid.

Grid S/Stn. Name	As on 2015-16							Projected Load in FY 16-17	N-1 Loading in FY 16-17	Projected Load in FY 17-18	N-1 Loading in FY 17-18
	Transformer			Sub-station n-1 contingency							
	Voltage Ratio in KV	Capacity	Peak Load	Peak Load	Installed Capacity	Peak Load	Peak Load				
		(MVA)	(MVA)	%	(MVA)	(MVA)	%				
							%	%	%	%	
DSIIDC Jhilmil	33/11	20	12	60	20	23	115	63	121	67	127
	33/11	20	11	54				57		60	

The matter was deliberated and it was found that the Steering Committee in its meeting dated 30.06.2016 has already accorded ‘In Principle’ approval for installation of 3rd Power transformer of 25 MVA at 33/11KV DSIDC Jhilmil S/Stn. considering the load requirement of BYPL.

2. Part Conversion of O/H Conductor to U/G Cable from Harsh Vihar to Nand Nagri Grid Substation (Ckt 1 and 2)

BYPL submitted that the 66/11 KV Nand Nagri Grid Sub-station is being fed from 400/220/66kV Harsh Vihar substation of DTL. The total route length of this 66 KV D/C line is 6.5 Km out of which approx 1.5 Km is O/H and 5 Km is U/G. The overhead portions are passing over residential area of Sunder Nagri J.J. Cluster and unauthorized construction has been raised under EHV Line. Two no. fatal accidents have already occurred at Sunder Nagri J.J. cluster on 29/06/2016 and 02/08/2016.

To avoid any other such incident, it is proposed to convert the existing O/H portion of 66 KV Harsh Vihar to Nand Nagri Circuit no. 1&2 into underground cables.

The matter was deliberated and ‘In Principle’ approval was accorded by the Steering Committee.

F. BRPL Agenda

1. Power evacuation from 220 KV R K Puram

It may be noted that the Project Department of DTL which is implementing the scheme vide their letter dt. 14.07.17 has requested BRPL to expedite the power evacuation schemes as the construction of the substation is in full swing and is likely to be commissioned by March 2018.

BRPL was advised to expedite the commissioning of the 66kV and 33kV feeder links for timely evacuation of power from 220kV R.K. Puram.

The matter has also been covered at B.10.

2. 33 KV new substation at ITPO, Pragati Maidan to provide 16.765 MVA (Phase-I) additional load due to re-development work of Pragati Maidan by ITPO

BRPL informed that total 23.8 MVA {Existing (7) + New (16.8)} load for ITPO is required to be released at 33 KV level from new grid substation & existing Ex-1 grid is planned to be dismantled for redevelopment work. BRPL shall use 16 MVA PTR (Dismantled from Ex-1 grid) to feed its own existing customers other than ITPO from the proposed new substation as well.

ITPO is a bulk supply customer with 7 MVA existing load released at 11 KV level. 2 Grid S/Stns

namely Exhibition-1 & Exhibition-2 are supplying power to ITPO by 11 KV feeders at present.

Ex-1 & Ex-2 grids both have 1x16 MVA PTRs each with following 33kV infeeds:

1. 220 KV IP to Ex-1 (Sick Pilca/ copper cable)
2. 220 KV IP to Ex-2 (XLPE cable)
3. 220 KV Lodhi Road to Ex-2 (Sick Pilca)
4. Ex-1 to Ex-2 (XLPE)

ITPO is carrying out redevelopment of Integrated Exhibition cum Convention Centre in its campus situated at Pragati Maidan. Renovation work is planned in two phases, for which additional load is required.

Phase-1: additional load requirement – 16.765 MVA (Target – Mar'2019)

Phase-2: additional load requirement – 10.26 MVA (Target – At later date)

In phase-1, ITPO has planned to dismantle Ex-1 grid for redevelopment of nearby area only. Till ph-2 redevelopment work, Ex-2 shall be functional along with upcoming new grid. Therefore keeping Ex-2 operational, Infeeds of Ex-1 shall be shifted to the proposed new grid S/Stn. Infeeds proposed to the 33kV new grid S/Stn. shall be as under:

1. 220 KV Lodhi road to Ex-3
2. Ex-2 to Ex-3
3. 220 KV IP to Ex-3 (Extension of 220 KV IP - Ex-1 till Ex-3)

As of now ITPO has requested BRPL to arrange the supply & release the load for phase-1 only.

Due to the renovation work, 7.7 KM, 11 kV cable is also proposed to shift and reconnect to new grid S/Stn. i.e. Ex-3.

BRPL requested the Steering Committee to approve the above proposal.

The matter was deliberated and Steering Committee agreed 'In Principle' to the proposal subject to the condition that the existing 33kV bay at 220KV Lodhi Road used to connect to Ex-2 grid shall be utilized for connecting Exhibition-3 grid and no new 33kV feeder bay shall be provided at 220kV Lodhi Road.

3. Two 33 KV new circuits from 220kV Peeragarhi to Madipur & A4 Paschim Vihar(Additional 33kV bays at Peeragarhi)

BRPL informed that there are no spare 33kV bays available at 220/33kV Peera Garhi Substation. Further, additional bays were also required to be established for upcoming BRPL 33kV substation Peera Garhi.

BRPL was asked about the latest status of 33kV Peera Garhi Sub-station.

BRPL informed that the 33kV Peeragarhi S/Stn. would be commissioned by 2019-20. They require 4 No. 33kV additional feeder bays from 220/33kV Peera Garhi (2 for 33kV Peeragarhi, 1

for Madipur and Paschim Vihar each). TPDDL had also requested for additional 2 No. 33kV feeder bays from the 220/33kV Peera Garhi for making LILO of 33kV Kirti Nagar-Saraswati Garden circuit at Peera Garhi to be established before Summer 2019. BRPL informed that no additional load is expected to be added if bays are added. The additional bays are requested to improve the reliability of power supply of the area to take care of contingency of tripping of any one of the ckts in the interlinking loop. TPDDL also expressed the same view.

Steering Committee considered the request of BRPL and TPDDL for additional 33kV bays at Peeragarhi and advised DTL to explore the possibility of providing additional 6 no. 33kV feeder bays at 220kV Peera Garhi sub-station. However, it was further decided that no additional Tr. (at present 3No.) would be installed at 220kV Peera Garhi due to technical and space constraints.

4. Status of two 33 kV bays (GIS Panels) at 220kV AIIMS for 33kV AIIMS.

In the Steering Committee Meeting held on 29.06.17, 4 No. 33kV feeder bays for 33kV AIIMS-II circuit-I & II, 33kV NDSE-II and HUDCO were agreed.

DTL asked BRPL about the status of the 4 No. 33kV feeder cable circuits for which 4 No. 33kV bays are required at 220/33kV AIIMS.

BRPL informed that they are in the process of laying the 33kV feeder cables from 220/33kV AIIMS to their 33kV AIIMS-II, NDSE-II and HUDCO grids and hence all the feeders are required before Summer' 2018.

It was informed that at present the 33kV GIS at AIIMS is of AREVA (now Schnieder) make and there are space constraints in the existing 33kV GIS building with little scope of expansion of the GIS building. The matter regarding addition of 5 no. 33kV bays (4feeder bays and one incomer bay) was taken up with ABB and Siemens who are the other reputed GIS suppliers and it was informed by them that the 33kV GIS expansion with other make 33kV GIS bay is not possible with the same sequence continuity in the existing bus arrangement as the GIS does not have pipe bus arrangement. Therefore, the only option of OEM for 33kV GIS bay expansion is being considered.

The Steering Committee advised DTL to expedite the bay addition at the earliest as the same is required before Summer' 2018.

5. Status of two 66 kV bays at 220kV Sarita Vihar for Jasola.

It may be noted that 2 No. 66kV feeder bays (bay No. 15 & 16) at 220kV substation Sarita Vihar have already been allocated to BRPL for 66kV Mithapur and Jasola Grid.

BRPL submitted that the above 66kV feeder bays have already been charged, however, they require additional 2 No. 66kV bays at 220/66kV Sarita Vihar for additional feeds to Mithapur and Jasola Grids.

The matter was discussed and it was decided that the possibility of providing additional 2 No. 66kV bays from 220kV Sarita Vihar will be explored and if possible two additional 66kV Bays would be provided at Sarita Vihar before Summer 2019.

6. Status of 2 No. 66 kV bays at 220kV Mehrauli for Fatehpur Beri

BRPL informed that in the last Steering Committee, it was informed that a scheme for 5 no. 66kV bays at 220/66kV Mehrauli S/Stn. is under tendering which is likely to be awarded very soon. Out of these 5 no. bays, 2 no. 66kV bays are for 66/11kV Fatehpur Beri Grid Substation of BRPL which were approved in SCM dated 17.04.2012. Further, on the request of BRPL, the scheme for making LILO of one of the above 66kV circuits of Fatehpur Beri at both the SAU & CAPFIMS premises was also agreed in the last Steering Committee, thus, making one 66kV bay each for Fatehpur Beri and South Asian University (Maidan Garhi) from 220/66kV Mehrauli.

BRPL submitted that the commissioning of new 66kV feeder bays will take time being the work under tendering stage and requested to make an interim arrangement for 2 no. 66kV feeder bays urgently required for Fatehpur Beri grid.

Keeping in view of the above, it was decided that the existing 2 No. capacitor Bank bays at 220/66kV Mehrauli may be provided to BRPL on interim basis to provide connectivity for Fatehpur Beri until the new 66kV feeder bays are commissioned. Till the time, the capacitors would be considered as “deemed available”.

It was also advised that establishment of additional 66kV bays at Mehrauli be expedited so that the capacitor Banks could be made available during Summer 2018.

7. Status of 220kV Bodella-2 grid

BRPL intended to know the status of establishment of 220/66kV Bodella Grid S/Stn.

It was informed that the scheme is under tendering stage and the tender is scheduled to be opened in December 2017. As per Business Plan of DTL the S/Stn. would be commissioned by 2019-20.

8. Status of 220 KV Janakpuri

BRPL intended to know the status of establishment of 220kV Janakpuri Grid S/Stn.

It was informed that the 220kV Janakpuri sub-station has not been considered in the revised Business Plan (2017-22) of DTL considering the fact that the 66kV level is being established at upcoming 400kV substation at Dwarka Sector-5 by the year 2020-21.

9. Status of LILO of Bamnauli - Naraina circuit at PPK-1

BRPL intended to know the status of LILO of Bamnauli - Naraina circuit at PPK-1.
The LILO was commissioned on 08.11.2017.

G. Monitoring of the status of works of Distribution System already approved in Steering Committee Meetings held during 2015-16 to 2017-18

1. TPDDL Works

S. No.	Scheme	Steering Committee Approval Date	Current Status (to be intimated by TPDDL)
1.	Installation of 33/11kV DCM grid(as Deposit work)	16/04/2015	No payment received from Consumer
2.	Swapping of 33kV Wazirpur-II with 33kV T-Off Azadpur-Trinagar circuit at Wazirpur-I grid.	16/04/2015	DERC approval received on 4th Oct 17. Order for the job to be placed by November 17
3.	Installation of 66/11kV new substation (GIS) at Karala under IPDS(Scheme already approved in SCM on 19/11/2014).	03/06/2015	Work in progress. Target date of completion is March'18
4.	66kV D/C U/G 3X300 Sq. mm XLPE cable from 220kV Kanjhawala to Karala under IPDS(Scheme already approved in SCM on 19/11/2014).	03/06/2015	Work in progress. Target date of completion is March'18
5.	LILO of 66kV S/C Twin Cable 3X300 mm sq XLPE between 220kV Kanjhawala and Bawana-1 Grid for Karala Grid under IPDS (The scheme has already been approved in the steering committee meeting held on 19.11.2014).	03/06/2015	Work in progress. Target date of completion is March'18
6.	33/11 KV New Sub Station GIS 1x25 MVA at LRIA under IPDS(The scheme has already been approved in the steering committee meeting held on 19.11.2014).	03/06/2015	Under IPDS (no fund received)
7.	LILO of 33kV D/C U/G Twin Cable 3X400sq.mm between Ashok Vihar and Ram Pura Grid at proposed LRIA Grid under IPDS (The scheme has already been approved in the steering committee meeting held on 19.11.2014)	03/06/2015	Under IPDS (no fund received)
8.	1 no.66/11 KV 25 MVA Additional Power Transformer at A-7 NRL Grid.	03/06/2015	Refer Sr. No. 22. Work in progress for installation of 20MVA PTR. Target date - Dec'17.
9.	1 no.66/11 KV 25 MVA Additional Power Transformer at MGP-2 Grid	03/06/2015	Under IPDS (no fund received)
10.	1 no.33/11 KV 25 MVA Additional Power Transformer at Tripolia Grid	03/06/2015	Under IPDS (no fund received)
11.	(A) 66KV D/C U/G Twin Cable 3X300 mm sq XLPE from MGP-2 Grid to PP-3 Grid with 4 no. 66 KV Bay.for resolving the issue of Radial feed at PP-3 Grid. (B) 4 no. 66 KV Bay for connecting above new 66 KV D/C (two each).	03/06/2015	Under IPDS (no fund received)
12.	Replacement of existing 20MVA PTR-1 due to poor results at PP-1 Grid	03/06/2015	Order for PTR has been placed. Execution will be done in winter 2018.
13.	Replacement of existing 20MVA PTR-1 due to poor results at WZP-1 Grid	03/06/2015	PTR already Replaced
14.	Proposal for new 33/11kV Swiss Apartment (Ludlow Castle) Grid	10.03.2016	Work in progress
15.	Additional 66/11kV 25 MVA 3 rd Power Transformer at A-7 NARELA Grid	10.03.2016	Refer Sr. No. 22. Work in progress for installation of 20MVA PTR. Target date - Dec'17
16.	Strengthening of 33kV Gopalpur – Civil Lines Circuit, 33kV Gopalpur – DIFR circuit, 33kV DIFR – CVL circuit, 33kV Indiravihar – DIFR Circuit.	10.03.2016	Ordering yet to be done

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17.	66/11 kV 2x25MVA GIS LRIA Grid with LILO of 66kV Double Circuit U/G cable between H4-H5 & PP-3 Grid at proposed 66/11kV LRIA Grid.	06.05.2016	Under IPDS (no fund received)
18.	33/11kV 25 MVA 3rd Power Transformer at Tripolia Grid.	06.05.2016	Under IPDS (no fund received)
19.	66/11kV, 2x25 MVA GIS H4-H5(Pitam Pura) Grid along with 66kV Double Circuit U/G cable from MGP-2 and 66kV Double Circuit U/G cable from PP-3 Grid.	06.05.2016	Under IPDS (no fund received)
20.	66/11 kV Budh Vihar (Rohini Sector-20) Grid	06.05.2016	Work in progress. Target date of completion is March'18.
21.	Replacement of existing sick 20 MVA PTR-1 with new 25MVA PTR at Pitam Pura-1 Grid S/Stn.	06.05.2016	Order for PTR has been placed. Execution will be done in winter 2018.
22.	Installation of Repaired 66/11kV 20 MVA 3 rd Power Transformer at A-7 NARELA Grid	06.05.2016	Work in progress for installation of 20MVA PTR. Target date - Dec'17
23.	66kV Double Circuit connectivity to 66/11kV Burari AIS Grid Sub-Station	06.05.2016	D/C from Gopalpur and D/C from Bhalswa to Burari already charged.
24.	Replacement of old 33kV GIS Panels with new indoor AIS Panels at Saraswati Garden Grid	06.05.2016	DERC Approval received on 04.10.2017. Order for 33KV AIS switchboard shall be placed by Nov 17.
25.	Replacement of old Isolators at 33kV Rohtak Road Grid Sub-Station of TPDDL	06.05.2016	Proposal not submitted to DERC due to nature of job.
26.	Installation of 66/11kV 20 MVA (zero value) 4th PTR at both DSIIDC-1 & DSIIDC- 2 Grid.	30.06.2016	Work in progress. Target date of completion is Jan '18.
27.	Replacement of sick 20 MVA PTR-2 with new 66/11kV 25 MVA PTR at PP-1 Grid	30.06.2016	Refer Sr. No. 31, 32 & 33. Steering Committee suggested to repeat the tests through CPRI in Meeting held on 30th June 2016. The same were later approved 'In principle in Steering Committee Meeting dated 12.08.2016.
28.	Replacement of sick 20 MVA PTR-2 with new 66/11kV 25 MVA PTR at RG-6 Grid	30.06.2016	
29.	Replacement of sick 20 MVA PTR-2 with new 33/11kV 25 MVA PTR at Shakti nagar Grid	30.06.2016	
30.	Replacement of sick 16 MVA PTR-1 with new 33/11kV 25 MVA PTR at Rewari Line Grid.	12.08.2016	Work in progress. Target date of completion is March'18.
31.	Replacement of 20 MVA PTR-2 with new 66/11kV 25 MVA PTR at PP-1 Grid due to poor results.	12.08.2016	PTR already Replaced
32.	Replacement of 20 MVA PTR-2 with new 66/11kV 25 MVA PTR at RG-6 Grid due to poor results.	12.08.2016	PTR already Replaced
33.	Replacement of 20 MVA PTR-2 with new 33/11kV 25 MVA PTR at Shakti Nagar Grid	12.08.2016	Work in progress. Target date of completion is March'18.
34.	66 kV Double Ckts from RG-34 Grid to BAWANA 06 grid	06.10.2016	DERC approval received on 4th Oct 17. Order for the job to be placed by November 17.
35.	Additional 66/11kV 25 MVA 3 rd Power Transformer at RG-24 Grid	06.10.2016	Proposal will be considered in next Capex.
36.	Strengthening of 33 kV infeed ckts at Pusa grid	06.10.2016	DERC approval received on 4th Oct 17. Order for the job to be placed by Nov. 17.
37.	Installation of new 33/11kV, 25 MVA 3 rd Power Transformer at Saraswati Garden Grid	06.10.2016	Proposal will be considered in next Capex.
38.	Installation of new 33/11kV, 20 MVA Dry Type 3 rd Power Tr. at Model Town Grid.	06.10.2016	Proposal will be considered in next Capex.
39.	33kV Twin Cable Circuit between Gulabi Bagh & Ashok Vihar	06.10.2016	DERC approval received on 4th Oct 17. Order for the job to be placed by Nov 17.
40.	Conversion of 33kV Single Cable into Twin between Rohtak Road & Shahzada Bagh	06.10.2016	DERC approval received on 4th Oct 17. Order for the job to be placed by November 17.
41.	66 kV Double circuit connectivity between RG-6 Grid and Rohini DC-1 Grid	04.01.2017	DERC approval received on 4th Oct 17. Order for the job to be placed by Nov. 17.
42.	Provision for separate 33kV Bay for T-Off Rama Road circuit at Shahzada Bagh Grid	04.01.2017	DERC approval received on 4th Oct 17. Order for the job to be placed by Nov. 17.

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43.	Replacement of sick PILCA cable by 33kV Twin 3C X 400 sq mm cable between Inder Puri & Pandav Nagar Grid	04.01.2017	DERC approval received on 4th Oct 17. Order for the job to be placed by November 17.
44.	Replacement of sick 20MVA 33/11kV PTR-1 with new 25 MVA 33/11kV PTR at Rohtak Road Grid Replacement of sick 16MVA 33/11kV PTR-1 with new 25 MVA 33/11kV PTR at Kirti Nagar Grid.	04.01.2017	DERC approval received on 4th Oct 17. Order for the job to be placed by November 17.
45.	Replacement of sick 16MVA 33/11kV PTR-3 with new 25 MVA 33/11kV PTR at Azadpur Grid.	04.01.2017	
46.	Replacement of sick 16MVA 33/11kV PTR-1 with new 25 MVA 33/11kV PTR at Wazirpur-2 Grid.	04.01.2017	
47.	Replacement of sick 20MVA 66/11kV PTR-1 with new 25 MVA 66/11kV PTR at RG-6 Grid.	04.01.2017	
48.	Replacement of sick 20MVA 66/11kV PTR-2 with new 25 MVA 66/11kV PTR at 220kVBawana Grid.	04.01.2017	
49.	Shifting of HT line passing over North DMC Primary school, Sector-17, Rohini (66kV Rohini 6 – Badli Crtk-I & II to ensure safety norms as per the directions of Hon'ble Supreme Court).	30.06.2016	Demand note was raised to DoP, GNCTD by TPDDL, however, payment is yet to be received.

2. BRPL Works

S. No.	Scheme	Steering Committee Approval Date	Current Status (to be intimated by BRPL with reason of deviation if any)
1.	Addition of 01no. 66/11kV 25MVA Transformer at Bindapur Substation	16/04/2015	Commissioned
2.	Augmentation of 33kV Overhead rail pole line(Wolf Conductor to ACSR Goat Conductor) of 33kV Paschim puri-Vishal Circuit.	16/04/2015	After 220 kV Peeragarhi this circuit became 1> Peeragahi – PaschimPuri; 2> Peeragarhi – Vishal. Peeragarhi- Paschimpuri augmented in Dec-16. Peeragarhi – Vishal is yet to start
3.	Establishment of 66/11 kV 2 x 25 MVA AIS Grid Sub-station at Dichaon Kalan under IPDS (The scheme has already been approved in the steering committee meeting held on 13.02.2013).	03/06/2015	Yet to Start as no fund received under IPDS.
4.	Laying of 66 kV In-feed cable for Dichaon Kalan Grid Sub-station from 400/220/66 kV Mundka Grid Sub –station under IPDS (The scheme has already been approved in the steering committee meeting held on 11.09.2013).	03/06/2015	Yet to Start as no fund received under IPDS.
5.	Establishment of 66/11 kV 2 x 25 MVA GIS Grid Sub-station at Molar Bandh under IPDS (The scheme has already been approved in the steering committee meeting held on 13.02.2013).	03/06/2015	Yet to Start as no fund received under IPDS.
6.	Establishment of 33/11kV 2x25MVA Grid at A-43, Mayapuri Industrial Estate.	03/06/2015	Under Tendering; Target by Dec-17
7.	(a) Renovation and Conversion of 33/11kV into 66/11kV GIS Grid Sub-station at Andheria Bagh. (b) Laying of 66 kV In-feed cable for Andheria Bagh Grid Sub- station from 66/33/11 kV Vasant Kunj B-Block Grid Sub- station	03/06/2015	a) Yet to Start (linked with IPDS) b) Commissioned in Sep-17 under BRPL CAPEX

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	(c) Installation of new 66kV Bay at Vasant Kunj B-Block for Andheria Bagh.		c) Completed. Commissioning linked with (a) above
8.	Augmentation of 33 kV cable from Balaji - East of Kailash Grid Sub-station under IPDS (The scheme has already been approved in the steering committee meeting held on 26.09.2012).	03/06/2015	Commissioned under BRPL CAPEX
9.	Addition of 01 No. 25 MVA 66/11 kV Power Transformer at G-3 Bindapur Grid Sub-station under IPDS (The scheme has already been approved in the steering committee meeting held on 16.04.2015).	03/06/2015	Commissioned under BRPL CAPEX
10.	Addition of 01 No. 25 MVA 33/11 kV Power Transformer at IIT Grid Sub-station under IPDS (The scheme has already been approved in the steering committee meeting held on 15.02.2011).	03/06/2015	Yet to Start as no fund received under IPDS
11.	Addition of 01 No. 25 MVA 33/11 kV Power Transformer at Jamia Grid Sub-station under IPDS (The scheme has already been approved in the steering committee meeting held on 20.02.2015).	03/06/2015	Commissioned in Apr-17 under BRPL CAPEX
12.	Addition of 01 No. 25 MVA 33/11 kV Power Transformer at A-4 Paschim vihar (Excluding 11 kV Panels) Grid Sub-station under IPDS (The scheme has already been approved in the steering committee meeting held on 27.08.2014).	03/06/2015	Commissioned in Mar-17 under BRPL CAPEX
13.	Augmentation of 01 No. 16MVA to 25 MVA 33/11 kV Power Transformer at Hudco Grid Sub-station under IPDS (The scheme has already been approved in the steering committee meeting held on 28.10.2010).	03/06/2015	Work in Progress under BRPL CAPEX Target by Dec-17
14.	Renovation and Modernisation of 33/11 kV Grid Sub-station at Chaukhandi under IPDS (The scheme has already been approved in the steering committee meeting held on 13.02.2013).	03/06/2015	Work in progress under BRPL CAPEX Target by Mar-18
15.	Renovation and Modernisation of 33/11 kV Grid Sub-station at Udyogh Nagar under IPDS (The scheme has already been approved in the steering committee meeting held on 13.02.2013).	03/06/2015	Yet to be taken up. Linked with IPDS
16.	Addition of 3 rd 25MVA Power Transformer at DJB Najafgarh	20.10.2015	Commissioned in Dec-16
17.	Addition of 4 th 20MVA Power Transformer at Jaffarpur	20.10.2015	Commissioned in Nov-16
18.	Construction of new 66/11 kV Grid Substation at G-1 Dwarka Sector 13	10.03.2016	Under Tendering. Target by Dec-18
19.	Construction of new 66/11 kV Grid Substation at DJB Nilothi.	06.05.2016	Under Tendering. Target by Dec-18
20.	ETC of 4th Power Transformer at 66/11 kV Paschim Vihar Grid Substation	06.05.2016	Commissioned in Sep-17
21.	ETC of 4 th Power Transformer at 66/11 kV C-Dot Grid Substation	06.05.2016	Commissioned in Jun-16
22.	Shifting of four Towers of Najafgarh-Budella-2 circuits and two Towers of Budella-2-Paschim Vihar circuits by Monopoles	06.05.2016	Work in Progress. Target by Dec-17
23.	Shifting of 66 kV Rail Pole Malviya Nagar – Batra and Okhla – Batra on Monopoles.	06.05.2016	Completed by laying 66 kV Cables. Commissioned in Apr-17
24.	Augmentation of PTR-1 & 3 at 66/11 kV Batra Grid Substation from 2x20 MVA to 2x31.5 MVA	30.06.2016	1 st PTR (PTR No.-1) commissioned in Mar-17 2 nd PTR (PTR No.-3) Work in Progress. Target by Dec-18
25.	Augmentation of PTR-2 & 3 at 66/11 kV G-5 Matiyala Grid S/Stn. from 2x20 MVA to 2x31.5 MVA	30.06.2016	Commissioned in Jun-17
26.	Augmentation of PTR-1 & 3 at 33/11 kV Mukerjee Park S/Stn. from 2x16 MVA to 2x25 MVA	30.06.2016	Commissioned in Apr-17

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27.	ETC of 4th Power Transformer at 66/11 kV G-2 Dwarka Grid Substation	30.06.2016	Commissioned in Sep-17
28.	Replacement of 33 kV Circuits a. Replacement of 33 kV Circuit Peeragarhi to Paschimpuri from ACSR Wolf to ACSR Goat Conductor b. Replacement of 33 kV Circuit Peeragarhi to Vishal from ACSR Wolf to 2x3x400 sq.mm. Cable	30.06.2016	Covered at Sr. No. 2 above
29.	33 kV Double Bus Bar arrangement at Tughlakabad grid substation.	30.06.2016	Yet to start
30.	Shifting of HT line passing over North DMC Primary school, Sector-17, Rohini (66kV Rohini 6 – Badli Crtk-I & II to ensure safety norms as per the directions of Hon'ble Supreme Court).	30.06.2016	The point pertains to TPDDL. Covered at point No. 49 under TPDDL points.
31.	ETC of 66/11 kV Sangam Vihar Grid Substation.	12.08.2016	Under Tendering. Target by Mar-19
32.	Augmentation / Up gradation of 2x20 MVA Power Transformer to 2x31.5 MVA at 66/11 kV Sagarpur Grid Substation.	04.01.2017	Material under procurement. Target by Mar-18
33.	Shifting of 33 kV & 11 kV Electrical Utilities at Pragati Maidan requested by ITPO	29.06.2017	Under Tendering
34.	New 66/11 kV Grid Substation at Crown Plaza Okhla Phase – I (Community Centre Okhla Ph-1)	29.06.2017	DDA payment awaited. Yet to start
35.	New connection for SAU & CAPFIMS	29.06.2017	Under Tendering
36.	Addition of 66/11 kV 1x25 MVA Power Transformer at G-4 Dwarka Grid Substation	29.06.2017	Material under procurement. Target by Mar-18
37.	Re arrangement of 33 kV Paschim Vihar – Mukherji Park Circuit	29.06.2017	Under Tendering. Target by Mar-18
38.	<u>New 66/11 kV Grid Substation at Sangam Vihar</u>	<u>29.06.2017</u>	<u>Covered at Sr. No. 31 above</u>
39.	Providing Second 66 kV Source for 66/11 kV Hari Nagar Grid Substation	29.06.2017	Under Tendering. Target by Apr-18

3. BYPL Works

S. No	Scheme	Steering Committee Approval Date	Current Status (to be intimated by BYPL with reason of deviation if any)
1.	Establishment of link between 220kV Preet-Vihar to 33kV Preet Vihar Grid	16/04/2015	Energised on 05.05.2017
2.	Establishment of link between 220kV Preet Vihar to Guru Angad Nagar 33/11kV Grid	16/04/2015	WIP(Expected completion by March 2018)
3.	Establishment of link between 220kV Preet Vihar to Shakar Pur 33/11kV Grid.	16/04/2015	WIP(Expected completion by March 2018)
4.	Establishment of link between 220kV Preet Vihar to 33kV CBD-I Grid.	16/04/2015	Energised on 05.05.2017
5.	Establishment of link between 220kV Preet Vihar to 33kV CBD-II Grid.	16/04/2015	To be taken up in 2018-19
6.	Establishment of link between 220kV Preet Vihar to Dwarka grid.	16/04/2015	To be taken up in 2018-19
7.	Establishment of 33/11 KV Indoor GIS Grid Sub-Station with 2X25MVA, Power Transformer and associated equipments at D.B Gupta (Naaz Cinema) under IPDS (The scheme has already been approved in the steering committee meeting held on 30.01.2013).	03/06/2015	No IPDS fund received

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8.	Establishment of 33/11 KV Indoor GIS Grid Sub-Station with 2X25MVA, Power Transformer and associated equipments at Geeta Colony-2 under IPDS (The scheme has already been approved in the steering committee meeting held on 20.02.2015).	03/06/2015	No IPDS fund received
9.	Establishment of 66/11 KV Grid Sub-Station with 2X25MVA, Power Transformer and associated equipments at Mandoli Jail Complex under IPDS (The scheme has already been approved in the steering committee meeting held on 26.09.2012).	03/06/2015	Sheme approved under capex, but due to land dispute work could not be started.
10.	Addition of one no. 25 MVA Transformer with associated equipments at 66/11KV Vivek Vihar Grid under IPDS (The scheme has already been approved in the steering committee meeting held on 16.07.2014).	03/06/2015	Energised on 29.09.2017. Implemented as BYPL's CAPEX.
11.	Augmentation of one Power Transformer from 16 MVA to 25 MVA at Karawal Nagar Substation under IPDS (The scheme has already been approved in the steering committee meeting held on 13.02.2013).	03/06/2015	4th PTR is being taken up in 2018-19 as CAPEX.
12.	Augmentation of one Power Transformer from 16 MVA to 25 MVA at Shankar Road Substation.	03/06/2015	Energised
13.	Laying of of 33KV feeder from 220KV Park Street Grid to Proposed 33KV Grid at D.B Gupta Road under IPDS (The scheme has already been approved in the steering committee meeting held on 13.03.2013).	03/06/2015	No IPDS fund received
14.	LILO of Faiz Road - Motia Khan Circuit to provide infeed to proposed Grid at D.B Gupta Road under IPDS(The scheme has already been approved in the steering committee meeting held on 30.01.2013).	03/06/2015	No IPDS fund received
15.	Laying of 33KV Feeder from 220KV Geeta Colony Grid to Proposed Grid at Geeta Colony-2 and Interconnector from Geeta Colony Grid under IPDS(The scheme has already been approved in the steering committee meeting held on 20.02.2015).	03/06/2015	No IPDS fund received
16.	Laying of 2 no 66KV Feeder from 220KV Harsh Vihar Grid to Proposed Grid at Mandoli Jail Complex.	03/06/2015	Scheme approved under CAPEX, but due to land dispute work could not be started.
17.	Laying of new 33 KV feeder from 220 KV Preet Vihar Grid to 33 KV CBD II Grid under IPDS (The scheme has already been approved in the steering committee meeting held on 16.04.2015).	03/06/2015	Covered at Sr. No. 5
18.	New 33 KV feeder from 220 KV Preet Vihar Grid to 33 KV Guru Anand Nagar Grid by LILO of 33KV Circuit from Shakarpur -Guru Angad Nagar under IPDS (The scheme has already been approved in the steering committee meeting held on 16.04.2015).	03/06/2015	Covered at Sr. No. 2 & 3
19.	Transposition of 33 KV Feeders from 33 KV New Rohtak Road Grid to 33 KV DMS & 33 KV Prasad Nagar Grid	20.10.2015	The work will be taken up after energisation of infeeds from Park Street to Shankar Road Grid and Park Street to Prasad Nagar Grid
20.	Strengthening of 33KV Ridge Valley to Shankar Road Grid Ckt-1 & Ckt.-2 (Wolf Conductor to Goat conductor)	20.10.2015	Not required as BYPL is laying Cable from Park Steet to Shankar Road
21.	Augmentation of 66 KV Wazirabad to Ghonda Grid Ckt. No.2 with its LILO at 66/11 KV Sonia Vihar Grid along with extension of two 66KV bays at Sonia Vihar grid (630Sq. mm cable to 1000 Sq. mm cable)	10.03.2016	Expenditure is around Rs 14 Crore, so temporarily deferred
22.	Augmentation of 66 KV Wazirabad Grid to Ghonda Grid Ckt. No.1 (630Sq. mm cable to 1000 Sq. mm cable)	10.03.2016	Expenditure is around Rs 14 Crore, so temporarily deferred

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23.	Part Augmentation of 66kV Wazirabad–Yamuna Vihar-Bhagirathi–Ghonda Ckts. I & II (consisting of ACSR dog conductor and XLPE 3x1x630 mm ² cables.)	10.03.2016	To be taken up in 2018-19
24.	Addition of 66 /11 KV Power Transformer 25 MVA at 66 KV Dallupura Grid S/Stn.	10.03.2016	WIP (Expected completion by December 2017)
25.	Addition of 66 /11 KV Power Transformer 25 MVA at 66 KV Ghonda Grid S/Stn	10.03.2016	WIP (Expected completion before April 18)
26.	Providing additional 33 KV feed from 220kV RPH Grid to 33/11kV Delhi Gate Grid S/Stn.	06.05.2016	To be taken up in 2019-20
27.	Providing additional 33 KV feed from 220 KV RPH Grid to 33/11 KV GB Pant Grid Sub Station.	06.05.2016	To be taken up in 2019-20
28.	Establishment of 33/11 KV Indoor GIS Grid Sub-Station with 33/11KV, 2X25MVA, Power Transformer at Laxmi Nagar District Center along with in-feed.	30.06.2016	To be taken up in 2019-20
29.	Addition of one no. 25 MVA Transformer with associated equipments at 66/11KV Mayur Vihar-1 S/Stn.	30.06.2016	WIP (Expected completion before summer 18)
30.	Addition of one no. 25 MVA Transformer with associated equipments at 33/11KV Dwarkapuri S/Stn.	30.06.2016	Energised on 29.06.2017
31.	Addition of one no. 25 MVA Transformer with associated equipments at 33/11KV DSIDC Jhilmil S/Stn.	30.06.2016	To be taken up in 2018-19
32.	Augmentation of one Power Transformer from 16MVA to 25MVA at CBD-I Substation.	30.06.2016	To be taken up in 2018-19
33.	Augmentation of 2 nd Power Transformer from 16 MVA to 25 MVA at Kailash Nagar Substation.	30.06.2016	To be taken up in 2018-19
34.	Addition of one no. 25MVA Transformer with associated equipments at 66/11kV Nand Nagri S/Stn.	12.08.2016	WIP (Expected completion in 2018-19)
35.	Part Shifting of one 33kV ckt. from 220kV PPG to CB Grid	06.10.2016	WIP (Expected completion before summer 2018)
36.	Part Shifting of 4 no. 33kV ckts from 220kV PPG to various BYPL's Grid i.e. Karkardooma Grid Ckt No-1 , Scope Minar, GAN Ckt-1 & GAN Ckt-2	06.10.2016	WIP (Expected completion before summer 2018)
37.	Part Conversion of Ghonda Grid to G T Road Grid 33kV O/H Line into Under Ground ckt. (From Durga Puri X-ing to Loni Road Chowk)	06.10.2016	WIP (Expected completion before summer 2018)
38.	Addition of one no. 66/11 KV, 25 MVA Power Transformer with associated equipments at 66/11KV Yamuna Vihar Grid Sub-Station	29.06.2017	To be taken up in 2018-19
39.	Addition of one no. 33/11 KV, 25 MVA Power Transformer with associated equipments at 33/11KV Prasad Nagar Grid Sub-Station	29.06.2017	To be taken up in 2018-19
40.	Addition of one no. 33/11 KV, 25 MVA Power Transformer with associated equipments at 33/11KV Guru Angad Nagar Grid Sub-Station	29.06.2017	To be taken up in 2018-19
41.	Addition of one no. 33/11 KV, 25 MVA Transformer with associated equipments at 33/11KV Karawal Nagar Grid Sub-Station	29.06.2017	To be taken up in 2018-19
42.	Part Replacement of 33 kV feeder from 66KV Ghonda Grid to 33KV Seelampur Grid	29.06.2017	To be taken up in 2019-20
43.	Part Replacement of 33 kV feeder from 33KV Kailash Nagar Grid to Parshav Nath Mall	29.06.2017	To be taken up in 2019-20
44.	Establishment of 33/11KV Indoor GIS grid sub-station with 33/11KV, 2x25MVA Power Transformer at Laxmi Nagar District Center along with infeed	29.06.2017	Covered at Sr. No. 28

H. Other Issues**1. Capacitor Requirement as per System Studies carried out by CPRI for Northern Region.**

In the Steering Committee Meeting held on 29.06.2017, it was informed that as per the study conducted by CPRI for assessment of the Capacitor requirement in the Northern Regional States, the additional requirement of Capacitors for Delhi was finalized as 712 MVAR. It was discussed that even during peak time, the voltages in the system were quite normal and considering the large cable network planned in coming years in transmission as well as distribution networks the necessity of additional capacitors needs to be re-verified.

Therefore, SLDC was advised to seek clarification on the details of additional capacitors to be installed. Accordingly, SLDC took up the matter with NRPC and got the requirement re-assessed. The CPRI re-conducted the study and the additional Capacitor requirement in the Northern Regional States was re-assessed as under:

Recommended Capacitor Compensation for the Northern Grid.

Sl. No	Utility	Existing Capacitor Bank		Recommended to be switched on from column (b)	Additional Recommended capacitor banks	Total capacitor banks (a+c+d)
		Operational	Not in operation			
		(a) (MVAR)	(b) (MVAR)			
1.	Punjab	1563.9	0	0	1039.26	2603.16
2.	Haryana	59.7	167.4	167.4	1996.18	2223.28
3.	Rajasthan	235.5	3934.25	1299.05	0	1534.55
4.	Delhi	0	712.56	712.56	0	712.56
5.	Uttara Pradesh	1367.2	0	0	4531.6	5898.8
6.	Uttarakhand	0	0	0	523	523
7.	Himachal Pradesh	609.14	687.48	0	0	609.14
8.	Jammu-Kashmir	0	0	0	1102.8	1102.8
9.	Total	3835.44	4789.13	2179.1	9192.84	15207.29

Note: The complete study is available at NRPC website at the link
http://www.nrpc.gov.in/Reports/other/Amemded_Report_NRPC_2017-18.pdf

It was clarified that Delhi has sufficient Capacitors installed at HT level (i.e. up to 11kV). During the study it was found that at many places the capacitors were not in operation. It was emphasized that during peak season all the capacitor banks available in system should be made operational. The latest capacitor position as per SLDC records is as follow:

Summary of installation of capacitors in Delhi as on 30.09.2017

Utility	Installed Capacity in MVAR (HT)	Installed Capacity in MVAR (LT)	Total	Defective capacity in MVAR (HT)
DTL	753.52	0	753.52	0.00
BRPL	1351.39	241.80	1593.19	45.74
BYPL	861.70	102	963.70	71.00
TPDDL	827.78	119	946.78	0.00
NDMC	253.78	24.29	278.07	0.00
MES	20.1	0	20.10	0.00
RPH	20.0	0	20.00	0.00
TOTAL	4088.63	487.1	4575.36	116.74

It was informed that as per the records of SLDC the utilities have dismantled the capacitor banks reportedly on account of installation of additional elements owing to space constraints as detailed hereunder:

Details of Capacitor bank dismantled in Discom System during the FY 2017-18

Utility	Name of S/Stn.	Capacitor added (MVAR)	Month / Date	Remarks
TPDDL	66kV DSIDC -1	20	May-17	It was informed that Discoms have either dismantled or put-off capacitor banks where there are persistent high voltage profile. These capacitor bank would be used wherever required.
TPDDL	66kV Bawana -1 Ph-2	14.4	Jun-17	
BYPL	66kV Dallupura	28.8	Jul-17	
BYPL	66kV Ghonda	21.79	Jul-17	
BYPL	66kV Shastri Park (C)	10.9	Jul-17	
TOTAL		95.89		

The details of capacitor bank dismantled by DTL are as follow:

Name of Substation	Capacitor Dismantled (MVAR)	Remarks
Shalimar Bagh	4x 10MVAR (33kV level)	All 33kV, 10x4 MVAR capacitor banks have been dismantled for providing space for 66kV feeder bays as per decision taken in 4th Steering Committee meeting of 2016-17 held on 06.10.2016.
Gopalpur	1x10MVAR (33kV level)	The 33kV, 10 MVAR capacitor bank-II has been dismantled for providing space for 66kV Bhalaswa circuit as per the decision taken in the 6 th Steering Committee meeting of 2016-17 held on 15.03.2017.
Mehrauli	2x10MVAR (66kV level)	The capacitors would be disconnected to pave way to establish feeding arrangements of 66kV Fatehpur Beri grid S/Stn. of BRPL (as decided in this meeting).
Patparganj	1x20MVAR (66kV level)	The capacitor would be disconnected to pave way to establish feeding arrangements of either 66kV Mayur Vihar-I ckt-II or 66kV Khichripur circuit-II of BYPL (as decided in this meeting).

It was brought out that at the time of occurrence of Delhi Peak demand the Discoms were drawing about 500MVAR reactive power from the Grid. As a result, the bus voltages at almost all of the 220kV substations were less than the rated value. The complete detail is given here under:

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STATEMENT SHOWING SUBSTATIONWISE TRANSFORMER											
Main S. No.	Sub S. No.	NAME OF THE GRID	POWER TRANSFORMER		06.06.2017 AT 15:31.37HRS. PEAK LOAD 6526 MW			Voltages at Various Buses			
			INSTALLED CAPACITY (MVA)	INSTALLED CAPACITY (MW)	MW	MVAR	% usage	220kV	66kV	33kV	11kV
NORTH DELHI											
1	1	Narela	300	255	171	4	67.1	216	63	32.0	10.7
2	2	Gopalpur	300	255	182	13	71.4	214	63	32.4	10.5
3	3	Rohini	400	340	261	-12	76.8	221	66	--	11.0
4	4	Rohini-II	320	272	46	0	16.9	216	63	--	--
5	5	Shalimarbagh	300	255	194	24	76.1	216	63.8	31.8	10.4
6	6	Wazirpur	200	170	141	7	82.9	219	--	--	--
7	7	Bawana	100	85	55	4	64.7	214	61.2	--	--
8	8	Kanjhawala	200	170	160	15	94.1	216	64	--	10.8
9	9	DSIIDC Bawana	360	306	169	10	55.2	209	61	--	--
10	10	Through Rohtak Road grid of BBMB	300	255	176	18	69.0				
TOTAL			2780	2363	1555	83	65.8				
WEST DELHI											
11	1	Najafgarh	400	340	293	30	86.2	221	65	--	10.9
12	2	Papankalan-1	520	442	349	0	79.0	211	63	--	10.4
13	3	Papankalan-2	520	442	291	54	65.8	216	62	--	--
14	4	Naraina	300	255	170	34	66.7	210	--	30.3	10.7
15	5	Mundka	320	272	66	-4	24.3	220	66		
16	6	Peeragarhi	200	170	174	24	102.4	217	--	32.0	--
TOTAL			2260	1921	1343	138	69.9				
SOUTH DELHI & NDMC											
17	1	Mehrauli	460	391	260	29	66.5	211	63	--	10.6
18	2	Okhla	500	425	316	20	74.4	210	61.9	30.6	10.2
19	3	Masjid Moth	300	255	206	21	80.8	213	--	30.6	--
20	4	Sarita Vihar	300	255	162	5	63.5	217	64	--	10.4
21	5	Lodhi Road	200	170	75	0	44.1	217	--	31.2	10.5
22	6	Vasant Kunj	360	306	174	-41	56.9	216	64	--	10.6
23	7	DIAL	320	272	41	1	15.1	212	63	--	--
24	8	Ridge Valley	320	272	104	27	38.2	214	--	--	--
TOTAL			2760	2346	1338	62	57.0				
EAST DELHI											
25	1	Wazirabad	460	391	250	62	63.9	217	63.3	--	10.3
26	2	Patparganj	500	425	234	-19	55.1	216	65.8	32.7	10.9
27	3	Geeta colony	200	170	119	27	70.0	216	--	31.9	--
28	4	Gazipur	360	306	146	24	47.7	220	65	--	10.9
29	5	Harsh Vihar	480	408	152	30	37.3	215	64		
30	6	Preet Vihar	200	170	30	2	17.6	213	--	32.7	--
TOTAL			2200	1760	931	126	52.9				
CENTRAL DELHI & NDMC											
31	1	Parkstreet	400	340	268	11	78.8	213	63.2	31.6	--
32	2	IPExtension (GT)	320	272	121	1	44.5	213	--	--	--
33	3	Subzimandi	200	170	142	-31	83.5	218	--	31.3	10.6
34	4	Kashmerigate	200	170	95	8	55.9	213	--	31.4	10.5
35	5	IPStation	300	255	222	28	87.1	210	--	30.5	--
36	6	Rajghat	200	170	131	25	77.1	217	--	33.0	--
37	7	Trauma Center	200	170	126	24	74.1	215	--	31.0	--
38	8	Electric Lane	200	170	63	18	37.1	215	--	31.0	--
TOTAL			2020	1717	1168	84	68.0				
GRAND TOTAL			12020	10107	6335	493	62.7				

Note : The load of 220kV DMRC CKTs from Kashmerigate & 220kV DMRC CKT from Shalimarbagh not included in this report

The Voltages at 400kV S/Stn. in Delhi during the occurrence of Delhi Peak load (6526 MW on 06.06.2017 at 15:31:37 Hrs.) is detailed here under:

S. NO.	SUB-STATION	Bus Voltage		
		400kV	220kV	66kV
1	MANDOLA	390	217	--
2	BAWANA	390	214	61.2
3	BAMNAULI	387	221	--
4	MAHARANIBAGH	385	215	--
5	MUNDKA	401	220	66
6	HARSH VIHAR	391	215	64

The matter was deliberated and all the utilities were requested to revive the capacitors which are not in operation particularly during peak load season so that no reactive power is drawn from the Grid.

2. Reactor Installation:

In the 39th Standing Committee of Power System Planning, Northern Region of CEA held on 29-30th May, 2017, it was suggested that in Delhi System the Reactors at 400kV and 220 kV Level at the following locations (subject to feasibility) are required to be installed to curb high voltage during light load conditions.

S.N.	Bus Name	Voltage Level(kV)	Reactor Proposed in MVAR	Remarks
1.	Mundka	400	125	To be installed by DTL
2.	Narela	220	25	
3.	R.K.Puram-I	220	25	
4.	Patparganj-II	220	2x25	
5.	Maharani Bagh	220	2x25	
6.	Bamnauli	220	25	
7.	Subzi Mandi	220	2x25	
8.	Gopalpur	220	2x25	
9.	Indrapastha	220	2x25	
10.	Geeta Colony	220	2x25	
11.	Harsh Vihar	220	2x25	
12.	Wazirabad	220	2x25	
13.	Electric Lane	220	2x25	
14.	Mandola	220	25	
15.	AIIMS	220	2x25	
16.	Sarita Vihar	220	25	
17.	Bawana	220	25	
18.	Preet Vihar	220	25	
19.	Mundka	220	25	
20.	Masjid Moth	220	25	
21.	Maharani Bagh (PG)	400	125	To be installed by Powergrid
22.	Mandola (PG)	400	125	

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It was informed that the feasibility of above locations has been ascertained. It was found that the feasibility of Reactors installation with regard to DTL system was as under:

S.N.	Bus Name	Voltage Level (kV)	Reactor required to be installed (as per the SCM PSP,CEA) in MVAR	Remarks
1.	Mundka	400	125	Space is available. 400kV bay is also required to be erected.
2.	Narela	220	25	No space is available
3.	R.K.Puram-I	220	25	No space is available
4.	Patparganj-II	220	2x25	No space is available
5.	Maharani Bagh	220	2x25	Could be considered after the erection of new GIS Stn.
6.	Bamnauli	220	25	Space is available. Considering the reactive power injection under high voltage conditions two no. reactors are proposed to be installed. Though the bays are available, some of the equipments are required to be erected.
7.	Subzi Mandi	220	2x25	At present, no space. Would be considered after the remodeling of the substation with GIS.
8.	Gopalpur	220	2x25	At present, no space. Would be considered at the time of establishment of 400kV S/Stn.
9.	Indrapastha	220	2x25	Space is available and 220kV bays are also required to be erected.
10.	Geeta Colony	220	2x25	No space.
11.	Harsh Vihar	220	2x25	Space and 220kV GIS bays are available at present. Due to space constraints at Patparganj and Preet Vihar Substations and to reduce the Reactive power injection two no. 50MVAR reactors are proposed.
12.	Wazirabad	220	2x25	No space.
13.	Electric Lane	220	2x25	Space constraint is there, so 1x50 MVAR is proposed. 220kV GIS bay is also required to be erected.
14.	Mandola	220	25	No space.
15.	AIIMS	220	2x25	No space.
16.	Sarita Vihar	220	25	No space.
17.	Bawana	220	25	No space.
18.	Preet Vihar	220	25	No space.
19.	Mundka	220	25	Space is available. 220kV bay is also required to be erected.
20.	Masjid Moth	220	25	No space.
21.	Maharani Bagh (PG)	400	125	To be installed by Powergrid
22.	Mandola (PG)	400	125	
TOTAL			1100	

Summarizing the above, the Reactors would be installed in Delhi system at the following locations:

S. N.	Bus Name	Voltage Level (kV)	Reactor (MVAR)	Remarks
1.	Mundka	400	125	To be installed by DTL
2.	Bamnauli	220	2x25	
3.	Indrapastha	220	2x25	
4.	Harsh Vihar	220	2x50	
5.	Electric Lane	220	1x50	
6.	Mundka	220	25	
7.	Peeragarhi	220	1x50	One GIS 220kV bay is spare at Peeragarhi. The S/Stn. is connected with 1000sq.mm 220kV Mundka-Peeragarhi D/C (13KM) and 220kV Peeragarhi- Wazirpur D/C (8.3KM) cables. Due to these cables, during off-Peak hrs particularly during winter nights, voltage shoots up beyond the permissible limits. Therefore during winter nights one ckt. is kept in operation out of the four 220kV cable circuits to control high voltage issue to some extent. This ckt. also trips on account of high voltage affecting the areas fed from Peeragarhi S/Stn. To overcome high voltage issue one 220kV, 50 MVAR Reactor is proposed to be installed at Peeragarhi S/Stn. considering the fact that one 220kV GIS bay is also available.
8.	Maharani Bagh (PG)	400	125	To be installed by Powergrid
9.	Mandola (PG)	400	125	
TOTAL			700	

From the above, it is seen that considering the space and other constraints in Delhi system the 700 MVAR capacity of Reactors would be installed out of total 1100 MVAR capacity proposed by Standing Committee of Power System Planning, Northern Region of CEA.

Steering Committee advised DTL to install the reactors at the above identified locations to arrest high voltage issues and try to get the reactors installed under PSDF. It was also advised that in future wherever new 220kV substation is installed and the infeeds are envisaged through 220kV cables, 2 No. 25 MVAR reactors should be considered for installation while conceiving the scheme. The Standing committee of CEA may also be apprised accordingly.

3. Relocation/ Undergrounding of 50 year old High Tension Power Lines from BBMB Rohtak Road to Gurugram (66kV Double Circuit Lines)

It was informed that the 66kV Rohtak Road-Gurugram Double Circuit lines emanating from 220kV BBMB Rohtak Road substation to Gurugram (Mehrauli Road Substation) is being operated and maintained by HVPNL. Recently, a reference has been received through the office of Honorable Chief Minister, Delhi wherein the representation of Sh. Manjinder Singh Sirsa, H'ble MLA Rajouri Garden addressed to H'ble Minister of State(IC), MoP, GoI regarding relocation of the said 50 year old H.T. Line has been enclosed. It was mentioned that the line is passing through the populated area and some fatal accidents were also reported due to very less clearance and requested that the line should be relocated to avoid such accidents.

In the meeting, HVPNL Representative informed that the line is about 42Km long and still catering the part load of Gurugram as the other available source is 66kV Badshapur circuit 3 which is comparatively a weak source.

It was also informed that there was no plan for either shifting of the line or conversion to U/G cables. They requested for 66kV supply from nearby 220kV or 66kV S/Stns to Gurugram to avoid such mishappening due to less ground clearance issue. In such cases the available RoW of 66kV Rohtak Road-Gurugram ckt. can also be utilized by the Power utilities of Delhi.

The matter was discussed and it was decided that the 66kV source to Gurugram shall be provided from proposed 220/66kV Bhartal (which is likely to be commissioned by 2020-21) instead of 66kV source from 220kV Rohtak Road to bypass the low clearance area of the 66kV Rohtak Road-Gurugram circuit to avoid the mishappenings in future. In the mean time the modalities may be worked out by a joint site visit of HVPNL, BRPL and DTL to feed the Mehrauli Road, Gurugram substation of HVPNL.

4. Conversion of AIS system to GIS at 220kV Park Street (33kV & 66kV AIS) and 220kV IP Station (33kV AIS)

Park Street Issue:

It has been brought to the notice by O&M Department of DTL that due to Monkey menace at 220kV Park Street substation, the supply of the areas fed from the substation gets affected frequently. It has also been brought out that there have been about 18 incidents of tripping causing supply interruption to the areas fed from the substation including that of VVIP areas during the period 2012-16. O&M Department has suggested conversion of 33kV yard from AIS to GIS.

It was informed that the conversion from 33kV AIS to GIS at Park Street has not been envisaged in the Business Plan of DTL for the period 2017-2022.

All the utilities were requested to provide the possible solution to avoid/ reduce the tripping caused by monkeys. BRPL submitted that they have used an ultra high frequency device for two to three months during summer season to reduce the tripping caused by monkeys at one of their grids.

The representative of DMRC pointed out that ultra high frequency devices provide short term solution and conversion of AIS into GIS is the permanent solution for maintaining stable power supply.

GM(O&M)-II DTL further suggested that 66kV AIS should also be considered for conversion to GIS for accommodating additional 66kV bays required to be added for providing supply to DMRC's Phase-IV Projects instead of creation of additional 66kV bays at the substation by converting the existing 66kV feeders into hybrid system (refer MoM C.3). He opined that maintaining different systems (AIS, Hybrid, GIS) in one S/Stn. would result into maintenance issues. Moreover, the monkey menace affecting the reliability in 33kV outdoor switchyard shall affect the 66kV outdoor switchyard after conversion of 33kV AIS into GIS. As such, it would be advisable to convert 66kV system also to GIS for uniformity of the S/stn. i.e. 220kV, 66kV & 33kV system in to GIS to improve stability of Power supply at the Substation.

The S/Stn. is also running without N-1 stability Criteria. The loading of the S/Stn. at the time of peak demand was also cited as follow:

S. N.	Element	Loading at the time of Summer Peak of 2017 i.e. 6526MW on 06.06.17 at 15:31:37 Hrs	
		MW	MVAR
1.	220/66KV 100MVA TX-1	70	4
2.	220/66KV 100MVA TX-2	64	0
3.	220/33KV 100MVA TX-3	66	4
4.	220/33KV 100MVA TX-4	68	3
Total		268	11

Steering Committee deliberated and noted that 220kV Park Street Substation is surrounded by Ridge Area which is full of monkeys. Moreover, there is a Kendriya Vidyalaya adjoining the sub-station. Therefore, keeping in view the interest of power system reliability and safety of the School, the Steering Committee agreed for conversion of 33kV AIS into GIS system at 220kV Park Street in First Phase and 66kV in Second phase.

With regard to N-1 reliability issue the Steering Committee was of the opinion that the loading of the S/Stn. would be eased after the commissioning of 220/33 kV, 4x100 MVA Dev Nagar S/Stn. proposed to be commissioned in the year 2019-20. DTL was advised to expedite the commissioning of 220/33 kV Dev Nagar S/Stn.

IP Issue:

BYPL and BRPL pointed out that number of trippings occur at 33kV system at IP. It was further informed that the conversion of 33kV AIS in to 33kV GIS at IP as proposed earlier may also be considered. GM(O&M-II), DTL supported the views and mentioned about the maintenance issues being encountered due to outlived 33kV switchgear at IP resulting in to frequent power interruptions.

In view of above, the conversion of 33kV AIS into 33kV GIS at 220kV I.P. was also agreed considering the maintenance and reliability issues owing to outlived 33kV switchgear apart from monkey menace in the S/Stn.

Steering Committee noted the provisions of PSDF Regulations regarding utilization of PSDF fund as follow:

Utilization of the PSDF:

- (1)PSDF shall be utilized for the following purposes:
- (a)Transmission systems of strategic importance based on operational feedback by Load Despatch Centers for relieving congestion in inter-State transmission system (ISTS) and intra-State Transmission Systems which are incidental to the ISTS.
 - (b)Installation of shunt capacitors, series compensators and other reactive energy generates including reactive energy absorption and dynamic reactive support like static VAR compensator (SVC) and static synchronous compensator (STATCOM) for improvement voltage profile in the Grid.
 - (c)Installation of special protection schemes, pilot and demonstrative projects, standard protection schemes and for setting right the discrepancies identified in the protection audits on regional basis.
 - (d)Renovation and Modernization (R&M) of transmission system for relieving congestion.

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- (e) Any other scheme/ project in furtherance of the above objectives such as technical studies, capacity building, installation of Phasor Measurement Unit (PMU) etc.
- (2) PSDF shall also be utilized for the projects proposed by distribution utilities in the above areas which are incidental to inter-state transmission system and have a bearing on grid safety and security, provided that these projects are not covered under any other scheme of the Government of India, such as Restructured Accelerated Power Development & Reforms Programme (RAPDRP), Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) / National Electricity Fund (NEF) etc.
- (3) The private sector projects shall not be eligible for assistance from PSDF.
- (4) Prioritization shall be done mainly on the criteria of the schemes
- (i) addressing grid security concerns;
 - (ii) being of national importance;
 - (iii) being in the order of National/Multi utility/Regional/State importance;
 - (iv) being inter-state in nature.

As such, Steering Committee advised DTL to approach the PSDF Managing Authorities for getting the funding of expenses to be incurred for conversion of AIS to GIS at 220kV Park Street and IP at the earliest.

5. Business Plan 2017-18 to 2021-22 of DTL (Specifically for the Period 2017-18 to 2019-20.)

DERC while approving the transmission charges of DTL for 2017-18 has considered the Business Plan of DTL for 2017-18, 2019-20 as under:

The Current status of projects (as per BP Year 2017-18 to 2021-22) for capitalization Year 2017-18

Sr. No.	TRANSMISSION LINE & SUBSTATIONS LINE LENGTH	qnty	(Ckt.Kms.) / (MVA)	Tentative cost (Rs. Cr.)	2017-18	Current Status
1	Lodhi Road 220/33 kV GIS. (CENTRAL DELHI)	1	100	53	53	Commissioned
2	220/33 kV GIS at Preet Vihar (East DELHI)	3	100	100	14	Commissioned
3	220/66 kV GIS at Papankalan-III (Dwarka subcity -West DELHI)	2	160	65	65	To be commissioned by Dec, 2017
4	LILO of double circuit Bamanuli-Naraina at PPK-III	4	0.5	2	2	To be commissioned by Dec, 2017
5	S/C LILO of 220kV Bannauli-Naraina at PPK-I	2	0.1	1	1	Commissioned on 08.11.2017
6	First circuit OH+UG LILO of Pragati-Sarita Vihar at Maharaniabagh	2	1	5	5	Commissioned
7	Installation of new 220/33 kV, 100 MVA ICT at Masjid Moth	1	100	6	6	Commissioned
8	Installation of new 220/33 kV, 100 MVA ICT at Patparganj (as a Hot Reserve)	1	100	6	6	Transformer meant for Karpura, is to be supplied through Powergrid under MOU-II by Feb'2018
9	Installation of new 220/33 kV, 100 MVA ICT at Peeragarhi	1	100	6	6	Tx was charged on 20.07.2017 from HV side.
10	ERS for transmission line	2	Lot	19	19	Supplied.
11	Establishment of Training cum learning Center/Residential Complex Augmentation	1	0	20	4	It will be utilised against the other capital nature civil works.
12	Other Civil works	1	0	15	3	It will be utilised against the other capital nature civil works.
13	Land Cost				20	License fee paid on yearly basis to Power dept, GNCTD, will be adjusted.
Total (Rs. In Crore)					204	

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The Current status of projects (as per BP Year 2017-18 to 20121-22) for capitalization Year 2018-19

Sr. No.	TRANSMISSION LINE & SUBSTATIONS LINE LENGTH	qnty	(Ckt.Kms.) / (MVA)	Tentative cost (Rs. Cr.)	2018-19	Current Status
1	220/66kV GIS at Tughlakabad (South EAST Delhi)	2	160	157	157	Work under execution by Powergrid under MOU-II
2	220/66 & 220/33 kV GIS at R K Puram (South Delhi)	2	260	110	110	Work under execution by DTL.
3	Single circuit underground cable (Lodhi Road -Park street-Electric Lane-Lodhi Road)	1	18	116	116	Work under execution by Powergrid under MOU-II
4	S/C LILO of 220kV Bamnauli-Najafgarh D/C at PPK-II on M/C O/H	4	4	10	10	Scheme reviewed due to RoW issues and PPK-II will be connected through U/G cable to upcoming 400kV Dwarka S/stn.
5	LILO of Mehrauli-BTPS at Tughlakabad	2	0.5	2	2	Work under execution by Powergrid under MOU-II
6	Multi circuit overhead from Tughlakabad to Masjid Moth	4	7	80	80	Due to EPCA objection to takeout overhead TL through Jahanpanah forest area, Powergrid is advised to go ahead with underground cable.
7	Double circuit Okhla feeder termination at Tughlakabad	2	1.5	5	5	Work under execution by Powergrid under MOU-II
8	Multi circuit from Kashmiri gate to Rajghat	4	4	10	10	Work under execution by Powergrid under MOU-II
9	Double circuit overhead from Shalimarbagh to SGTN	2	5	15	15	Tender awarded.
10	315 MVA (shifted from Bamnauli) bay installation at 400kV Mundka	1	315	7	7	Under Award.
11	Installation of new 220/66 kV, 160 MVA ICT at Kanjhawla	1	160	8	8	Under Tendering process.
12	Installation of new 220/33 kV, 100 MVA ICT at Wazir Pur with associated bays	1	100	15	15	Due to sever space constraint to accommodate 3rd Transfoemer, the modalities has been worked out in coordination with TPDDL as advised by SCM dated 30.10.0217.
13	100 MVA ICT to 160 MVA ICT capacity augmentation at Sarita Vihar	1	160	8	8	Under Tendering process.
14	100 MVA ICT to 160 MVA ICT capacity augmentation at Okhla	1	160	8	8	Scheme is under preparation
15	100 MVA ICT to 160 MVA ICT capacity augmentation at Narela	1	160	8	8	Scheme is under preparation
16	100 MVA ICT to 160 MVA ICT capacity augmentation at Najafgarh	2	160	16	16	Under Tendering process.
17	220KV Bus strengthening from double zebra to quad zebra at Kanjhawla, Mehrauli, IP Power, Naraina, PPK-I, PPK-II and Najafgarh	7	S/stn	2.8	2.8	Some of the schemes have already been completed.
18	220kV GIS bay new additions at Kashmirigate	5	bays	15	15	Scheme under approval.
19	Isolator, CT, PT/CVT and CB replacement under PSDF scheme	1	Lot	125	125	Under Tendering Stage.
20	HTLS conductor (with polymer insulator) of Bamnauli-Mehrauli-BTPS	66	ckt.kms.	53	53	Under Award.
21	HTLS conductor (with polymer insulator) of 220kV D/C Bawana -Rohini	21	0	17	17	Under Tendering process.
22	HTLS conductor (with polymer insulator) of 220kV D/C Maharani-bagh-Lodhi Road	8.5	0	7	7	Scheme under preparation.
23	HTLS conductor (with polymer insulator) of 220kV D/C Sarita -Vihar and BTPS	6		5	5	Being a small section, proposal being put for getting clubbed with to be awarded tender of reconductoring between BTPS-Bamnauli.
24	Polymer insulator for 220kV lines	0	0	10	10	Work Awarded.
25	Augmentation of 16 MVA transformer to 25 MVA at Lodhi road	2	nos	4	4	Scheme under approval. However in the recent SCM datde 30.10.2017, TPDDL stated that they have shifted all the 11kv Load from 220kV Gopalpur and Subzimandi s/stn , thus no replacement of transformer is required at both the s/stn. So the prepared scheme of Gopalpur will be utilised for replacemnet of remaining 02 transformers at 220kV Lodhi Road s/stn.
26	Augmentation of 16 MVA transformer to 25/31.5 MVA at Gopalpur	2	nos	4	4	
27	33kV GIS conversion at Shalimarbagh (Modified as 33kV GIS conversion at Park Street)	15	bays	12	12	33kV GIS was envisaged in connection wit 400kV s/stn at Shalimar Bagh. Since same is not being taken up now, the conversion of 33kV AIS to GIS at 220kV S/stn parkstreet would be taken up.
28	33KV GIS conversion at Okhla	23	bays	29	29	Under Tendering process.
29	66kV GIS bay extension at Harsh Vihar	6	bays	9	9	Scheme under preparation.
30	66KV Hybrid conversion at Patparganj	12	bays	10.8	10.8	Scheme being reviewed. Proposed to be converted into 66kV AIS to GIS.
31	Establishment of Training cum learning Center/Resendential Complex Augmentation	1	0	20	4	It will be utilised against the other capital nature civil works.
32	Other Civil works	1	0	15	3	It will be utilised against the other capital nature civil works.
33	Land Cost				20	License fee paid on yearly basis to Power dept, GNCTD, will be adjusted.
Total (Rs. In Crore)					906	

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The Current status of projects (as per BP Year 2017-18 to 2021-22) for capitalization Year 2019-20

Sr. No.	TRANSMISSION LINE & SUBSTATIONS LINE LENGTH	qnty	(Ckt.Kms.) / (MVA)	Tentative cost (Rs. Cr.)	2019-20	Current Status
1	2x160 MVA and 66 kV GIS at Gopalpur (Central Delhi)	2	160	60	60	Under Tendering process.
2	220/33 kV GIS at Rajghat (Central Delhi) Conversion existing 220/33kV AIS to GIS	1	100	83	83	Scheme under preparation.
3	220/66 kV GIS at Budella (CENTRAL WEST DELHI)	2	160	95	95	Under Tendering process.
4	220/66kV GIS at SGTN (NORTH DELHI)	2	160	95	95	Under Tendering process.
5	220/33kV GIS at Zakhira (CENTRAL -WEST DELHI) (Being modified as Maharani Bagh Extension project which is under Tendering process.)	3	100	100	100	Scheme likely to be shifted to next FY due to finalization of land, however Maharani Bagh Extension project, which is under tendering process, would be implemented.
6	220/33 kV GIS at Dev Nagar (CENTRAL DELHI) in lieu of Karmapura	4	100	100	100	Under Tendering process.
7	220/33 kV GIS at Timarpur (CENTRAL DELHI)	3	100	85	85	As per the advice of BOD, the estimate is under revision.
8	Budella to Zakhira D/C circuit O/H line	2	10	25	25	Due to ROW constraints, Zakhira location is yet to be finalized, the scheme may not be feasible. (some other scheme would be adjusted against it)
9	220kV Double Circuit (D/C) Dwarka to Budella underground cable	2	12	180	180	Under Tendering process.
10	S/C LILO of Electric Lane to Park Street at Dev Nagar	2	5	75	75	Under Tendering process.
11	Double circuit underground from Kashmirigate to Timarpur	2	5	75	75	Under Tendering process.
12	LILO of AIIMS-Ridge valley at RK Puram	2	5.2	80	80	Under Tendering process.
13	Complete Automation of 400 KV Bamnauli	LS	0	14	14	Scheme is yet to be prepared
14	Complete Automation of 400 KV Bawana	LS	0	6	6	Scheme is yet to be prepared
15	A Single package for Complete Automation (involving new control room, New control and relay panel, Protection modernisation, video surveillance, remote operation and monitoring etc.) of following 220kV substations.					
	1 Najafgarh	LS	0	7	7	The committee constituted has given the recommendations for implementation of automation system through various packages/department.
	2 Narela	LS	0	7	7	
	3 Gopalpur (ALDC building will used for Automation)	LS	0	5	5	
	4 Kashmiri Gate	LS	0	7	7	
	5 Sarita Vihar	LS	0	7	7	
	6 Okhla (Existing Building remodelling)	LS	0	5	5	
	7 Mehrauli	LS	0	7	7	
	8 Vasantkunj	LS	0	7	7	
	9 Patparganj	LS	0	7	7	
	10 Gazipur (ALDC building will used for Automation)	LS	0	5	5	
	11 Wazirabad (Existing Building remodelling)	LS	0	5	5	
	12 Park St (Existing building will remodelled for automation)	LS	0	5	5	
	13 IP Power	LS	0	7	7	
	14 Pragati (Existing Building remodelling)	LS	0	5	5	
	15 Shalimarbagh (Existing Building remodelling)	LS	0	5	5	
	16 MAIN Control Room at Maharani Bagh	LS	0	15	15	
16	500 MVA addition along with bay additions at Bamnauli	1	500	25	25	Scheme is yet to be prepared
17	Installation of new 220/33 kV, 100 MVA ICT at Geeta colony	1	100	6	6	Scheme is yet to be prepared
18	100 MVA ICT to 160 MVA ICT capacity augmentation at Mehrauli	1	160	8	8	Scheme is yet to be prepared
19	100 MVA ICT to 160 MVA ICT capacity augmentation at Patparganj	2	160	16	16	Scheme is yet to be prepared
20	220KV Bus strengthening from double zebra to quad zebra at Narela, Okhla and Rohini-I	3	S/stn	1.2	1.2	Scheme is yet to be prepared
21	HTLS re-conductoring on the old portion of the 220kV Bamnauli-NJF-KJH-MUNDAKA-BAWANA LINE	50	ckt.kms.	40	40	Scheme is yet to be prepared
22	Augmentation of 20 MVA transformer to 31.5 MVA at Najafgarh	2	nos	4	4	Scheme is yet to be prepared
23	Augmentation of 20 MVA transformer to 31.5 MVA at Okhla	2	nos	4	4	Scheme is yet to be prepared
24	Augmentation of 20 MVA transformer to 31.5 MVA at Sarita Vihar	2	nos	4	4	Scheme is yet to be prepared
25	Augmentation of 16 MVA transformer to 25 MVA at Subzi Mandi	2	nos	4	4	Scheme is yet to be prepared
26	66KV Hybrid conversion at Najafgarh	14	bays	12.6	12.6	Scheme is yet to be prepared
27	66KV Hybrid conversion at Narela	10	bays	9	9	Scheme is yet to be prepared
28	Establishment of Training cum learning Center/Residential Complex Augmentation	1	0	20	4	It will be utilised against the other capital nature civil works.
29	Other Civil works	1	0	15	3	It will be utilised against the other capital nature civil works.
30	Land Cost				20	License fee paid on yearly basis to Power dept, GNCTD, will be adjusted.
Total (Rs. In Crore)					1340	

Steering Committee considered the Business Plan for 2017-18 to 2019-20 and advised DTL to focus the projects particularly envisaged for providing reliable power supply in the capital and adhere to the timelines for their completion.

6. DDA Land Pooling- Power Requirement

A meeting in this regard was held on 28.09.2017 in the office of Secretary (Power), GNCTD wherein the representatives of DDA, SLDC and DTL were present and it was decided that DDA will provide copies of the notified Zonal Development Plan and Land Pooling areas. A copy of land use plan of DDA would also be provided to DTL and GNCTD for examining the matter.

Later on the same was handed over to DTL.

It is revealed that number of 400kV, 220kV and 66kV substations were earmarked for MPD-2021. Further, the utilities involved are TPDDL, BRPL and DTL.

In the Steering Committee meeting, copies of the documents obtained from DDA were handed over to TPDDL and BRPL for further review of the matter and it was decided to hold a separate meeting with DDA, BRPL and TPDDL to understand the issue and for further deliberations.

7. Establishment of 220KV ESS at Sarojini Nagar for redevelopment of General Pool Residential Accommodation (GPRA) Colonies at Sarojini Nagar, Netaji Nagar and Nauroji Nagar

NDMC informed that land for the 220kV S/Stn. has been identified and requested DTL for establishment of 220/33kV ESS for redevelopment of the 3 No. GPRA Colonies. The land size of 111.2 m X 90 m has been finalized for establishment of 220kV GIS to meet the load of 228MVA for GPRA Colonies at Sarojini Nagar, Netaji Nagar and Nauroji Nagar.

As decided in the last Steering Committee meeting, subsequent meeting was held in the office of Director (Operations) DTL wherein the representative of NBCC were present. NDMC was not present in the meeting. However, certain issues as given here under were flagged during the meeting which are required to be addressed for further processing in the matter:

- a) Whether the 220kV sub-station is required on Deposit Mode or not?
- b) What would be the mode of allocation/ handing over/transfer of ownership of land?

NDMC was requested to clarify the above points.

NDMC informed that the 220kV substation is required on Deposit basis and NBCC shall handover the piece of land to DTL for establishment of the sub-station. NDMC is also being provided such facilities to establish downstream substations to feed the areas being developed. NDMC requested DTL to provide the estimate for establishment of the 220kV, 3x100MVA substation as per the request of NBCC.

TPDDL Representative opined that as per the Regulatory Provisions there is no legal bar for establishing a 220kV S/Stn. under Depository mode to meet the consumer demand for which

consumer has to provide land and other facilities. In such case, the implementing agency would get only the O&M charges for operating and maintaining the Substation. He also cited the example of establishment of 220/66kV DSIDC Bawana S/Stn. in DVB time. The downstream 66kV S/Stn. were also established in deposit mode.

Concluding discussions the Steering Committee advised DTL to device the scheme for establishment of 220/33kV, 3x100MVA Substation as per the load requirement projected by NBCC at the earliest on deposit mode. For system stability, 2 no. 25MVAR Reactors may also be included in the scheme.

I. MES Agenda

1. Provision of 33 KV Grid S/Stn. at Nau Sena Bhawan-II

MES intimated that four no. existing 33kV feeders from 220kV Naraina Sub-station of DTL are providing supply at Shekhawati and Kirby sub-stations (two feeders to each substation). Further, they are proposing 33/11kV S/Stn. at Nau Sena Bhawan-II near Military Farm which will be tapped from 33kV Shekhawati S/Stn. and Kirby S/Stn. The additional load of 12 MVA is to be connected.

MES requested to provide approval for installation of new 33kV Grid at Nau Sena Bhawan-II.

Steering Committee considered the proposal submitted by MES and agreed 'In Principle'.

The meeting ended with thanks to the Chair.

Annexure

ATTENDANCE SHEET

Sr. No.	Name of the Officer	Designation	Organisation	Contact No.	E-mail address
1.	Shri V. Venugopal	G.M.(Planning)	DTL	9871093902	venugopal.v1960@yahoo.co.in
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Annexure

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