

CAPITAL EXPENDITURE BY DISTRIBUTION COMPANIES OF THE BOARD FOR FY 2005-06 ON STRENGTHENING OF DISTRIBUTION AND SUB-TRANSMISSION SYSTEM - Comments invited- Last date-14-may-2005.

MPERC had noticed increasing failure rate of the distribution and power transformers since past few years in all the three distribution companies of the Board. Commission had also come to understand during several course of hearings on this matter that there are number of power and distribution transformers which are over loaded than the capacity and this is one of the reasons for high failure rate of transformers. Commission directed the Board and the Distribution Companies to identify all over loaded transformers and submit an action plan alongwith capital expenditure involved in augmenting the capacity and installation of additional transformers to provide relief to all over loaded transformers.

Commission has received the capital expenditure plan from all the three Distribution Companies of the Board for augmentation and installation of additional transformers to overcome problem of over loading of transformers. The company-wise CAPEX plan as submitted by the Companies is given below:

Expenditure planned in Rs. Lakh for FY 2005-06			
Name of Company	Strengthening of Distribution network including Augmentation and Additional DTRs	Improvement in Sub transmission network (including Power Transformers)	Total Expenditure planned for FY 2005-06
East Discom	Rs 4339	Rs. 5059.9	Rs. 9398.9
Central Discom	Rs. 4738	Rs. 6112	Rs.10850
West Discom	Rs 4390.08	Rs.5879.20	Rs.10269.28
Total	Rs. 13467.08	Rs. 17051.10	Rs. 30518.18

The above expenditure on strengthening of distribution network including augmentation and additional works of distribution and power transformers has covered the following works of power and distribution transformers:

EAST DISCOM

(a) Power Transformers

Name of the Region	No. of Power Transformers over loaded	No. of Power Transformer to be augmented under various schemes				No of Additional Power Transformers proposed under various schemes			
		Scheme				Scheme			
		ADB*	APDRP**	STN***	Total	ADB	APDRP	STN	Total
Total East Zone	76	2	30	31	63	3	8	2	13

(b) Distribution Transformers

Name of the Region	No. of Distribution Transformers overloaded	No. of Distribution Transformer to be augmented	No of Additional Distribution Transformers proposed	Extension of 11 KV line involved (Kms.)
Jabalpur Region	1883	710	1173	586.5
Rewa Region	474	128	346	173
Sagar Region	409	118	291	145.5
Total East Zone	2766	956	1810	905

CENTRAL DISCOM

(a) Power Transformers

Name of the Region	No. of Power Transformers over loaded	No. of Power Transformer to be augmented under various schemes				No of Additional Power Transformers proposed under various schemes			
		Scheme				Scheme			
		ADB	APDRP	STN	Total	ADB	APDRP	STN	Total
Bhopal Region	69	0	0	34	34	6	14	41	61
Gwalior Region	48	10	0	20	30	26	3	28	57
Total Central Zone	117	10	0	54	64	32	17	69	118

(b) Distribution Transformers

Name of the Region	No. of Distribution Transformers over loaded	No. of Distribution Transformer to be augmented				No of additional Distribution Transformers proposed			
		Scheme				Scheme			
		ADB	APDRP	ND	Total	ADB	APDRP	ND	Total
Bhopal Region	1586	0	0	1000	1000	350	128	200	678
Gwalior Region	1772	0	0	850	850	1128	1613	0	2741
Total Central Zone	3358	0	0	1850	1850	1478	1741	200	3419

WEST DISCOM

(a) Power Transformers

Name of the Region	No. of Power Transformers over loaded	No. of Power Transformer to be augmented under various schemes				No of Additional Power Transformers proposed under various schemes			
		Scheme				Scheme			
		ADB	APDRP	STN	Total	ADB	APDRP	STN	Total
Indore Region	88	6	2	25	33	12	0	37	49
Ujjain Region	319	0	0	36	36	15	27	36	78
Total West Zone	407	6	2	61	69	27	27	73	127

(b) Distribution Transformers

Name of the Region	No. of Distribution Transformers over loaded	No. of Distribution Transformer to be augmented				No of Additional Distribution Transformers proposed			
		Scheme				Scheme			
		ADB	APDRP	ND	Total	ADB	APDRP	ND	Total
Indore Region	6681	0	0	2767	2767	1081	400	309	1790
Ujjain Region	4012	0	0	2538	2538	955	0	500	1455
Total West Zone	10693	0	0	5305	5305	2036	400	809	3245

* **ADB** - Asian Development Bank , ****APDRP** – Accelerated Power Development and Reform Programme, *****STN** – Sub Transmission Normal

MPSEB in its Tariff Petition filed with the Commission for FY 2005-06 has shown a planned CAPEX of Rs. 650 Crores for sub-transmission works. The Board vide its same petition filed with the Commission has provided a company-wise loss reduction plan involving expenditure of Rs. 654.30 Crores. The Company-wise breakup for the expenditure shown by the Board on loss reduction plan is as below:

East Zone	-	Rs. 150.63 Crore.
Central Zone	-	Rs. 336 Crore.
West Zone	-	Rs. 167.67 Crore
Total	-	Rs. 654.30 Crore.

The Company-wise loss reduction plan submitted by the Board in its Tariff Petition for FY 2005-06 is as below:

Loss Reduction Plan for FY 05-06 for East Zone

Sl. No.	Particulars	UNIT	Physical Works Proposed				Rate in '000 Rs	Cost in Lakh Rs.				Expected Saving in LU					
			JBP	Rewa	Sagar	Total		JBP	Rewa	Sagar	Total	JBP	Rewa	Sagar	Total		
1	Addition of 33/11KV SUB STATION	New Sub Station	5 MVA	Nos.	5	3	2	10	5268	263	158	105	527	153	25.00	39	217
			3.15 MVA	Nos.	12	6	3	21	3118	374	187	94	655				
			1.6 MVA	Nos.	18	3		21	2365	426	71		497				
			33 KV LINE	Kms.	185	118	46	349	269	498	317	124	939				
			11 KV LINE	Kms.	200	63	72	335	161	322	101	116	539				
			Other if Any														
	Total							1883	835	439	3156						
2	Addition of 33 KV lines	Feeder bifurcation		Km	3	30	20	53	269	8	81	54	143	46	11.25	7	64
		New Line		Km	30	83	10	123	269	81	223	27	331				
		Other if any															
		Total			33	113	30	176		89	304	81	473				
3	Addition of 11 KV lines	Feeder bifurcation		Km	12	142	60	214	161	19	229	97	345	61	36.85	14	112
		New Line		Km	92	180	38	310	161	148	290	61	499				
		Other if any															
		Total			104	322	98	524		167	518	158	844				
4	Reconductoring of Lines	33 KV lines		Kms.	72	157	20	249	108	77	169	22	268	294	62.28	10	366
		11 KV lines		Kms.	375	264	100	739	54	202	142	54	397				
		Other if any (LT Line)		Kms.	40	184		224									
		Total			487	605	120	1212		279	311	75	665				
5	Distribution Transformer	New Installation		Nos.	506	236	24	766	97	491	229	23	743	78	141.50	9	229
		Upgradation / Augmentation		Nos.	863	465	32	1360	38	328	177	12	517				
		Cable replacement		Nos.	1700	825	18	2543	11	187	91	2	280				
		Other if any															
	Total			3069	1526	74	4669		1006	496	37	1540					
6	Capacitor Bank	Addition		Nos.	30	16	5	51	538	161	86	27	274	11	21.30	5	37
		Upgradation		Nos.	2	1		3	538	11	5		16				
		Other if any (Booster)		Nos.					1075								
		Total			32	17	5	54		172	91	27	291				
7	Distribution Lines	New Lines		Nos.	340	329	58	727	177	602	582	103	1287	60	40.70	28	129
		Upgradation		Nos.	518	470	400	1388	54	280	254	216	750				
		Other if any (Bifurcation)		Kms.		22		22									
		Total					458	458		882	836	319	2036				
8	Meter Installation	Agriculture Consumers		Nos.	20000	8810	13662	42472	0.5	100	44	68	212	40	107.80	4	152
		SLP Consumers		Nos.	50000	14577	17834	82411	0.5	250	73	89	412				
		Other Category Consumers		Nos.	40000	14080	8234	62314	1.1	440	155	91	685				
		Replacement of Stop Defective		Nos.	20000	8580	6000	34580	1.1	220	94	66	380				
		Other if any (DTR)		Nos.	10000			10000	10.8	1080			1080				
		Other if any															
	Total			140000	46047		186047		2090	366	314	2770					
9	For Control of Theft	Special Checks		Nos.	40	123		163						111	70.44	60	241
		Providing Cable		Kms.	390	163	94	647	344	1342	561	323	2226				
		Camps		Nos.	40	280		320									
		Other if any		Nos.													
	Total								1342	561	323	2226					
10	Additional Resources Required	Vehicles	Jeep	Nos.	8	20	2	30	194	16	39	4	58	11.00	11.94	175.84	199
			Pickup	Nos.	2	16		18	215	4	34		39				
			Jeep Spectator	Nos.		5		5	194		10		10				
			Other if Any	Nos.													
		Manpower	Nos.	450	1320		1770	54	243	713		956					
Other, if any																	
	Total								263	796	4	1062					
11	Grand Total								8172	5115	1777	15063	865	529.06	352	1746	

Loss Reduction Plan for Central Zone				WORKS PROPOSED				UNIT SAVING	
				Bhopal Region		Gwalior region		Bpl. Reg.	Gwl. Reg.
				Works	Amt.	Works	Amt.	LU	LU
1	NEW SUB STATION	5.00MVA	No.	31	1486	19	930	275	230
		3.15 MVA	No.	13	377	25	682		
		1.6 MVA	No.	0	0	4	80		
	ADDITIONAL TRANSFORMER	5.00MVA	No.	11	226	5	101		
		3.15 MVA	No.	6	116	8	144		
		1.6 MVA	No.	0	0	0	0		
	AUGUMENTATION	(8.00-5.00) MVA	No.	0	0	0	0		
(5.00-3.15) MVA		No.	12	160	13	158			
(3.15-1.6) MVA		No.	22	175	17	130			
2	33KV LINES	New lines	Km.	372.5	892	781	2167	200	350
		Aug.of cond./Re-conductoreing	Km.	140	154	67	87		
		Seperation/Bifurcation of feeder	Km.	20	53	71	141		
3	11KV LINES	New lines	Km.	401	575	1277	1867	175	400
		Aug.of cond./Re-conductoreing	Km.	208	161	646	608		
		Seperation/Bifurcation of feeder	Km.	83	121	113	169		
		Conversion of LT to 11KV (LT less)	Km.	0	0	138	25		
4	LT LINES	New lines	Km.	332	391	49	77	20	40
		Aug.of cond./Re-conductoring	Km.	925	547	389	363		
		Conversion 1ph to 3 ph 5 wire	No.	200	252	0	0		
		Conversion of LT to HT	No.	60	134	131	73		
		Conversion of LT to Cable	Km.	458	607	57	175		
		LT Less	Km.	192	159	0	0		
5	Renovation/Changing of Service line		Km.	1848	450	1520	370		
6	DISTRIBUTION TRANSFORMER	10KVA	No.	0	0	767	278	220	350
		16KVA	No.	0	0	797	303		
		25 KVA	No.	0	0	4	1		
		63 KVA	No.	500	175	1417	892		
		100 KVA	No.	785	725	2160	2436		
		200 KVA	No.	293	586	528	953		
7	CAPACITOR BANK	600 KVAR	No.	0	0	0	0	176	124
		1200 KVAR	No.	88	533	62	334		
8	METERISATION	1 Phase[SLP/BPL]	No.	105085	330	56859	180	160	110
		3 Phase[AGR.]	No.	30800	226	27180	200		
		DTR	No.	12983	2045	10935	1725		
		Feeder Meter	No.	948	119	60	24		
		Stop defective meter	No.	55000	220	35000	140		
9	CABLING	16 Sq.mm. 4 Core	Km.	0	0	0	0	0	16
		70 Sq.mm. 3½ Core armoured cable	Km.	0	0	56	48		
		ABC Cable	Km.	11	28	26.5	83		
10	OTHER WORKS	Breakers							
		33KV	No.	50	155	56	195		
		11KV	No.	99	171	230	532		
		Additional 33KV Bay	No.	2	7	4	78		
		Additional 11KV Bay	No.	10	34	0	0		
11	Distribution Box		No.	2000	60	520	89		
12	A.B.Switch	33 KV	No.	0	0	0	1	25	10
		11 KV	No.	0	0	3150	50		
13	R&M of 33/11KV S/s		No.	17	178	11	46		
14	R&M of 11/0.4 KV S/s		No.	2471	208	3128	187		
15	Civil works	Building at S/s	No.	0	0	19	52		
		Bore well	No.	0	0	21	6		
16	Billing/Collection Centre		No.	6	71	1	2		
17	Call centre		No.	20	49	3	9		
18	Computerisation		No.	26	35	59	232		
19	Consumer Indexing		No.	52950	26	46005	23		
20	IT/MIS/Data logging		LS	1	224	17	71		
21	Other works		LS	0	804	0	941		
22	FOT CONTROL OF THEFT	Special Checks						150	100
		Providing Cable	Km.	500	350	400	280		
		Camps							
		Other if any							
		ADDITIONAL SOURCES REQUIRED							
		Jeep			17	20			
		Pickup			24	30			
		Jeep Special Check			20	20			
23	GRAND TOTAL				14606		19023.16	1236	1570

Loss Reduction Plan for FY 05-06 for West Zone

Particulars		UNIT	Physical Work Proposed			Rate in '000 Rs	Cost in Lakh Rs.			Saving in Lus					
			Indore	Ujjain	Total		Indore	Ujjain	Total	Indore	Ujjain	Total			
1	Addition of 33/11KV SUB STATION	New Sub Station	5 MVA	Nos.	7	7	14	5268	369	369	738	65	442	507	
			3.15 MVA	Nos.	24	28	52	3118	748	873	1621				
			1.6 MVA	Nos.	3	8	11	2365	71	189	260				
			33 KV LINE	Kms.	157	396.33	553.33	269	422	1066	1488				
			11 KV LINE	Kms.	385	440	825	161	620	708	1328				
	Other if Any														
	Total							2230	3206	5436					
2	Addition of 33 KV lines	Feeder bifurcation		Km.	8	13	21	269	22	35	56	36	46	82	
		New Line		Km.				269							
		Other if any													
		Total			8	13	21		22	35	56				
3	Addition of 11 KV lines	Feeder bifurcation		Km.	19	75	94	161	31	121	151	66	172	238	
		New Line		Km.			56.644	56.644	161		91				91
		Other if any					31								
		Total			19	162.644	181.644		31	212	243				
4	Reconductoring of Lines	33 KV lines		Kms.	76	151	227	108	82	162	244	381	269	650	
		11 KV lines		Kms.	158	267.32	425.32	54	85	144	229				
		Other if any (LT Line)		Kms.	116	30	146								
		Total			350	448.32	798.32		167	306	473				
5	Distribution Transformer	New Installation		Nos.	517	1044	1561	97	501	1013	1514		16	16	
		Upgradation / Augmentation		Nos.				38							
		Cable replacement		Nos.		50	50	11		6	6				
		Other if any													
	Total			517	1094	1611		501	1018	1520					
6	Capacitor Bank	Addition		Nos.	28	5	33	538	151	27	178	76	26	102	
		Upgradation		Nos.				538							
		Other if any (Booster)		Nos.	7	6	13	1075	75	65	140				
		Total			35	11	46		226	91	317				
7	Distribution Lines	New Lines		Nos.	238	34	272	177	421	60	481	106	79	185	
		Upgradation		Nos.	233	109	342	54	126	59	185				
		Other if any (Bifurcation)		Kms.		4	4								
		Total							547	119	666				
8	Meter Installation	Agricultre Consumers		Nos.	30751	119777	150528	0.5	154	599	753	257	584	841	
		SLP Consumers		Nos.	14746		14746	0.5	74		74				
		Other Catgory Consumers		Nos.				1.1							
		Replacement of Stop Defective mtr		Nos.	100000	75000	175000	1.1	1100	825	1925				
		Other if any (DTR)		Nos.	1847	397	2244	10.8	199	43	242				
		Other if any													
	Total			147344	195174	342518		1527	1467	2994					
9	For Control of Theft	Special Checks		Nos.	25	350000	350025					1030	269	1299	
		Providing Cable		Kms.	300	620	920	344	1032	2133	3165				
		Camps		Nos.											
		Other if any		Nos.											
	Total							1032	2133	3165					
10	Additional Resources Required	Vehicles	Jeep		Nos.	4	3	7	194	8	6	14			
			Pickup		Nos.	6	11	17	215	13	24	37			
			Jeep Special Check		Nos.	68	30	98	194	132	58	190			
			Otherif Any		Nos.										
		Manpower		Nos.	3000	70	3070	54	1620	38	1658				
Other, if any															
	Total							1773	125	1898					
11	Grand Total							8055	8712	16767	2017	1903	3920		

MPERC invites the comments/suggestions on the above capital expenditure plan submitted by the Board and the Distribution Companies for FY 2005-06.