DEPARTMENT OF POWER, GNCTD

SUMMER ACTION PLAN

In respect of Power Supply arrangements

2018

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CHAPTER – 1

INTRODUCTION

INTRODUCTION

During the summer season of 2017 Delhi has witnessed an all time peak demand of 6526 MW on 6th of June, 2017 at 15:31 hours. This peak demand was successfully met by the Delhi Transmission and Distribution system.

Delhi SLDC has worked out the anticipated power scenario for Summer months i.e. from April 2018 to September 2018 based on the historical data trends. As per the results the peak demand of Delhi is expected to reach 7000 MW during the oncoming summer season of 2018.

In order to meet the anticipated demand and to review the preparations / arrangements made by the power utilities regular reviews have been taken by the Power Department and based on these reviews this document has been prepared on the following points:

1. Details of Augmentation and improvement in Transmission and Distribution networks to meet the anticipated power demand.

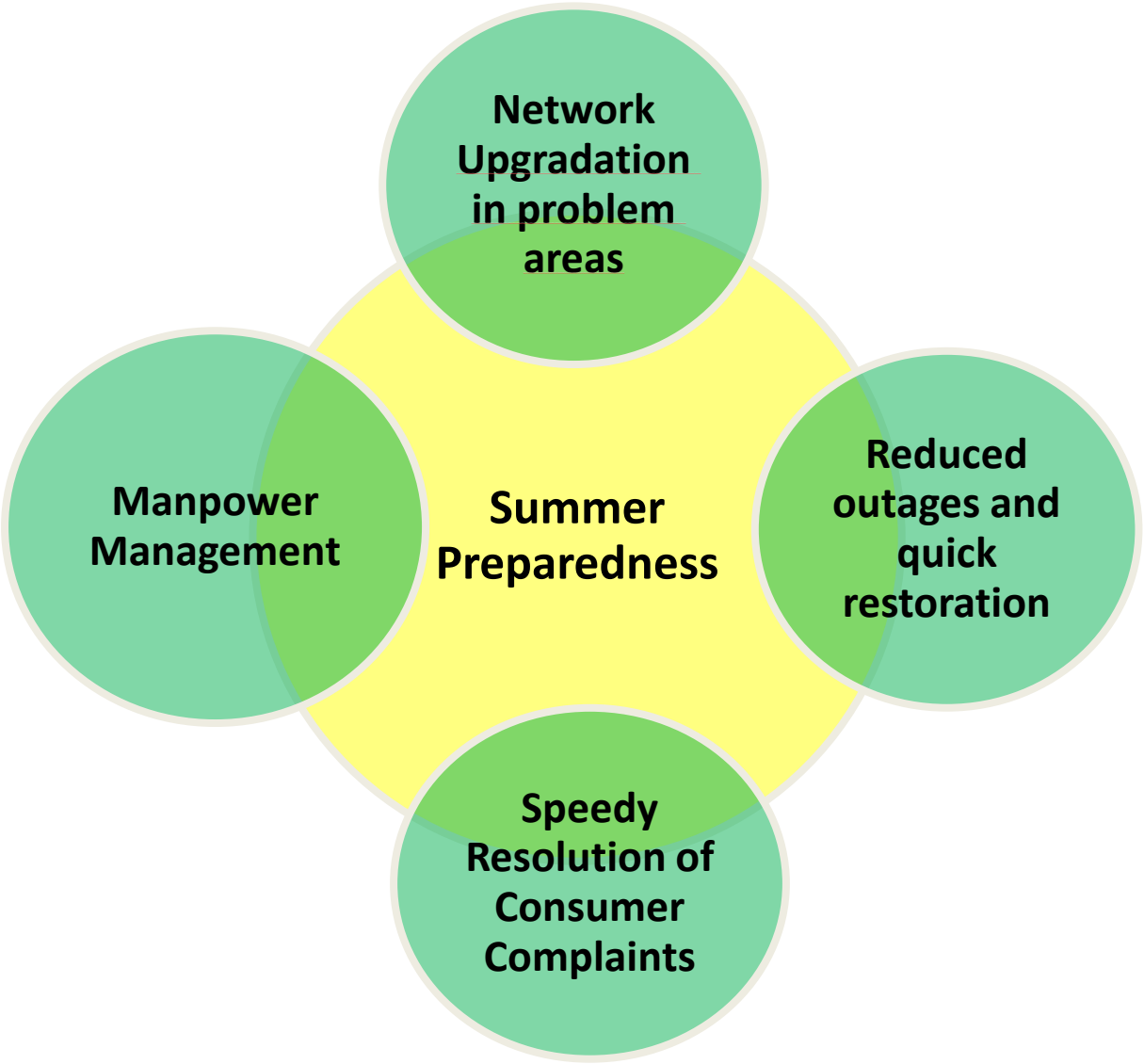
2. Details of additional measures taken such as Deployment of Additional Manpower, Vehicles, Teams, etc.

3. Strengthening of Consumer complaints handling mechanism in DISCOMs.

4. Details of Emergency Complaint Number for Consumer complaints.

5. Daily MIS reports to be submitted to Power Department for appraisal of Hon'ble Ministers.

KEY FOCUS AREAS



CHAPTER – 2

Anticipated Power Demand viz-a-viz Availability during the Summer months April'18 to September'18

ANTICIPATED DEMAND FIGURES

Methodology for working out the Anticipated Demand

Anticipated Power Demand figures for Summer months of 2018 i.e. from April 2018 to September 2018 have been worked out based on the previous years data by considering a weightage factor of 40%, 30%, 15%, 8%, 4%, 2% and 1% for growth in demand with respect to previous year starting from last year.

Assumptions made for working out the Demand – Availability scenario:

1. Availability from DVC has been considered as 375 MW only considering its past record.
2. Generation from Bawana CCGT has been considered as 525 MW (Delhi Share) and GT - 125MW.
3. Generation from BTPS has been considered as 360 MW from April – June 2018, thereafter it has been considered as Nil.

With the above assumptions the consolidated figures for Delhi as a whole are:

ALL FIGURES IN MW ***As on 27.02.2018***

S. No.	DETAILS OF SOURCES	APRIL 2018	MAY 2018	JUNE 2018	JULY 2018	AUG 2018	SEPT 2018
A.	ANTICIPATED DEMAND	**6000**	**6450**	**7000**	**6500**	**6400**	**6000**
B.	GENERATION WITHIN DELHI	1280	1280	1280	920	920	920
C.	AVAILABILITY FROM CENTRAL SECTOR STNs	3630	3791	3887	3887	3919	3887
D.	ADDITIONAL TIE-UPS	1084	1889	2068	2017	1859	1631
E.	TOTAL AVAILABILITY INCLUDING BILATERALS (B+C+D)	**5995**	**6960**	**7235**	**6824**	**6698**	**6438**
F.	SHORTAGE (-) / SURPLUS (+) = (E)-(A)	**-5**	**510**	**235**	**324**	**298**	**438**

CHAPTER – 3

Details of Augmentation and system improvement works done for meeting the Summer Demand

WORKS DONE IN TRANSMISSION SYSTEM by DTL

In the year 2017 Transmission System of Delhi has successfully met an all time peak demand of 6526 MW on 6th of June, 2017 at 15:31 hours. The circle-wise load position of the Transmission system viz-a-viz installed capacity at the time of peak demand is as under:

S. No.	Circle	Installed Capacity (in MVA)	Installed Capacity (in MW)	Load at the time of Peak Demand of 6526 MW (in MW)
(i)	(ii)	(iii)	(iv) = (iii) X 0.95	(v)
1.	NORTH	2380	2261	1546
2.	WEST	2260	2147	1340
3.	SOUTH & NDMC Area	3060	2907	1456
4.	CENTRAL & NDMC Area	1820	1729	929
5.	EAST	2000	1900	930

In addition to the above installed capacity, in view of anticipated load demand of Summer 2018 following capacity / new elements have been added in the Transmission system by Delhi Transco Limited:

1. In 220 kV System of DTL in order of Date of Energization:

S. No.	Name of 220 kV Sub-Station	Name of Element	Date of Commissioning
1.	Masjid Moth	220/33kV 100MVA Tx-III	05.06.17
2.	Peeragarhi	220/33kV 100MVA Tx-I	20.07.17
3.	Papankalan-I (PPK-I)	Loop in and Loop out of 220kV Bamnauli-Naraina CKT-II at PPK-I,	08.11.17
4.	Papankalan-III (PPK-III) **(New Sub-station)**	Loop in and Loop out of 220kV BML-Naraina CKT-I & BML-PPK-I CKT-III (LILO) at PPK-III along with 220/66 kV, 2 X 160 MVA Power Transformers	27.12.17

A total of 520 MVA of Transformation capacity has been added in the system and another 200 MVA will be added at 220 kV level before summer season by DTL.

2. In 66 kV System of DTL in order of Date of Energization:

S. No.	Name of 220 kV Sub-Station	Name of Element	Date of Commissioning
1	DSIIDC Bwn	66kV Narela Sub-city CKT-I & II	01.04.17
2	Gopalpur	66kV Bhalswa CKT	08.04.17
3	Shalimar Bagh	66kV Pitampura CKT-I & II	12.05.17
4	Shalimar Bagh	66kV SGTN CKT-I & II	12.05.17
5	Rohini-II	66kV RG-30 CKT-II	01.06.17
6	Sarita Vihar	66kV Mithapur CKT	15.07.17
7	Sarita Vihar	66kV Jasola CKT	09.09.17
8	Gopalpur	66kV Burari CKT	12.10.17
9	SOW	66kV Shastri Park CKT-III & IV	25.10.17
10	Sarita Vihar	66kV DMRC - Kalka ji CKT	02.12.17
11	Mehrauli	66kV Fatehpur Beri CKT-I	28.12.17
12	Mehrauli	66kV Fatehpur Beri CKT-II	16.01.18

3. In 33 kV System of DTL in order of Date of Energization:

S. No.	Name of 220 kV Sub-Station	Name of Element	Date of Commissioning
1	Peeragarhi	33kV Sudershan Park CKT	05.04.17
2	Preet Vihar	33kV CBD CKT-I & Preet Vihar CKT	05.05.17

Commissioning of New 220 / 66 / 33 kV Sub-station at R. K. Puram

In addition to the above works construction of 220 / 66 / 33 kV Sub-station at R. K. Puram is in advanced stage and is expected to be commissioned by 31st March, 2018.

This substation has both 66 & 33 kV levels for feeding the BRPL and DMRC system with Transformation capacity as under:

220 / 66 kV	-	2 X 160 MVA	=	320 MVA
220/33 kV	-	2 X 100 MVA	=	200 MVA
		TOTAL	=	**520 MVA**

Works done in Distribution System by BSES Rajdhani Power Ltd.

(As submitted by BRPL)

A BRIEF SYNOPSIS OF SUMMER 2017:

In Summer 2017 Key Focus was on improving Distribution Network at EHV, 11 kV & LT Level. Following capacity additions were done by BRPL for meeting the summer demand of 2017:

a. EHV Capacity Addition: (**209 MVA**) detailed as under:

i. Major Grids made operational – G4, G7 & Meethapur (GIS)

ii. Major Cable Infeed projects complete – Malviya Ngr – Batra & Malviya Ngr – TGL

iii. Power Transformation Augmentation / Addition Jobs Completed- 7 Grids

b. Distribution Capacity Addition: (**226 MVA**).

c. Above spending had a very favorable impact on the SAIFI & SAIDI :

i. FY17 SAIDI (Hrs/Customer/Year) : 1.61 (FY16 – 2.11 : 24% Impr.)

ii. FY17 SAIFI (Events/Customer/Year) : 1.23 (FY16 -- 1.70 : 28% Impr.)

d. DTL Reliability also **Improved Significantly** – 70% improvement (Summer 17 - 1.66 MUs as compared to Summer 16 – 4.95 MUs)

e. 14 out of 18 Critical pockets of poor reliability were addressed.

f. Outage at DT level – Summer17 Vs Summer16-reduction by 22%

CAPACITY ADDITION PLAN FOR SUMMER 2018

1. EHV Capacity Addition: (221 MVA)

i. Addition of New Grids–

1. Fatehpur Beri Grid (Charged) – 50 MVA Capacity added.
2. Meethapur Grid (Charged) – 50 MVA Capacity added.
3. G1 Grid – In-feed work awarded, work in progress.
4. Sangam Vihar – In-feed work awarded, work in progress.

ii. Addition of New Cables / Circuits :

66 kV Circuits for Power evacuation from new DTL Grids (PPK3 & TBD)

1. PPK3 Grid to G4 Grid
2. PPK3 Grid to G6 Grid
3. Tuglakhabad Grid to Batra Grid
4. Pankha Road Grid to Hari Nagar Grid
5. Paschim Vihar Grid to Guru Gobind Singh Hospital Grid
6. PPK2 Grid to G1 Grid (Plan B before Summer 18)
7. IGNOU to Sangam Vihar Grid (Plan B before Summer 18)

iii. Augmentation / Addition of Power Transformers (PTR):

- **Total Nos. of PTR Augmentation – 3 Nos.**
  Batra Grid, 1 No. – completed.
  Sagarpur Grid, 2 Nos. - by March 2018.

- **Additional PTR Installed -7 Nos.**
  Completed - 5 Nos. (Paschim Vihar, Bindapur, G-2 PPK, Hudco, Jamia)

  To be commissioned by March 2018, 2 Nos.- At Chowkhandi & G-4 PPK

iv. Overhauling of Power Transformers (PTR):

Total Nos. of PTR taken under overhauling - 32 nos.
Status - 8 nos. completed, balance work in progress will be completed by March 2018

v. Augmentation / Addition at Distribution Level:

Capacity addition of 250 MVA has been planned for Distribution system Augmentation through 315 no. Schemes.

Main emphasis is on 4 critical pockets, details of pockets and associated works undertaken there are as under:

1. **Vikaspuri | Uttam Nagar | Milap Nagar | Mohan Garden | Part of Dwarka.**

Initiatives taken:

i) Double Decker substation.
ii) 8 New 11 kV Feeders
iii) G1 Grid - Plan B
iv) Segregation to 3 Divisions
v) Addition at Distribution Transformer level.

2. **Chattarpur | Fatehpur Beri | Maidangarhi**

Initiatives taken:

i) Commissioning of Fatehpur Beri Grid
ii) Andheria Bagh Infeed Strengthening
iii) 8 New 11 kV Schemes
iv) Addition at Distribution Transformer level.

3. **Nangloi | Swarn Park | Tikri Kalan | Mundka**

Initiatives taken:

i) 4 New 11 kV Feeders
ii) Addition at Distribution Transformer level

4. **Badarpur**

Initiatives taken:

i) Meethapur Grid
ii) 8 New 11 kV Feeders
iii) Addition at Distribution Transformer level

Works done in Distribution System by BSES Yamuna Power Ltd.

(As submitted by BYPL)

NETWORK UPGRADATION PLAN

Network Element	Unit	Capacity Addition Plan for Summer 18	
		Proposed	Completed as on 09/01/2018
66 & 33kV Infeeds	km	36	23.5
66 & 33kV Grids	MVA	154	107
11kV Feeders	km	25	23.6
11kV Substations*	MVA	87	57.8
LT Feeders	km	66	50

CAPEX of 200 crores (approx) planned on Network Up-gradation

66/33KV In-feed Scheme Details

S No.	Scheme Description	Status	Capacity Added Till Date (km)	Expected Date of Completion
1	220kV Geeta Colony to C Block Krishna Nagar	Complete	9	
2	LILO of Preet Vihar to CBD-I Interconnector at 220kV Preet Vihar	5.8 km cable laid	5.8	February-18
3	LILO of GAN to Shakarpur Interconnector at 220kV Preet Vihar	7.2 km cable laid	7.2	February-18
4	220KV Park Street to Shankar Road Grid	Work in Progress		March-18
5	220KV Park Street to Prasad Nagar Grid	1.5 km cable laid, Rest WIP	1.5	March-18
Total			23.5	

66 & 33KV Transformer Scheme Details

S No.	Scheme Description	Capacity Added Till Date (MVA)	Status / Expected Date of Completion
1	New grid at C Block Krishna Nagar	36	Complete
2	Power Transformer addition at Dwarkapuri	25	Complete
3	ONAN to ONAF Conversion at Prasad Nagar, Motia Khan , Jhilmil & Faiz Road (6 Trafos)	21	Complete
4	Power Transformer addition at Vivek Vihar	25	Complete
5	Power Transformer addition at GH-2		Feb-18
6	Power Transformer addition at Dallupura		Jan-18
Total		**107 MVA**	

Overhauling of Power Transformers (PTR):

Total Nos. of PTR taken under overhauling - 4 nos. (Capacity 72 MVA)

Distribution Transformers (DTs):

- No. of locations where DT capacity augmented - 66 Nos.
- No. of locations where new DTs installed - 42 Nos.
- Total MVA capacity added at DT level - 58 MVA.

Works done in Distribution System by TATA Power Delhi Distribution Company Ltd.

(As submitted by TPDDL)

EHV WORKS

EHV Project – Sub-Urban Circle

	Key jobs	Area Benefitted
New Grid	UPTO SUMMER'18 • 66/11kV Karala GIS Grid	Karala, Kanjhawla Bawana, Pooth Khurd
Transformer Addition	UPTO SUMMER'18 • 66/11 KV, 20 MVA PTR -3 at A-7 Narela Grid. • 66/11 KV, 20 MVA PTR -4 at DSIDC-1 Grid. • 66/11 KV, 20 MVA PTR -4 at DSIDC-2 Grid.	DSIIDC Narela
LINE ADDITION	UPTO SUMMER'18 • 66 KV Double Ckt Line from 220kV Kanjhawala to Karala Grid. • 66KV Double ckt line from RG 34 to BW06 Grid	Karala, Kanjhawla Bawana, Pooth Khurd

EHV Project – Urban Circle

	Key jobs	Area Benefitted
New Grid	66/11kV DJB Burari Grid Charged	Burari, Sant Nagar,
Transformer Addition	66/11 KV 4th PTR at Bhalaswa Grid	Bhalaswa, Swaroop Nagar
LINE ADDITION	66kV D/C from RG-6 to RHN DC-1 Grid	Rohini

EHV Project – Town Circle

	Key jobs	Area Benefitted
Transformer Addition	• 33/11kV 25 MVA 3rd PTR at Gulabi Bagh Grid Charged	Gulabi Bagh
Line Addition	• Single to twin cable of 33 kV Subzi Mandi to Shakti Ngr Ckt. • Single to twin cable of 33 kV ShahzadaBagh - GulabiBagh Ckt.	Shakti Nagar, Roop Nagar, Gulabi Bagh, Ashok Vihar

EHV Project – City Circle

	Key jobs	Area Benefitted
Line Addition	Single to twin cable of 33 kV Rewari Lines to Payal Ckt.	Suadrshan Park, Basai Darapur

EHV Project – Metro Circle

	Key jobs	Area Benefitted
New Grid	• 66/11 KV RG-20 Grid	Rohini Sector 22, 23, Sector 2
Line Addition	• 66 KV D/C from Karala to RG-20. • 66 KV D/C from RG-20 to RG-22.	Karala, Kanjhawla, Rohini

Revamping/Strengthening of Old Equipment

	Key jobs	Area Benefitted
Power Transformers	• Rewari Lines; PTR-1; 16 to 25 MVA • 220 Bawana; PTR-2; 20 to 25 MVA • Shakti Nagar; PTR-2 ; 20 to 25 MVA	Rohini, Kirti Nagar, Moti Nagar, DSIDC Bawana, Shakti Nagar
Lines	• 66kV Narela-Bhalswa Ckt 1 & 2 (Partial)	Azadpur, Jehangirpuri, SGTN, Bhalswa

11 KV Schemes- System Improvement

Head	Key jobs	Problem mitigation
New Feeder/Interconnector	No. of New Feeder Scheme- 18 Nos. Cost- Rs. 10.96 Cr.	Overload mitigation and N-1 back up availability
	No. of interconnector Schemes- 24 Nos. Cost- Rs. 4.5 Cr.	
Transformer Addition/ Augmentation	No. of Schemes (DT Addition)- 273 Nos. Cost- Rs. 17.07 Cr.	DT overload mitigation/ New connection release
	No. of Schemes (DT Augmentation)- 25 Nos. Cost- Rs. 2.64 Cr.	
Sick Cable (U/G & HT ABC) / Conductor Replacement	No. of Schemes (Sick Cable replacement)- 76 Nos. Cost- Rs. 16.60 Cr.	Reliability improvement
	No. of Schemes (Conductor replacement) - 6 Nos. Cost- Rs. 3.7 Cr.	
Reliability (RMU)/Auto-recloser /sectionalizer	No. of Schemes - 108Nos. Cost- Rs. 9.31 Cr.	Safety/ Operational ease

LT Schemes- System Improvement

Head	Key jobs	Problem mitigation
New Feeder/Interconnector	No. of Schemes - 29 Nos. (Cost- Rs. 3.04 Cr.)	Overload mitigation and technical loss reduction
Sick Cable (U/G & LT ABC)/ Conductor Replacement	No. of Schemes - 9Nos. (Sick Cable Replacement) (Cost- Rs. .65 Cr.)	Reliability improvement

Overhauling of Power Transformers (PTR):

Total Nos. of PTR taken under overhauling - 12 nos. (Capacity 250 MVA)

CHAPTER – 4

Additional Measures taken for Summer Season in terms of Maintenance Techniques, Manpower deployment, additional breakdown vehicles, etc.

DELHI TRANSCO LIMITED

1. Quick Response Teams (QRTs)

QRTs will be deployed in each O&M circle i.e.

- DGM(T) O&M - East
- DGM(T) O&M - West
- DGM(T) O&M - North
- DGM(T) O&M - South

These QRTs will be equipped with a full fledged maintenance team with a dedicated vehicle each to attend breakdowns in Transmission system on Round-the-Clock basis throughout summer months.

2. Maintenance Assistance Teams (MATs)

Maintenance Assistance Teams (MATs) are being put in place In addition to the existing teams from regular Maintenance Contracts. These MATs will be utilized for carrying out the detailed work in case of a breakdown/ equipment replacement or any other major work required.

3. Availability of Material and Equipments:

Additional Equipments have been purchased under Power System Development Scheme (PSDF) fund and are available in DTL stores to meet any requirement and exigency on the material and equipment front.

BSES Rajdhani Power Company Ltd. (BRPL)

A. SPECIAL STEPS TAKEN FOR REDUCING THE TRIPPINGS FOR :

1. Overhead Lines, DTs & RMUs :

- Thermo scanning of DT's, LT feeders & LT ACB (1848 completed)
- Tree Trimming – being done by both south & west circles during PM.
- Partial discharge scanning of HT feeder/DT/RMU.
- Installation of real time communication system, distribution automation in RMUs.
- Pole cleaning drive.
- Special projects undertaken for DT & RMU preventive maintenance

2. Underground Cables :

- Joint Marker over U/G cable
- Strict quality control on jointing operations
- GPS mapping of cable sections.
- Route patrolling of UG Ckts.
- Patrolling Team for preventing cable damage by external agencies

B. ARRANGEMENTS FOR SPARE POWER TRANSFORMERS & MOBILE TRANSFORMERS :

1. Spare PTRs available for Emergency – 3 Nos. (1 each of 20, 16 & 15 MVA capacity)

2. Mobile Distribution Transformers – 38 Nos.
   (25 x 990 & 13 x 630 KVA)
   Capacity – 33 MVA
   20 Nos additional trolleys planned

3. Availability of DTs in Stores - Ample stock arrived at on the basis of previous years trend and comprising of different capacity is available to Cater to the requirement.

C. DEPLOYMENT OF RESOURCES :

1. Deployment of Manpower :

- Control Room in South & West Circle and another Master control Room at SCADA for 11 KV Monitoring on 24 x 7 basis.
- 25 B/D Teams have been deployed in 19 Division on 24 x 7 basis.
- Dedicated 24x7 NCC crew in each Complaint centre.
- 18 Nos. cable fault restoration team one in each division
- Dedicated RMU repair team 6 days a week.
- Dedicated LT ACB repair team 6 days a week.
- Operation in DT workshop 6-days a week.
- Dedicated High Mast maintenance Team.

2. Deployment of Vehicles :

- 25 Nos. of vehicles operating round the clock for attending break-down spread over 19 divisions.
- 18 Nos. Testing Vans for locating underground faults
- 6 Nos. Tower – wagons for high-mast & streetlight complaints/maintenance.
- One vehicle for street light patrolling to ensure 100% functionality of street light.

D. IN HOUSE SPECIAL ARRANGEMENTS FOR SUMMER :

- Dedicated round the clock 11 Operations Teams and 2 teams added to attend Grid/Lines Breakdown & Supply restoration.
- Dedicated In-house team Support for Switchgear/DC System/Transformers.
- Ample Stock of critical inventory required for supply restoration Like Breaker Spares, EHV Cables, Joint Box, Termination, CT/PT, Transformer Oil, and Control Cable – sufficient nos. of Breakers, CT/PT, ABB spares expected to be received by Feb. end. 1st lot of CT/PT recd.
- Localized Outage Identification to monitor 11 KV downstream outages.
- Robust Monitoring System & Fault escalation System.
- Surveillance of Complaint Centres.
- Effective customer communication
- Advanced OMS (iOMS) already functional

BSES Yamuna Power Company Ltd. (BYPL)

A. SPECIAL STEPS TAKEN FOR REDUCING THE TRIPPINGS FOR :

1. Overhead Lines, DTs & RMUs :

- Thermo scanning of LT feeders & DTs/LT ACB
- Tree Trimming,
- Partial discharge scanning of HT feeder/ DT/RMU/UG cable.
- Installation of real time communication system, distribution automation in RMUs.
- Pole cleaning drive.
- Use of Ester oil to enhance DTs capacity.
- Replacement of worn out/faulty overhead section.
- Health assessment of transformers to prevent failure (oil testing)

2. Underground Cables :

- Joint Marker over U/G cable.
- Coffin on cable joint.
- GPS mapping of cable sections.
  Route patrolling of UG Ckts.
- Partial discharge measurement of underground HT and EHV cables .

B. ARRANGEMENTS FOR SPARE POWER TRANSFORMERS & MOBILE TRANSFORMERS :

1. Spare PTRs available for Emergency – 3 Nos. (56 MVA capacity)

2. Mobile Distribution Transformers – 25 Nos. (22.5 MVA)
   Geographically distributed in each division

3. Availability of DTs in Stores - Ample stock arrived at on the basis of previous years trend and comprising of different capacity is available to Cater to the requirement.

C. DEPLOYMENT OF RESOURCES :

1. Deployment of Manpower :

- Dedicated 24x7 B/D crew in each Division.
- Dedicated 24x7 NCC crew in each Complaint center.
- 14 Nos. cable fault restoration team one in each division
- Dedicated RMU repair team 6 days a week
- Dedicated LT ACB repair team 6 days a week
- Operation in DT workshop 6 days a week.
- Dedicated High Mast maintenance Team.

2. Deployment of Vehicles :

- 30 Nos. of vehicles operating round the clock for attending break-down spread over 14 divisions
- 13 Nos. Testing Vans for locating Underground Faults
- 16 Nos. Tower-wagons for High-mast & streetlight complaints/maintenance.
- 14 Nos. vehicle are for streetlight complaints/maintenance.
- One vehicle for street light patrolling to ensure 100% functionality of street light.

D. IN HOUSE SPECIAL ARRANGEMENTS FOR SUMMER :

- Dedicated round the clock 9 Team for 24x7 to attend Grid/Lines Breakdown & Supply restoration.
- Dedicated In-house team Support for Switchgear/DC System/Transformers.
- Ample Stock of critical inventory required for supply restoration Like Breaker Spares, EHV Cables, Joint Box, Termination, CT/PT, Transformer Oil, and Control Cables

SPECIAL MEASURES TAKEN FOR PROBLEM AREAS IN SUMMER 2017

After identifying the repeated problem areas during last summer and with the analysis of the fault patterns, following measures have been taken to mitigate the cause:

S. No.	Name of the Division	Analysis and Action Taken
1.	JHILMIL	High nos. of LT outages were observed in this Division during last summer season. In order to address the problem exhaustive preventive maintenance of LT Circuit including Hot Spot Scanning, Load Balancing, Capacity Addition has been carried out.
2.	SHANKAR ROAD	High nos of outages were observed in HT and LT O/H network in this Division during last summer season. In order to address the problem exhaustive preventive maintenance of O/H circuit including Partial Discharge, Thermal Scanning, Replacement of porcelain insulator with polymer insulator, Jumper Sleeving has been carried out.
3.	NAND NAGRI	High nos of outages were observed in HVDS network in this Division during last summer season. In order to address the problem exhaustive preventive maintenance of O/H HVDS including Partial Discharge, replacement of HVDS cables and leads, installation of RMUs to create more sections in the network , capacity enhancement of HVDS DTs from 25 KVA to 50 KVA and Ester oil filling of 25 KVA DTs has been carried out.
4.	KARAWAL NAGAR	High nos of outages were observed in HVDS network in this Division during last summer season. In order to address the problem exhaustive preventive maintenance of O/H HVDS including Partial Discharge, replacement of HVDS cables and leads, installation of RMUs to create more sections in the network , capacity enhancement of HVDS DTs from 25 KVA to 50 KVA and Ester oil filling of 25 KVA DTs has been carried out.
5.	LAXMI NAGAR	High nos. of LT outages were observed in this Division during last summer season. In order to address the problem exhaustive preventive maintenance of LT Circuit including Hot Spot Scanning, Load Balancing, Capacity Addition has been carried out.

TATA Power Delhi Distribution Company Ltd. (TPDDL)

A. SPECIAL STEPS TAKEN FOR REDUCING THE TRIPPINGS FOR :

1. Overhead Lines, DTs & RMUs :

- Predictive maintenance of 11 kV Feeders & DTs through Thermo-scanning & Physical Audits
- Deployment of innovative products such as Insulation painting, Animal Guards, Bird Spikes, SMC Washers, Polyolefin Sleeve, Cantilever GO Switches, Chemical Earthing.
- Regular Tree Trimming & replacement of faulty DD units.
- Ultrasound scanning, Installation of real time communication system, distribution automation in RMUs, Pole cleaning drive.
- Installation of new Auto-reclosers & sectionalizers.
- Replacement of sick and old overhead section.

2. Underground Cables :

- Toll free number-Sticker Distribution to JCB & Trenchless Machine Operators for inter utility co-ordination
- Toll Free Number printing on Poles as a substitute of Physical Route Marker.
- GPS mapping of cable sections.
- Route patrolling of UG Ckts

B. ARRANGEMENTS FOR SPARE POWER TRANSFORMERS & MOBILE TRANSFORMERS :

1. Spare PTRs available for Emergency – 5 Nos.

2. Mobile Distribution Transformers – 39 Nos. (3 Nos. per District)
   Capacity – 25.4 MVA
   20 Nos additional trolleys planned

3. Availability of DTs in Stores - Ample stock arrived at on the basis of previous years trend and comprising of different capacity is available to Cater to the requirement.

C. DEPLOYMENT OF RESOURCES :

1. Deployment of Manpower :

- Dedicated 24x7 B/D crew in each zone/BU
- Dedicated 24x7 NCC crew in each zone/BU
- Round the clock FLC team with equipped mobile vans at 2 different locations
- Dedicated RMU repair team 6 days a week
- On-site DT repair 6 days a week
- 2 shift operation in DT workshop 6-days a week

2. Deployment of Vehicles :

- 53 Nos. of vehicles operating round the clock for attending break-down spread over 12 districts
- 3 Nos. of vehicles for Ultrasonic scanning and On site ACB Testing & Repairing
- 4 Nos. 24x7 Testing Vans for locating Underground Faults
- 11 Nos. Tower-wagons for High-mast & streetlight complaints/maintenance.
- 5 nos. of Sky Lifts for maintenance of O/H Network and emergency restoration services.

D. IN HOUSE SPECIAL ARRANGEMENTS FOR SUMMER :

- Dedicated round the clock Six Team for 24x7 to attend Grid/Lines Breakdown & Supply restoration.
- Dedicated In-house team & BA Support for Switchgear/DC System/Transformers.
- Ample Stock of critical inventory required for supply restoration Like Breaker Spares, EHV Cables, Joint Box, Termination, CT/PT, Transformer Oil, and Control Cables

CHAPTER – 5

Details of Consumer Care Centre Numbers for registration of Consumer Complaints & Manpower Arrangements for Consumer Care Centers

BSES Rajdhani Power Company Ltd. (BRPL)

COMPLAINT CENTRE NUMBERS

Telephone Numbers with IVRS : 011-39999707 & 19123 (Toll Free)

Telephone Numbers without IVRS : 011-33517100 (30 channels)

Toll Free Helpline for handling Fire/Shock & Streetlight complaints. : 1800-103-9707 (30 channels)

MONTH-WISE MANPOWER DEPLOYMENT PLAN

MONTH	PROPOSED MANPOWER TO BE DEPLOYED FOR COMPLAINT CENTERS
APRIL'18	135
MAY'18	225
JUNE'18	350
JULY'18	330
AUGUST'18	245
SEPTEMBER'18	155

BSES Yamuna Power Company Ltd. (BYPL)

COMPLAINT CENTRE NUMBERS

Telephone Numbers with IVRS : **011- 399 99 808 (200 Lines)**

Telephone Numbers without IVRS : **011- 30079300**

(Is available for Summer months and can be activated within a week if required beforehand)

MONTH-WISE MANPOWER DEPLOYMENT PLAN

MONTH	PROPOSED MANPOWER TO BE DEPLOYED FOR COMPLAINT CENTERS
APRIL'18	225
MAY'18	225
JUNE'18	225
JULY'18	225
AUGUST'18	225
SEPTEMBER'18	225

TATA Power Delhi Distribution Company Ltd. (TPDDL)

COMPLAINT CENTRE NUMBERS

Telephone Numbers with IVRS : **011-66404040** (90 channels)
Additional 60 channels will be provided.

Telephone Numbers without IVRS : **011 – 66200482, 66200495, 66200496**

Additionally, customer can register complaint thru Mobile App, SMS Pull Service, Website and Customer Login Section or by writing at customercare@tatapower-ddl.com

MONTH-WISE MANPOWER DEPLOYMENT PLAN

MONTH	PROPOSED MANPOWER TO BE DEPLOYED FOR COMPLAINT CENTERS
APRIL'18	106
MAY'18	126
JUNE'18	140
JULY'18	140
AUGUST'18	130
SEPTEMBER'18	120

CHAPTER – 6

Details of Daily Outage and MIS Reports to be submitted to Power Department by DISCOMs

MIS REPORTS TO BE SUBMITTED ON DAILY BASIS BY DISCOMs

1. Daily HT Breakdown Report to be submitted twice in a day (one for 24 hours from 06:00 hours to 06:00 hours next day and secondly for the period 06:00 to 16:00 hours same day).

2. Report of Consumer Complaint to be submitted twice in a day (one for 24 hours from 06:00 hours to 06:00 hours next day and secondly for the period 06:00 to 16:00 hours same day).

3. Complete data of consumer complaints including phone nos. and contact details of consumer, etc. for the complaints attended beyond 2 hrs. on previous day.

4. Login provided to Power department to see the Consumer Complaints Data management system, Outage Management System and other applications for supervising the system in real time.

5. Real Time Data of their Power System will be displayed by respective DISCOM on their Website.