

EXECUTIVE SUMMARY

OF

ANNUAL REVENUE REQUIREMENT

FOR

DISTRIBUTION AND RETAIL SUPPLY BUSINESS

FOR THE FINANCIAL YEAR 2010-11



UTTAR HARYANA BIJLI VITRAN NIGAM LIMITED

REGISTERED OFFICE: VIDYUT SADAN, SECTOR - 6, PANCHKULA

Submitted to

Haryana Electricity Regulatory Commission

Panchkula

EXECUTIVE SUMMARY

- 1.1 This document is the Executive Summary of the Annual Revenue Requirement (ARR) of the Distribution and Retail Supply (D&RS) Business of Uttar Haryana Bijli Vitran Nigam Limited (UHBVNL) for FY 2010-11 filed with the HERC on November 30, 2009. The executive summary presents a gist of the main elements of the filing made by the Nigam to the Hon'ble Haryana Electricity Regulatory Commission.
- 1.2 This summary contains the forms that include computation of Capital Base, Power Purchase, O&M Costs, Interest & Finance Costs, Overall Expenditure, Non-Tariff income, Revenues for the ensuing financial year at current tariff and other financial formats as per HERC tariff regulations. Other details include audited financial statement as at March 31, 2008 and Basis of Projections for FY 2009-10 & FY 2010-11.
- 1.3 This summary is not a part of the filings made by UHBVNL and interested parties are encouraged to examine the documents filed by the licensee for detailed information. In the present filing for FY 2010-11, UHBVNL has also submitted figures for FY 2008-09 (Audited Actuals).

FINANCIAL FORMS

- 1.4 The Guidelines for filing the ARR require the licensee to provide audited financial statements. The audited financial statements as of March 31, 2009 have been provided. The following forms present the consolidated position for Distribution & Retail Supply Business carried out by UHBVNL and projected for the ensuing year. The first two forms give the P&L and the Balance Sheet. The detailed cash flow statement is given in table 3. The summary of the Annual Revenue Requirement detailing the various components that constitute the ARR is tabulated as Table 4. Table 5 summarizes the reasonable return for the Distribution & Retail Supply business. The allocation of expenditure into fixed, variable and other costs has been detailed out in Table 6. The energy balance of the system constitutes Table 7. The audited figures for FY 2008-09 have been provided in the relevant forms along with the revised estimates for FY 2009-10 and the projections for FY 2010-11.

Profit and Loss Statement

1.5 Abstract of Profit and Loss Statement for the period (Ending March 31, 2009) has been tabulated in Table 1.

Table 1: Summary of the Profit and Loss Account

Particulars		PY (FY2008-09) Actual	CY (FY2009-10) Estimated	EY(FY2010-11) Projection
A	Revenue			
1	Revenue from sale of power	2487.79	2536.87	3312.10
	Within State	2191.13	2536.87	3312.10
	Outside State	296.66		
2	Other Non-tariff income	178.56	194.49	211.64
3	Revenue subsidies	1631.64	1688.96	1937.49
	Total Revenue or Income	4297.99	4420.32	5461.23
B	Expenditure			
1	Purchase of Power from Own Stations	4578.45	4885.73	5477.11
2	Purchase of Power from Other Sources			
3	Intra-State Transmission Charges		463	467.72
4	Repairs and Maintenance	35.40	61.58	83.91
5	Employee costs	555.32	713.51	759.23
6	Administration and General expenses	39.99	44.78	51.50
7	Net prior period credit/(charges)	-110.841	0	0
8	Other Debits, Write-offs	400.75	4.17	100.69
9	Extraordinary items	0	0	635.9104
11	Less: Expenses Capitalized	8.92	11.23	12.10
C	PBDIT	-1413.84	-1741.64	-2102.73
D	Depreciation and Related debits	78	130	190
E	PBIT	-1492.24	-1872.02	-2292.78
1	Interest & Finance Charges	459.73	735.99	1034.53
2	Less: Interest Capitalized	117.42	187.97	264.22
F	Total Interest and Finance Charges	342.31	548.01	770.31
G	TOTAL EXPENDITURE	6132.54	6840.35	8524.32
H	Profit/Loss before Tax	-1834.55	-2420.03	-3063.09
I	Income Tax provisions			
J	Profit/Loss after Tax	-1834.55	-2420.03	-3063.09

Note:

Revenue of Rs 615.57 Cr against FSA has not been included in total revenues of Rs 4297.99 Cr for FY2008-09.

FBT of Rs 0.64 Cr has been included in A&G expenses of Rs 39.99 Cr for FY2008-09.

Depreciations and Interest & Finance Charges are rounded off to second digit.

Considering these changes the Profit/loss after tax comes to Rs 1218.3Cr for FY2008-09.

Balance Sheet

1.6 The Audited Balance Sheet of the Nigam as on March 31, 2009 has been tabulated below:

Table 2: Consolidated Balance Sheet

Particulars		PY (FY2008-09) Actual	CY (FY2009-10) Estimated	EY (FY2010-11) Projection
I.	SOURCES OF FUNDS			
	A) Shareholders' Funds			
	a) Share Capital	1046.33	1438.33	1547.08
	b) Reserves and Surplus	-2751.32	-5372.71	-8652.34
	B) Special Appropriation towards Project Cost			
	C) Loan Funds			
	a) Secured Loans	2815.11	6784.26	11051.48
	b) Unsecured Loans	1990.39		
	D) Other sources of Funds			
	a) Capital contributions from consumers	233.33	351.99	416.79
	b) Consumers' Security Deposits	357.96	1385.42	1385.42
	TOTAL SOURCES OF FUNDS	3691.80	4587.29	5748.43
II	APPLICATION OF FUNDS			
	A) Fixed Assets			
	a) Gross Block	2505.03	3652.73	4738.43
	b) less: Accumulated Depreciation	821.69	970.72	1187.78
	c) Net Block	1683.34	2682.01	3550.64
	d) Capital Work in Progress	578.57	400.62	560.42
	B) Investments	29.76	32.58	34.86
	C) Current Assets, Loans and Advances			
	i) Current Assets	2736.67	2918.19	3414.86
	ii) Loans & Advances	75.69	97.26	103.49
	D) less: Current Liabilities and Provisions			
	i) Current Liabilities	1411.49	1543.40	1915.83
	ii) Provisions			
	E) Net Current Assets	1400.87	1472.04	1602.51
	F) Miscellaneous Expenditure to the extent not written	0		
	TOTAL APPLICATION OF FUNDS	3692.54	4587.26	5748.43

Note:

Loss of Rs 2778.3Cr has been considered under the Reserves and Surplus account.

Annual Revenue Requirement

1.7 The Nigam proposes an Annual Revenue Requirement of Rs 8740.91 Cr for FY 2010-11 and re-estimates the ARR figure for FY 2009-10 at Rs 7041.71 Cr. The component-wise details of the ARR have been tabulated below:

Table 3: Statement of the Annual Revenue Requirement

Particulars		PY (FY2008-09) Actual	CY (FY2009-10) Estimated	EY (FY2010-11) Projection
	Power Purchase (MU)	12964.05	15555.93	18933.28
	Sale of Power (MU)	9461.36	11823	14389
	Loss % (including Intra & Inter State transmission losses)	27.02%	24.00%	24.00%
1	Receipts			
a	Revenue from tariffs & other Miscellaneous Charges	2666.35	2731.36	3523.74
b	Revenue subsidy from Govt.	1631.64	1688.96	1937.49
	Total	4297.99	4420.32	5461.23
2	Expenditure			
a	Purchase of Power from Own Stations	4578.45	4885.73	5477.11
b	Purchase of Power from Other Sources			
c	Intra-State Transmission Charges		463.41	467.72
d	R&M Expense	35.40	61.58	83.91
e	Employee Expenses	555.32	713.51	759.23
f	A&G Expense	39.99	44.78	51.50
g	Depreciation	78.40	130.38	190.05
h	Interest & Finance Charges	459.73	735.99	1034.53
i	Less: Interest & other expenses capitalized	126.34	199.21	276.33
j	Other Debits (including Provision for Bad debts)	400.75	4.17	100.69
k	Extraordinary Items	0.00	0.00	635.91
l	Other (Miscellaneous) - Net prior period credit/ (charges)	110.84	0.00	0.00
	Total	6132.54	6840.35	8524.32
3	Reasonable Return	146.49	201.37	216.59
4	Other Income			
5	Annual Revenue Requirement (2)+(3)-(4)	6279.03	7041.71	8740.91
6	Surplus(+) / Shortfall(-) : (1)-(5)			
	before tariff revision	-1981.03	-2621.40	-3279.68
7	Tariff Revision Impact			
8	Surplus(+) / Shortfall(-) : (6)-(7)			
	after tariff revision	-1981.03	-2621.40	-3279.68

Note:

Depreciations and Interest & Finance Charges are rounded off to second digit.
Considering these changes the Profit/loss after tax comes to Rs 1218.3Cr for FY2008-09.

Table 4: Reasonable Return

Particulars		PY (FY2008-09) Actual	CY (FY2009-10) Estimated	EY(FY2010-11) Projection
	Shareholders' Funds			
1	Share Capital	1046.330	1438.330	1547.080
	Total Equity	1046.33	1438.33	1547.08
	Return as a % of Equity (14%)	14%	201.366	216.591

Table 5: Energy Balance

Particulars		PY (FY2008-09) MU	CY (FY2009-10) MU	EY(FY2010-11) MU
1	Purchase of Power			
	Power from Own Stations	6223.15	6395.83	10402.45
	Power from Other Sources	6591.95	6869.01	6733.56
	New Projects		184.10	1658.41
	Short Term Power Purchase	730.24	2860.00	939.72
	Total Power Available for Sale or Energy Input	13545.33	16308.94	19734.14
			15889.61	
2	Energy Sales within the state			
	a) LT Sales			
	b) HT Sales			
	c) EHT Sales			
	Total Energy Sales	9461	11823	14389
	Distribution Loss (MU)		3733.42	4543.99
3	Distribution Loss (%)		24.00%	24.00%
4	Intra State Transmission Loss (MU)		333.68	406.13
	Intra State Transmission Loss (%)		2.10%	2.10%
5	Net Energy Requirement for sale in state(MU)		15555.93	18933.28
6	Energy available for interstate sale (MU)			
7	Inter State Transmission Loss (MU)		419	395
	Inter State Transmission Loss (%)		4.23%	4.23%
8	Tradable Power			

ESTIMATION OF ENERGY SALES

Metered sales (Other than Agriculture)

- 1.8 The actual total energy sales for UHBVNL for FY 2008-09 were 9461 MU. Sales for FY 2009-10 and FY 2010-11 has been projected using the past trends in category wise sales, increase in specific consumption of the consumers, increase in the power availability and thus increased supply hours. The total sales for FY2009-10 and FY 2010-11 have been projected at 11823 MU and 14389 MU respectively.

Table 6: Estimation of non agriculture sales (Million Units)

Consumer Category	Previous Year (Actual) FY2008-09	Current Year (Estimated) FY2009-10	Ensuing Year (Projected) FY2010-11
Domestic	1716	2144	2699
Non Domestic	504	659	871
LT Industry	549	680	852
MITC/ Societies	5	7	9
Lift Irrigation	27	31	37
Public Water Works	246	314	426
Bulk Supply	194	224	263
Street Light	29	38	51
Fisheries & Others	1	1	2
Horticulture	2	3	5
HT Industry	1567	2071	2866
Railways	111	146	195
Grand Total	4951	6318	8276

Agricultural Consumption

- 1.9 Estimation of agriculture consumption is a key determinant of the financial and operating performance of a distribution licensee. Estimated agricultural sales especially to the un-metered pump sets, to a great extent determines the energy loss levels of the utility.
- 1.10 The Hon'ble Commission has been allowing the running hours of the un-metered tube-wells at the same level as that of the metered tube-wells. For the FY 2008-09 the Hon'ble Commission has allowed running hours as 5.54 per day in case of both metered and the un-metered tube wells.
- 1.11 However, it is obvious that there is an incentive for the un-metered consumer to consume more electricity than those who have meters. This phenomenon had also been established in previous ARRs.

Agricultural sales projection

1.12 The licensee has projected agricultural sales on the basis of running hours as 5.54 per day for metered consumers and 6.65 hr for unmetered consumers for the FY 2009-10 and FY 2010-11. The average connected load of the agricultural consumers has been projected after taking in to account the CAGR of load increase in previous 2 years.

Table 7: Projected Agriculture Sales (Million Units)

Category	Previous Year (Actual) FY2008-09	Current Year (Estimated) FY2009-10	Ensuing Year (Projected) (FY2010-11)
Metered Tube-wells	1105	1524	1880
Un-metered Tube wells	3405	3981	4233

1.13 The reasons for the consideration of higher supply hours and pump horse power for un-metered agricultural consumers is attributable to various reasons. As the un-metered consumers are charged on a flat rate basis on the connected load, it leads to over irrigation by un-metered consumers. Apart from this, the un-metered consumers are generally insensitive to the efficiency of water pump installed. Consequently, it results in higher consumption by un-metered consumers in comparison to the metered consumers. Also, it has been observed that small farmers owning smaller acreage tend to opt for metered connections. The water requirement of these farmers is lower than the larger land owning farmers who tend to opt for un-metered connections. Thus the number of hours of usage by un-metered consumers would be higher than that for metered consumers. The agricultural farms located near the rivers and canals tend to have metered connections where water availability is only a few feet below. The power consumption for extracting water in such areas is less than in farms located in the interiors, away from the rivers and canals where farmers prefer un-metered connection.

1.14 It is also observed that the understatement in connected load tends to be higher in un-metered connections as compared to metered connection and as connected load being the basis of payment, any variance in actual and connected load would lead to under recovery and hence over burden on the utility. Even if the number of hours of consumption per pump is same for metered and un-metered connections, the fact that the load of un-metered pump may be more understated than the load of the metered pump, would mean a higher number of apparent hours of usage for the un-metered connection.

1.15 Statistical analysis also indicates that a large number of un-metered agriculture consumption is in the depth category of above 200 feet, whereas the majority of metered agriculture consumptions are up to 100 feet. Consequently, the energy requirement of un-metered tube-wells would be more as compared to metered tube-wells. This additional energy requirement by un-metered tube-wells consumers would be met by higher running hours.

Total Sale

- 1.16 The table below shows the consolidated sales for FY 2008-09, FY 2009-10, FY 2010-11. The approach followed by licensee has been discussed in the sections above and thereby licensee requests the Commission to allow the projected sales shown in the table below for 2010-11.

Table 8: Total Sales Projection (Rs. Cr)

Consumer Category	Previous Year (Actual) FY2008-09	Current Year (Estimated) FY2009-10	Ensuing Year (Projected) (FY2010-11)
Domestic	598.97	690.77	868.16
Non Domestic	237.26	275.43	363.44
LT Industry	259.22	290.37	362.96
Agriculture- Metered	32.16	38.09	47.01
Agriculture-Un Metered	76.24	85.27	95.13
MITC/ Societies	1.68	2.36	2.51
Lift Irrigation	22.97	12.44	14.60
Public Water Works	117.19	125.32	169.75
Bulk Supply	89.37	100.72	126.57
Street Light	12.28	15.25	19.98
Fisheries & Others		0.23	0.36
Horticulture		0.08	0.12
HT Industry	696.87	845.02	1167.27
Railways	46.92	55.59	74.35
Grand Total	2191.13	2536.87	3312.10

Revenue from Sale of Power at Existing Tariffs

- 1.17 Revenue is projected on the basis of sales projection for different categories and present approved tariff except in the case of domestic category.
- 1.18 Revenue from sale of power for FY 2010-11 for all categories have been determined based on the estimation of units sold to various categories of consumers and prevailing tariff notified by the Hon'ble Commission in its order for FY 2008-09.
- 1.19 For Domestic category, actual revenue assessment per unit (Rs.3.23/unit) for the FY 2008-09 has been considered, since the Domestic category has three slabs with different applicable tariffs.
- 1.20 The revenue assessment at existing tariff for FY 2009-10 and FY 2010-11 has been summarized in the table below:

Table 9: Category-wise sales and revenue assessment (Rs. Cr)

Consumer Categories	Units Sold (MU) FY 2009-10	Units Sold (MU) FY 2010-11	Revenue Assessment (Rs per Unit)	Revenue (Rs Cr) FY 2009-10	Revenue (Rs Cr) FY 2010-11
Domestic	2139	2688	323	690.77	868.16
Non Domestic	657	867	419	275.43	363.44
LT Industry	678	848	428	290.37	362.96
Agriculture- Metered	1524	1880	25	38.09	47.01
Agriculture-Un Metered	3981	4233	35/BHP/month	85.27	95.13
MITC/ Societies	6	6	400	2.36	2.51
Lift Irrigation	31	37	400	12.44	14.60
Public Water Works	313	424	400	125.32	169.75
Bulk Supply	240	302	419	100.72	126.57
Street Light	37	48	415	15.25	19.98
Fisheries & Others	1	2	200	0.23	0.36
Horticulture	3	5	25	0.08	0.12
HT Industry	2066	2854	409	845.02	1167.27
Railways	146	195	382	55.59	74.35
Total	11823	14389	215	2536.87	3312.10

Distribution Losses

1.21 Concerted efforts by the utility have resulted into gradual decrease in distribution losses. UHBVNL proposes distribution losses target of 24% for FY 2010-11.

Energy Requirement

1.22 Based on the energy sales and distribution loss projected, the energy requirement for FY 2009-10 and FY 2010-11 is shown in the table below:

Table 10: Energy Requirement

	FY 2009-10	FY 2010-11
Sales (MU)	11823	14389
Distribution Loss	24%	24%
Energy Requirement (MU)	14660	18933

POWER PURCHASE

1.23 The power purchase cost for FY 2009-10 and FY 2010-11 has been projected based up on the FY 2008-09 rates from each of these stations. The petitioner has considered increase in variable cost for the thermal generating station @ 6%, 9% for FY 2009-10 and FY 2010-11 respectively. Higher increase in FY 2010-11 has been assumed due to the recent proposal of Coal India of increasing coal charges from its mines. The petitioner has also assumed increase in variable cost of nuclear generation plants @ 1% per for FY 2009-10 and FY 2010-11.

- 1.24 For the external plants, the petitioner has considered fixed cost for FY 2009-10 and FY 2011 at par with fixed cost for FY 2008-09 approved by the CERC in its various orders
- 1.25 The total power purchase and transmission charges and cost for UHBVNL is shown below (50% share of PP cost and units for UHBVNL):

Table 11: Average Power Purchase cost for UHBVNL

S No.	Particulars	FY 2009-10	FY 2010-11
1	Power Purchase Cost (Rs Million)	48857	54771
2	Inter-State Transmission Charges (Rs Million)	862	906
3	Intra - State Transmission Charges (Rs Million)	3733	3733
4	SLDC Charges (Rs Million)	39	39
5	Total Bulk Purchase & Transmission charges (Rs Million)	53491	59448
6	Energy available for sale to UHBVNL (50% of Haryana) (MU)	15556	18933
7	Power Purchase Cost per unit (Rs/kWh)	3.14	2.89
8	Transmission Charges per unit (Rs/kWh)	0.30	0.24
9	SLDC Charges per unit (Rs/kWh)	0.00	0.00
10	BST (Rs/kWh)	3.44	3.14

OTHER EXPENSES

Capital Expenditure

- 1.26 Capital investment planned for current and ensuing year is shown in the Table below. The Nigam has proposed an estimated capital outlay of Rs. 702 Cr during FY 2009-10 and Rs. 980 Cr during the FY 2010-11 for distribution system strengthening and loss reduction plan.

Table 12: Year wise Investment Plan vs. Approved Outlay (Rs. Cr)

S. No.	Year	Originally proposed by the Utility	Revised by the Utility	Revised approved by the Commission in review
1	FY 2007-08	637.38	637.38	637.38
2	FY 2008-09 (RE)	727.74	259.80	0.00
3	FY 2009-10	1087.0	702.0	-
4	FY 2010-11	980.0	-	-

- 1.27 The table below shows the outlay plan for FY 2010-11, classified according to different sub-heads for investment. Major investments foreseen by the utility are for HVDS, construction/augmentation of new sub-stations, bifurcation of overloaded 11-KV feeders, D.T. metering, and meter-relocation scheme.

Table 13: Capital Outlay Plan for FY 2010-11

Sl No	Particular	Annual Plan FY2010-11
1	AT&C loss reduction	
	Metering (Prepaid/AMI/consumer/DT/feeder metering/Meter Relocation etc)	50.00
	HVDS (urban, rural and agriculture)	450.00
	Power Factor Improvement (substations and HT/LT lines)	15.00
	Sub-total	515.00
2	Load Growth	
	33 KV sub-stations/lines (New and augmentation)	114.00
	11 KV lines/cables/transformers (new, augmentation and bifurcation/trifurcation etc)	35.00
	Sub-total	149.00
3	Reliability improvement	
	Implementation of R-APDRP (Part-A)	65.00
	Implementation of R-APDRP in Non-APDRP area	20.00
	Implementation of R-APDRP (Part-B)	206.00
	Replacement of bare conductor with covered conductor	0.00
	Sub-total	291.00
4	Infrastructure development	
	Civil Works	10.00
	Sub-total	10.00
5	Demand side management	
	DSM (CFL/Efficient Pumpsets etc)	10.00
	Sub-total	10.00
6	Customer Care	
	Subdivision Computerisation	5.00
	Sub-total	5.00
	Gross proposed investment	980.00

1.28 Apart from this other major cost heads are substation augmentation, extension of HVDS in villages/towns and up gradation of highly loaded feeders.

1.29 The following table shows the funding options for the proposed Capex plan. Assumptions have been made on the following basis:

- (a) Financing through customer contribution that has been based on the actual for the FY 2008-09 and the increase in number of consumers.
- (b) Through grants to the tune of Rs. 68.8 Cr and Rs 20 Cr during FY 2009-10 and FY 2010-11 respectively.
- (c) Equity investments are planned to be around Rs 392 Cr for the FY 2009-10 and Rs. 108.8 Cr FY 2010-11.

(d) The remaining balance is assumed to be financed through debt.

Table 14: Funding Sources for the Capex Addition (Rs. Cr)

Particulars	Previous Year (Actual) FY 2008-09	Current Year (Estimated) FY 2009-10	Ensuing Year (Projected) FY 2010-11
Total Capital Outlay	638.7	702.0	980.0
Funding			
Equity(including share application money)	109.6	392.0	108.8
Consumer Contribution	52.8	68.8	71.8
Grants for Capital Expenditure	3.0	68.5	20.0
Loans from FI/Banks/etc	473.4	172.7	779.4
Total Funding	638.7	702.0	980.0

Capital Work in Progress

1.30 Capital work in progress (CWIP) has been calculated as shown below:

Table 15: Summary of CWIP (Rs. Cr)

Particulars	Previous Year (Actual) FY 2008-09	Current Year (Estimated) FY 2009-10	Ensuing Year (Projected) FY 2010-11
Opening Balance of CWIP	536.6	656.3	399.7
Additions during the year			
Loan funds	473.4	172.7	779.4
Equity	109.6	392.0	108.8
Government Grants (APDP+ Grant from Member Parliament)	3.0	68.5	20.0
Consumer Contribution	52.8	68.8	71.8
Expenses Capitalized	118.3	189.1	258.4
Total funds (3+4+5+6+7+8)	757.0	891.1	1238.4
Transfer to GFA	637.4	1147.7	1085.7
Closing balance of CWIP (1+ 9 -14)	656.3	399.7	552.4

1.31 Capitalisation of the asset is assumed to be based on the following asset capitalisation schedule.

Table 16: Capitalisation Schedule

Year	Percent of Investments (including IDC)
Year 1 (Year of investment)	70%
Year 2	30%

Gross Fixed Asset

1.32 The following table shows the opening balance, addition and deletions in the fixed assets.

Table 17: Summary of GFA (Rs. Cr)

Particulars	Previous Year (Actual) FY 2008-09	Current Year (Estimated) FY 2009-10	Ensuing Year (Projected) FY 2010-11
Opening Balance	1908.2	2505.0	3652.7
Direct additions to GFA	99.3	491.4	686.0
Transfer from CWIP (Including Exp capitalised) during the year	536.6	656.3	399.7
Total	2544.1	3652.7	4738.4
Less :			
Retirement/ Disposal of assets	39.1	0	0
Net GFA at the end of the year	2505.0	3652.7	4738.4
Less: Total Assets funded from Consumer Contribution	221.6	221.6	290.4
GFA net of Consumer Contribution	2283.4	3431.1	4448.0

1.33 Retirements and disposal of asset has been projected to be zero for both the projected years.

1.34 Additions for the asset have been based on the actual percentage additions for FY 2007-08. The following table shows the break up of the asset added during the projected years.

Table 18: Asset wise additions (Rs. Cr)

Asset Type	Previous Year (Actual) FY 2008-09	Current Year (Estimated) FY 2009-10	Ensuing Year (Projected) FY 2010-11
Land	3.4	8.2	7.8
Buildings and Civil Structures	12.2	33.3	31.5
Transmission/ Distribution System	617.3	1102.0	1042.4
Vehicles	0.7	0.1	0.1
Furniture & Fixtures	2.3	4.1	3.9
Total	635.9	1147.7	1085.7

Interest & Finance Charges

1.35 Interest expenses represent interest on loans taken to finance the capital investment programs, and to support working capital. For Capex loans, the existing interest rates of the institutions have been used to calculate the interest cost.

1.36 With respect to existing loans, the details of interest on existing loans are based on the actual. With respect to new loans, interest charged is based on current market conditions. Interest expense incurred for the working capital requirement includes the interest expense incurred on the already tied up loans. Total net interest expense is

projected as Rs 548.01 Cr for FY 2009-10 and Rs 770.31 Cr for FY 2010-11 as tabulated below:

Table 19: Interest & Finance Charges for FY 2009-10 (Rs. Cr)

S.No	Particulars	Previous Year (Actual) FY 2008-09	Current Year (Estimated) FY 2009-10	Ensuing Year (Projected) FY 2010-11
A I	Interest Finance Charges on Long Term Loans / Credits from the FIs/ banks/ organisations approved by the State Government			
1	PMGY Loan	0.23	0.23	0.21
2	NABARD Loan	1.45	1.45	1.45
3	APDP Loan	4.24	4.04	3.76
4	Loan from NCRPB	0.22	0.20	0.13
5	REC STL	2.16	0.23	0.00
6	PFC (Schemes)	2.57	2.42	2.42
7	REC (RGGVY)	0.37	0.36	0.36
8	IBRD Debt Refinancing from REC	2.99	2.80	2.59
9	Loan from REC	46.64	64.79	105.14
10	R-APDRP (Power Finance Corporation Ltd.)	0.04	2.59	2.59
	Total	60.90	79.13	118.65
II	Interest on Working Capital Loans Or Short Term Loans	330.90	548.79	729.85
	Total of A : I + II	391.80	627.92	848.50
B	Other Interest & Finance Charges			
1	Cost of raising Finance & Bank Charges etc.			
2	Interest on Security Deposit	67.92	108.07	186.03
3	Penal Interest Charges			
4	Lease Rentals			
5	Penalty charges for delayed payment for power purchase			
	Total of B	67.92	108.07	186.03
C	Grand Total Of Interest & Finance Charges: A + B	459.73	735.99	1034.53
D	Less: Interest & Finance Charges Chargeable to Capital Account	117.42	187.97	264.22
E	Net Total Of Interest & Finance Charges : For Revenue Account: C-D	342.31	548.01	770.31

Depreciation

- 1.37 Depreciation for FY 2008-09, 2009-10 and 2010-11 has been calculated base on the asset-wise depreciation rates proposed by the Ministry of Power. The total depreciation claimed amounts to Rs 78.40 Cr, Rs 130 Cr and Rs 190.05 Cr for FY 2008-09, FY 2009-10 and FY 2010-11 respectively.

Operation and Maintenance Cost

- 1.38 UHBVNL has estimated its O&M cost (net of capitalization) for FY 2010-11 at Rs.882.54 Cr. The O&M expenses for FY2008-09 are Rs 621.79 Cr against Commission approved Rs. 458.61 Cr for FY 2008-09 tariff order. The table given below summarized the actual, estimated and projected O&M Cost for FY2008-09, FY2009-10 and FY2010-11.

Table 20: Summary of O&M Cost (Rs. Cr)

Particulars	Previous Year (Actual) FY 2008-09	Current Year (Estimated) FY 2009-10	Ensuing Year (Projected) FY 2010-11
Repairs and Maintenance (Net)	35.40	61.58	83.91
Employee costs (Net)	547.94	704.03	749.15
Administration and General (Net)	38.45	43.02	49.48
Total O&M	621.79	808.64	882.54

- 1.39 Increase in O&M costs from FY 2009-10 to FY 2010-11 and FY 2010-11 has been mainly on account of the following factors:
- Hike in salaries of employees of the Nigam due to the effect of VI Pay Commission, including the arrears payable since 1st January 2006
 - Increased Repair and & Maintenance cost as a result of increase in Gross Fixed Assets value of the utility.
 - Higher inflation

Employee Cost

- 1.40 UHBVNL has implemented the recommendations of sixth pay commission w.e.f. FY 2009-10 and the employees have started drawing salaries as per new scale from April 2009. Of the total arrears of approximately Rs.150 Cr, 40% of the total arrears amounting to Rs.60 Cr have been paid during previous year (FY 2008-09) and the balance 60% arrears amounting to Rs. 90 Cr are proposed to be paid during the current year (FY2009-10).
- 1.41 The Employee cost net of capitalization of UHBVNL is estimated to increase to Rs. 704.03 Cr in FY 2009-10 and Rs 749.15 Cr in FY 2010-11 vis-a-vis Rs.547.94 Cr recorded during the FY 2008-09 as shown in the Table below:

1.42 The Utility would like to submit justifications for increase in the employee costs and draw the attention of the Commission on the following issues:

- (a) Recruitment of new employees.
- (b) **Basic Salary:** Basic salary per employee has been increased at 3% year on year to project per employee basic salary for FY 2009-10 and FY 2010-11 as indicated in the sixth pay commission report.
- (c) **Dearness Allowance:** Dearness Allowance is projected as 27% and 37% of the basic salary for year FY 2009-10 and FY 2010-11 respectively. The government has already announced DA rate of 27% effective from 1.07.2009. It is expected that DA will be increased 5% in every six month as done by the Government in July 2009.
- (d) **Terminal Benefits:** Liability for pension, gratuity, leave encashment, ex-gratia, family pension etc. is provided based upon the past trends.
- (e) **Other Allowances:** It has been estimated on the basis of CAGR

Table 21: Employee Costs (Rs. Cr)

Particulars		Previous Year (Actual) FY 2008-09	Current Year (Estimated) FY 2009-10	Ensuing Year (Projected) FY 2010-11
1	Salaries	204.73	209.14	217.34
2	Dearness Allowance	71.32	56.47	80.42
3	Other Allowances & Relief	18.71	19.11	19.86
a	Allowance details			
b	Impact of VI Pay Commission	0.00	90.00	0.00
4	Medical Expenses Reimbursement	2.46	2.89	3.40
5	Leave Travel Assistance	0.06	0.06	0.07
6	Fee & Honorarium	0.29	0.28	0.28
7	Incentives/Awards Including That In Partnership Project (Specify Items)			
8	Earned Leave Encashment	0.01	0.01	0.00
9	Tuition Fee Re-Imbursement			
10	Leave Salary Contribution	0.04	0.05	0.05
11	Payment Under Workman's Compensation And Gratuity	0.12	0.11	0.12
12	Subsidised Electricity To Employees	3.15	3.01	3.04
13	Staff Welfare Expenses	6.75	7.47	8.27
	Total B	307.64	388.60	332.86
	Apprentice And Other Training Expenses			
	Payment/Contribution To PF Staff Pension And Gratuity			

Particulars		Previous Year (Actual) FY 2008-09	Current Year (Estimated) FY 2009-10	Ensuing Year (Projected) FY 2010-11
1	Terminal Benefits	246.75	324.02	425.48
	a) Provident Fund Contribution			
	b) Provision for PF Fund - Invested			
	- Not Invested			
	c) Pension Payments	0.01	0.01	0.01
	d) Gratuity Payment			
	e) Leave Encashment Payment			
2	Any Other Items			
	Total D	246.76	324.03	425.49
	Bonus/Exgratia To Employees	0.91	0.88	0.88
	Grand Total	555.316	713.507	759.235
	Chargeable To Construction Works	7.37	9.47	10.08
	Net Employee Expenses	547.94	704.03	749.15

Repairs & Maintenance Expenses

- 1.43 R&M Costs are estimated to be Rs 61.58 Cr and Rs.83.91 Cr for FY2009-10 and FY 2010-11 respectively @ 3% of the Gross Fixed Assets as per the Regulations notified by the Hon'ble Commission. Main factors leading to the increase in R& M costs are as under:
- 1.44 The table given below summarizes the R&M Costs for FY 2007-08, FY 2008-09, FY 2009-10 and FY 2010-11.

Table 22: Repairs & Maintenance Expenses (Rs. Cr)

S. No.	Particulars	Previous Year (Actual) FY 2008-09	Current Year (Estimated) FY 2009-10	Ensuing Year (Projected) FY 2010-11
1	Plant and Machinery	20.08	45.91	62.56
2	Building	1.85	1.64	2.23
3	Civil Works	0.00	0.04	0.05
4	Transformers and sub-stations			
5	Lines, Cables Net Works etc.	12.72	12.75	17.38
6	Vehicles	0.70	1.20	1.63
7	Furniture and Fixtures	0.01	0.01	0.01
8	Office Equipments	0.04	0.03	0.04
9	Spare Inventory for maintaining Transformer redundancy			
10	Sub station maintenance by private agencies			
11	Any other items (Capitalisation)			
	Total	35.40	61.58	83.91

Administration & General Expenses

- 1.45 The petitioner has projected Administrative & General Costs for FY 2009 -10 and FY 2010-11 based upon the actual Administrative & General Costs in FY 2008-09, trends in previous years, inflation and various other factors which are not under the direct control of the Utility.
- 1.46 Projections have been made on the assumptions based on the actual increase in the different components of the administration and general expenses in the previous years. The Nigam has estimated the A&G expenses for FY 2009-10 at Rs 61.58 Cr and projected the expenses for FY 2010-11 at Rs 83.91 Cr.

Reasonable Return/Return on Equity

- 1.47 The utility requests the Commission to provide a return on the equity at a rate of 14% as specified in Regulation 16 of the Tariff Regulation. This will be helpful in improving the financial health of the utility.
- 1.48 Reasonable return for UHBVNL amounts to Rs. 201.37 Cr for FY 2009-10 based on the opening equity of Rs.1438.33 Cr as on 01.04.2009. For FY 2010-11, a reasonable return of Rs. 216.59 Cr against an opening equity of Rs. 1547.08 Cr.

Other Debits

- 1.49 Other debits basically include cost of trading activities, provision for doubtful debts, miscellaneous losses and write offs etc.

Provision for Bad and doubtful debt

- 1.50 In previous years, UHBVNL has considered the income from Late Payment Surcharge (LPSC) based on the accrual/billed basis instead of actually received/collected, thus overstating its revenue by Rs 396.73 Cr till FY 2007-08. In FY 2008-09, UHBVNL has changed its accounting policy and has started considering LPSC on actually received basis, the basis adopted by the other Licensee DHBVNL. Due to this change in policy, UHBVNL has charged a one time expense item of Rs 396.73 Cr in FY 2008-09 to the revenue accounts. The Licensee prays to the Hon'ble Commission to allow it to recover this amount through tariff.
- 1.51 UHBVNL also proposes to provide a provision for bad debt @ 20% for the consumer arrears which are pending for more than 3 years. As of 31st March 2009, UHBVNL has Rs 481.67 Cr of receivable which are more than 3 years old. UHBVNL proposes to provide provision as bad debt for 20% of these arrears in the annual revenue requirement for FY 2010-11.

Extraordinary Items

- 1.52 UHBVNL makes provision for the pension, leave and gratuity contribution of the present employees. The accounting of these pension, leave, and gratuity contribution is made on the basis of the actuarial valuation report provided by the actuary. The actual payout generally takes place at later stage. It is also pertinent to mention that at the time of filling of ARR, the estimation of the actuary amount is made on the basis of the last year figures in the absence of the final report of the actuary. After the receipt of the final report of the actuary valuation, it is observed that generally there is difference between the figures filed in the ARR and the actuary valuation report.
- 1.53 Hon'ble Commission in its ARR orders always encourages licensee to claim pension, leave gratuity contribution based on the certified actuarial valuation, and also encourages the differences, if any, to be claimed in the next ARR.
- 1.54 It is also pertinent to mention that Hon'ble Commission in its order dated 1.1.2006 for HVPN has allowed terminal benefit based on the actuarial valuation and Hon'ble Commission stated in that order that any difference between the projected amount and the actual amount as per actuarial valuation based on the actuary certificate will be allowed to licenses in the next ARR.
- 1.55 UHBVNL has thus calculated the difference in the allowed pension, leave and gratuity contribution by Hon'ble Commission since FY 1999-00 to FY 2007-08 and the certified actuarial valuation.
- 1.56 While calculating the allowed expenses by Hon'ble commission when the ARR of DR&S was filed by HVPNL, 50% of the allowed expenditure is considered as allowed pension, leave and gratuity for UHBVN.
- 1.57 The licensee proposes to claim this difference since its inception till the FY 2007-08, amounting to Rs. 635.91 Cr in this year ARR., as shown in the table below :

Table 23: Statement showing the variance in Terminal Benefits (Rs. Cr)

Particulars	Actuarial Valuation	Allowance as per HERC	Variance
FY 1999-00	28.68	9.450	19.23
FY 2000-01	43.22	14.49	28.77
FY 2001-02	44.89	19.82	25.07
FY 2002-03	53.94	16.72	37.22
FY 2003-04	136.04	16.37	119.67
FY 2004-05	149.71	36.48	113.23
FY 2005-06	84.98	40.21	44.77
FY 2006-07	103.39	38.96	64.43
FY 2007-08	268.46	84.94	183.52
Total	913.30	277.39	635.91

Total Expenditure

- 1.58 The total expenditure of the utility amounts to Rs 6132.54 Cr, Rs 6840.35 Cr and Rs. 8503.84 Cr during FY 2008-09, FY 2009-10 and FY 2010-11 respectively as shown in the table below:

Table 24: Total Expenditure (Rs Cr)

Particulars	Previous Year (Actual) FY 2008-09	Current Year (Estimated) FY 2009-10	Ensuing Year (Projected) FY 2010-11
Expenditure			
Purchase of Power from Own Stations & Other Sources	4578.45	4885.73	5477.11
Intra-State Transmission Charges		463.41	467.72
R&M Expense	35.40	61.58	83.91
Employee Expenses	555.32	713.51	759.23
A&G Expense	39.99	44.78	51.50
Depreciation	78.40	130.38	190.05
Interest & Finance Charges	459.73	735.99	1034.53
Less: Interest & other expenses capitalised	126.34	199.21	276.33
Other Debits (incl. Prov for Bad debts)	400.75	4.17	100.69
Extraordinary Items	0	0	635.91
Other (Misc.)-net prior period credit/ (charges)	110.84	0.00	0.00
Total	6132.54	6840.35	8524.32

Non-Tariff Income

- 1.59 Non-Tariff Income except delayed payment surcharge, meter rent and line service charges is calculated by considering a year on year increase of 5%. Non-Tariff income for FY 2009-10 was estimated at Rs 191.53 Cr and for FY 2010-11, the non-tariff income was projected to be Rs 209.21 Cr.

RE Subsidy

- 1.60 Based on the cost of supply for each category based on report by ICRA placed for approval before the Hon'ble Commission, total supply cost has been projected. Net aggregate revenue requirement has been allocated on the same ratio as the supply cost for each category.
- 1.61 Revenue for each category has been assessed as provided in section for revenue assessed through sales. The deficit or surplus has been calculated based on the difference in supply cost and revenue assessed per category.
- 1.62 The following table provides summary of the deficit/surplus for each category.

Table 25: Deficit/Surplus calculation for each category

Category	Units sold (MU)	Cost of Supply as per ICRA (Rs/Unit)	Total cost (Rs Cr)	Proportionate Cost (After deducting NTI (Rs Cr))	Revenue Assessed (Rs Cr)	Deficit (Rs Cr)	
1	Domestic	268.78	6.27	1685.25	1682.25	868.16	814.09
2	Commercial	86.74	5.80	503.10	502.20	363.44	138.76
3	LT Industry	84.80	5.51	467.27	466.44	362.96	103.48
4	HT Industry	285.40	4.52	1289.99	1287.69	1167.27	120.42
5	Metered Tubewells	188.04	6.67	1254.23	1252.00	47.01	1204.99
6	Unmetered Tube wells	423.32	6.67	2823.53	2818.50	95.13	2723.37
7	MITC/societies	0.63	5.39	3.38	3.38	2.51	0.87
8	Lift Irrigation	3.65	5.43	19.82	19.79	14.60	5.18
9	Public Water Works	42.44	5.23	221.95	221.55	169.75	51.80
10	Railways	19.46	4.52	87.97	87.81	74.35	13.47
11	Bulk Supply	30.21	5.20	157.09	156.81	126.57	30.23
12	Street Light	4.81	5.52	26.57	26.53	19.98	6.55
13	Fisheries & Others	0.18	6.67	1.21	1.21	0.36	0.85
14	Horticulture	0.47	6.67	3.12	3.11	0.12	3.00
	Total	1438.46		8544.48	8529.27	3312.22	5217.05

1.63 Based on the above, the total amount of subsidy deficit for the FY 2010-11 is Rs. 5217.05 Cr.

1.64 The Government of Haryana has indicated a subsidy provision of Rs 1937.49 Cr for FY 2010-11. The subsidy details of the Government of Haryana is shown in the tables below:

Table 26: Subsidy by Government of Haryana (Rs Cr)

Particulars	Previous Year (Actual) FY 2008-09	Current Year (Estimated) FY 2009-10	Ensuing Year (Projected) FY 2010-11
Subsidy	1631.64	1688.96	1937.49

Net Revenue gap

1.65 The net revenue gap projected for FY 2009-10 and FY 2010-11 is summarised in the table below:

Table 27: Revenue Gap (Rs Cr)

S. No	Description	FY 2009-10	FY 2010-11
A	Aggregate Revenue Requirement	7041.71	8740.91
B	Revenue from Tariff and Other Miscellaneous Charges	2731.36	3523.74

S. No	Description	FY 2009-10	FY 2010-11
C	Subsidy by Government of Haryana	1688.96	1937.49
D	Net Revenue Gap (A-B-C)	2621.40	3279.68

- 1.66 The petitioner prays the Hon'ble Commission to approve suitable tariff hike to allow it to recover the deficit for FY 2009-10 and FY 2010-11.
- 1.67 In addition to above, in terms of the Hon'ble Commission order on ARR for the FY 2008-09, the licensee prays to allow for recovering an amount of revenue gap of Rs. 1981.03 Cr along with the carrying cost @ 11.50% per annum left uncovered for the FY 2008-09. The licensee has not included this while projecting the aggregate revenue requirement for FY 2009-10 and FY 2010-11.

Plans for Loss Reduction

- 1.1 UHBVN has continuously strived to reduce the technical and commercial losses in the system by undertaking various targeted loss reduction measures. To reduce the technical losses in the distribution network, the utility has launched various schemes and programmes which include targeted Loss Reduction Plan, HVDS, agricultural feeder segregation, load alleviation of overloaded feeders etc. Many of these loss reduction programmes are already under implementation. A sizeable proportion of the annual Capex is allocated for the task of augmenting the distribution infrastructure for catering to the load growth and to provide quality power to the consumers through construction of new HT/LT lines and sub-stations, augmentation of existing ones, installation of capacitor banks, installation of new DTs. The Discom is also actively engaged in taking up measures for commercial loss reduction some of which include replacing defective meters, metering of un-metered consumers, regularization of Kundi connections and special drives to catch thefts and recovery of penalty. The year wise distribution losses are tabulated below:

Table 28: Year-wise Distribution Losses

Sr. No.	Period	Distribution losses
1	2003-04	32.36%
2	2004-05	30.65%
3	2005-06	31.04%
4	2006-07	28.66%
5	2007-08	28.56%
6	2008-09	27.02%

A1. Technical Loss Reduction Plan

- 1.2 Technical losses in the distribution system majorly comprise of conductor copper losses, transformation losses and other losses attributable to improper network topology, loose conductor joints, overloading conditions and low power factor. The activities that are being carried out as well as those that shall be carried out in future for reduction of technical losses can be broadly classified into system augmentation, revamp of network topology.

B1. System Augmentation

- 1.3 System augmentation has been carried out continually and is an ongoing process to meet the increasing demand of the consumer. Numerous activities have been carried out in FY 2008-09 as part of system augmentation and many more works are planned for FY 2009-2010 and FY 2010-2011. The following works are proposed to be carried out as part of system reinforcement.

Installation of new 33 KV Substations

- 1.4 A total of 196 33-KV sub-stations exist in UHBVN as on 30-09-2009. To provide relief to the overloaded distribution system and to bring down technical losses, 12 Nos. of 33 KV sub stations were commissioned during FY 2008-09. During the current financial year 9 No. 33 KV substation have been commissioned up to 30.9.09. Further 27 new 33 KV sub stations are expected to be commissioned by 31.03.10.

Augmentation of 33 KV Substations

- 1.5 The capacity of 9 Nos. of existing 33 KV substations was augmented during 2008-09. During current financial year, 11 No. 33 KV S/Stn. have been augmented up to 30.9.09. Also, as part of the investment plan for 2009-10, another 9 No. 33 KV substations are expected to be augmented by 31.03.10. Above works for system augmentation of technical losses are tabulated as under for FY 2009-10.

Table 29: Détails of Augmentation Works Target for FY 2009-10

Description	Unit	Target for the year 2009-10
New 33 KV S/Stns.	No.	36
Aug. of 33 KV S/Stns.	No.	20
Erection of New 33 KV lines	Km.	260

Installation of Distribution Transformers

- 1.6 Total 127937 Nos. distribution transformers with a total installed capacity of 8037.4 MVA exist in the system as on 30.9.09. 10144 Nos. of DTs were added during FY 2008-09 and a further 8956 Nos. of installed capacity 330.3 MVA were added in FY 2009-10 upto 30.9.09. In addition, another 5760 Nos. are planned to be installed during the remaining period of 2009-10.

Installation of Capacitors

- 1.7 32.40 MVAR HT capacitors were installed in the newly constructed 12 No. of 33 KV substations during the F.Y. 2008-09 and 24.30 MVAR HT capacitors have been installed on all the 9 No. newly constructed 33 KV S/Stns up to 30.09.09. Also HT capacitors of a total rating of 62.10 MVAR will be installed on 27 No. new 33 KV S/Stns expected to be commissioned by 31.3.2010. In addition to this, 175.1 MVAR HT capacitor will be installed on existing 33 KV S/Stns. Also, HT capacitor installations which were not provided during 2008-09 are also likely to be provided during 2009-10.

Augmentation of HT and LT line

- 1.8 The Nigam has always endeavored to maintain a high HT to LT ratio and has an HT network spanning to 41113 km and LT network spanning over 62457 km as on 30.9.09. There has been a continuously increasing trend in the ratio of HT to LT line length which is indicative of the improving topology and health of the distribution network. The HVDS programme shall further assist in boosting the HT-LT ratio of the system. The details of HT-LT line length are as tabulated below:

Table 30: Length of the HT & LT network over the years

Particulars	2000-	2001-	2002-	2003-	2004-	2005-	2006-	2007-	2008-	2009-10 (upto 30.9.09)
HT Lines (KM)	29294	29920	30786	31563	32737	33522	34902	37487	39065	41113
LT Lines (KM)	58438	58813	59239	59825	60368	61020	61548	62278	62289	62457
Ratio of HT to LT	1:1.99	1:1.97	1:1.92	1:1.90	1:1.84	1:1.82	1:1.76	1:1.66	1:1.59	1:1.52

B2. Revamp of Network Topology

- 1.9 The distribution network's topology is being improved and affected in various ways. The major among these are the bi/trifurcation of overloaded feeders, extension of HT network through HVDS, feeder segregation, etc.

Bifurcation and Trifurcation of 11 KV Feeders:-

- 1.10 To reduce the line losses in the distribution system, the lengthy and over loaded 11 KV feeders are bifurcated/ trifurcated. In this direction, 5 Nos. existing feeders were bifurcated/trifurcated and converted into 10 Nos. feeders during 2008-09. 58 heavily loaded feeders were proposed to be bi/ trifurcated during 2009-10 of which 6 over loaded feeders have been bi/trifurcated into 12 No. as on 30.9.09 and work on the remaining feeders shall be completed by the end of FY 2009-10.

High Voltage Distribution System

- 1.11 High voltage distribution system has been envisaged for all existing tubewell connections with the objective of mitigating the problem of lengthy and loss-ridden LT lines. 132727 tubewell connections were proposed to be targeted under this scheme of which work order for implementing HVDS has been issued for 122091 No. tubewell connections in 'OP' Circles Kaithal, Kurukshetra, Karnal and Rohtak and the works are in progress. The work order for rest of the tubewell connections of remaining 'OP' circles in UHBVNL will be issued during FY 2009-10. The brief details of the HVDS works being taken up in UHBVN are as follows:

Table 31: Details of the HVDS work allotted

Sr.	Name of Circle	Total No. of T/W Conn.	No. of 11 KV feeders	No. of T/W conn. for which HVDS Work allotted	No. of DTs proposed to be installed	Amount in Rs. Crore
1	Kurukshetra	36063	262	25427	25683	293.49
2	Kaithal	37805	251	37805	37454	389.54
3	Karnal	56070	236	56070	56267	585.4
4	Rohtak	2789	28	2789	2789	27.5

5	Total	132727	777	122091	122193	1296
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- 1.12 High Voltage Distribution System has also been planned for towns in Yamuna Nagar, Karnal, Kaithal, Kurukshetra and Panipat.
- 1.13 The Nigam is also drawing up plans to provide HVDS for Urban areas under APDRP-II which is to be executed in the 11th five year plan.

Segregation of Agricultural feeders

- 1.14 UHBVN has embarked on the task of segregating rural domestic load from agricultural load. This scheme was envisaged with the objective to provide regular and reliable power supply to rural domestic consumers. This shall also ensure proper energy accounting and enable imposing of separate PRM measures on rural domestic and agricultural consumers.
- 1.15 The target of segregation of Rural Domestic Load from tubewell load has been achieved by erecting 691 No. feeders. The segregation of the feeders stands completed in all the circles as on 30.9.09.

Automatic Reactive Power Manager

- 1.16 The work for installation of 3-phase Automatic Reactive Power Manager at 183 Nos. 33 KV Sub-stations in UHBVN is under progress to control the reactive power and for optimum utilization of total installed capacity of the S/Stns.

Replacing of ACSR conductor with LT ABC cable

- 1.17 It is proposed that the LT network augmentation work in future shall be done using LT ABC cable. As part of the KfW project, 3 circles have been identified for the proposed scheme namely Kaithal, Karnal and Yamunanagar. 746.76 km of HT ABC cable and 1071.61 km of LT ABC cable is proposed to be laid out by replacing the existing ACSR conductor. Also, under this scheme 930 new transformers are proposed to be installed to alleviate the load of the existing overloaded transformers. This scheme shall cover a targeted 113055 domestic consumers, 28101 non-domestic consumers, 3911 LT and 215 HT consumers. The details of the proposed scheme are as detailed below:

Table 32: Circle-wise targets of the proposed scheme

S. No.	Name of Circle	No. of 11 KV feeders	HT ABC (in km)	LT ABC (in km)	Addl. No. of transformers	Targeted No. of Connections				Total Cost (Rs Cr)
						DS	NDS	LT	HT	
1	Kaithal	14	159.8	245.42	258	20,733	6,049	514	56	37.28
2	Karnal	27	354.6	348.36	266	41,500	11,171	1,056	156	58.64
3	Yamunanagar	26	232.36	477.83	406	50,822	10,881	2,341	3	63.72
4	Total	67	746.76	1071.61	930	113055	28101	3911	215	159.64

Adoption of new technology

- 1.18 Various new technologies are being adopted to reduce technical losses in the system. Amorphous core distribution transformers are being procured which have lower core losses owing to lower hysteresis losses. C-Type Wedge and Universal connectors which reduce copper losses are being introduced in the system.

B3. Energy Efficiency Measures

- 1.19 The issue of energy efficiency is omnipresent in the power sector and many initiatives are being taken up to improve the end-use efficiency in the system. These initiatives mainly comprise of CFL programme, Star Rated Appliance Usage, Energy Efficient agricultural pumps.

Compact Fluorescent Lamp Programme

- 1.20 As per the guidelines issued by the Ministry of Power, Government of India and in accordance with the Energy Conservation Act, 2001, the Nigam has taken up the promotion of the use of CFLs. The education of end users about the benefits of CFLs was taken up and directions were issued to the sub-divisions intimating the same.
- 1.21 Vide S.C. No.U-81/2007 dated 5.11.07 instructions were issued to provide two No. CFL of 15 watt free of cost to the Below Poverty Line (BPL) consumers at the time of release of connection along with warranty card. Also, vide S.C. No. U-56/2007, use of CFLs was mandated for temporary connections like tentwalas. The domestic consumers were encouraged to use CFLs by selling them CFLs at subsidized rates vide S.C. No. U-37/2008 dated 1.12.2008.
- 1.22 The Nigam has further instructed all the existing consumers of Industrial/Commercial category having load more than 5 KW in the area of UHBVN to switch over to CFL instead of old incandescent bulbs vide Sales Circular No. U-55/2007 dated 13.7.07
- 1.23 The daily progress of the sale of CFLs is being monitored and a total of 1.14 lakh CFLs have been sold by the Nigam upto 30.9.09. Special drives to promote CFL usage and measures to boost sales of CFLs are planned in FY 2009-10 and FY 2010-11. Also, modalities for collection, storage and disposal of CFLs are being discussed and the Nigam shall come up with a comprehensive strategy for the same. It is also proposed to make the consumers stakeholders in this scheme and involve Industrial associations, Resident Welfare Associations (RWA) and NGOs in the promotion of CFLs. Popular mass media like television, FM radio and newspapers and other mechanisms like leaflets are also envisaged to be used in CFL promotion. The usage of CFL in street lights on a large scale is also envisaged and shall be taken up in future.

Promotion of Solar Water Heating System in domestic sector

- 1.24 To promote the usage of solar energy for heating purposes and conserving electricity, it has been decided to provide rebate on domestic electricity bills @ Rs.100/-, Rs.200/- and Rs.300/- per month to the users of Solar Water Heaters of capacity 100 LPD, 200 LPD and 300 LPD capacities respectively for a period of 3 years from the date of installation of the system with immediate effect as one of the Demand Side Management Measures which has been approved by the Hon'ble Commission. The scheme was implemented through the issue of Sales Circular U-08/2007.
- 1.25 This rebate will be available to the users of Solar Water Heating Systems of BIS approved flat rate collectors or Ministry of Non-conventional Energy Sources (MNES) approved systems. To take benefit of the above rebate, the applicant is required to submit a joint commissioning report duly signed by the user, supplier and concerned Project Officer/Asstt. Project Officer (PO/APO) Integrated Rural Energy Program (IREP) of the district. The SDOs (OP) shall however, be required to carry out periodical check of Solar Water Heating System for its operation and functioning. In case at any stage the system is found to be non-functional/non-operational, the rebate is to be immediately withdrawn.

Energy Efficient Agricultural Pumps

- 1.26 48% of the total power sales of UHBVN are due to agricultural consumers. Hence, the judicious and efficient usage of electricity by agricultural consumers assumes huge significance in this scenario. The Nigam has taken various measures for promoting end-user efficiency in agricultural sector. The Government of Haryana has been popularizing the usage of energy efficient pump sets among the farmers by way of various incentive schemes (free transformer, subsidy on ISI marked pump sets and conformance to BEE norms) to promote energy conservation under the guidelines of Bureau of Energy Efficiency besides the use of alternate energy sources and techno.
- 1.27 The Nigam is planning to incentivized the usage of EE pump sets by launching the Mera Transformer Yojna under which the agri consumer can approach the Nigams for a dedicated distribution transformer (DTR) for his connection. The Nigams shall provide a dedicated transformer and HT line, free of cost, to all such farmers provided the consumer ensures that he has an energy efficient pumpset installation or agrees to have his inefficient pumpset replaced by agreeing to pay 50% of the total cost of the pump.
- 1.28 Also to pursue the energy efficient pumpset programme, the Nigam has associated with the BEE programme for efficient pumpset installation in agriculture dominated areas. In accordance with the programme launched by the BEE, Nigam has identified 2138 inefficient pumpset for DSM implementation on pilot basis in Kaithal and Kurukshetra Circle in assistance with BEE. BEE has selected M/s Conzerv System for the preparation of the DPR for the identified pump-set. The Nigam has appointed a nodal officer for co-ordination with various agencies for the pilot implementation of the project
- 1.29 About 2000 pumps were identified in the Kaithal and Kurukshetra circles for the replacement of the inefficient pumps in association with BEE. The energy audit of these pump sets is in process.

A2. Non-Technical Loss Reduction Plan

- 1.30 Non-technical losses comprise a major component of the overall losses in the system. Losses owing to thefts, defective and tampered meters, billing and collection losses. The details of non-technical losses and their mitigation are as described below.

Detection of theft

- 1.31 To strengthen the energy audit programme, concerted efforts are being made to curb the menace of theft of electricity by way of introducing daily checks, fortnightly checks and special checks at random intervals. Frequent raids are planned by the Head Office Staff as well as the field staff to discourage theft of power. Policing of around 23.5 lacs consumers round the clock is a gargantuan exercise. However, the field Officers are conducting regular surprise checks at the consumer premises to detect the theft of electricity. The detail of theft cases detected is listed below:

Table 33: Details of the theft-detection and penalty-recovery drives

Year	Theft cases detected (Nos)	FIR lodged (Nos)	Penalty imposed (Rs in Lacs)	Amount recovered (Rs in Lacs)
2001-02	22109	4007	1829.71	876.17
2002-03	15837	2726	1927.66	1027.03
2003-04	22743	4051	2056.74	1009.36
2004-05	12524	5915	1189.04	410.66
2005-06	15478	3194	1894.73	783.36
2006-07	20993	3908	2169.78	1095.9
2007-08	13538	3288	1669.09	873.38
2008-09	11885	5059	1872.18	819.24
2009-10 (upto Sep 09)	2436	990	523.11	235.59

Regularization of Kundi connections in rural areas

- 1.32 It was observed that in some of villages, the number of electric connections is very less in comparison to the number of houses. Some of these villagers have been indulging in theft of energy through kundi connections resulting into huge revenue loss to the Nigam. It was, therefore, decided that such kundi connections shall be regularized by releasing connection on the spot itself and whenever kundi is regularized, meter security and consumption security would be recovered in 10 equal installments through future energy bills. The installments facility would be available up to 2 KW load only.
- 1.33 Vide Sales Circular No. U-69/2005 dated 24.11.2005 and Sales Circular No. 6/2001; instructions have been issued to the field officers to undertake drives for regularizing of kundi connections and collect the applicable meter and consumption security. Against the total regularization of kundi connections to the extent of 11527 Nos. during 2006-07, 10150 Nos. during 2007-08, 3429 Nos. during 2008-09 and 1863 Nos. of Kundi connections have been regularised so far during the current financial year i.e. 2009-10 (upto 30.9.2009).

Implementation of theft informer scheme

1.34 Through Sales Circular No. 25/2007 dated 22.3.2007, the loss prevention incentive scheme was launched. The Nigam then made the scheme more attractive through issue of Sales Circular No. U-25/2008 wherein a spot reward of Rs. 1000 is given to the informer in case theft is detected and 40% of the theft amount in case of recovery of the theft amount. The Sales Circular U-25/2008 came into effect from 8.8.2008 and the response of the scheme is very much encouraging. Wider publicity to the scheme through leaflets, radio, communications through Panchayats and other establishments is envisaged and shall be taken up.

1.35 The progress of the scheme from 8.8.08 to 30.9.09 is as below:

Table 34: Details of the theft-informer scheme

Name of Circle	No. of theft information received (XYZ) from 8.8.08 to 30.9.09	No. of cases checked	No. of cases where theft was Detected	Penalty imposed in Lac	Penalty recovered in Lac	No. of informers who have been paid the award	Amount paid as award in Lac	Actual pending reply awaited
Ambala	90	14	0	0.00	0.00	0	0.00	76
Yamunanagar	100	84	22	4.69	4.69	6	0.25	16
Kurukshetra	116	81	24	5.62	5.62	6	1.26	35
Kaithal	43	12	6	1.76	0.25	0	0.00	31
Karnal	68	21	9	1.79	0.68	1	0.06	47
Panipat	95	41	25	18.04	16.16	0	0.00	54
Sonepat	118	70	20	3.23	1.37	0	0.00	48
Jind	78	78	27	6.91	2.78	0	0.00	0
Rohtak	44	36	21	12.24	8.29	0	0.00	8
Jhajjar	73	48	19	1.78	0.62	0	0.00	25
Total	825	485	173	56.06	40.46	13	1.57	340

Declaration of unauthorized loads

1.36 To motivate consumers to declare their load voluntarily, voluntary disclosure schemes have been launched periodically through issue of SC No. U-02/2006 dated-13.1.2006, U-52/2006 dated-27.7.2006, U-86/2006 dated-19.12.2006, U-74/2007 dated 25.10.2007, U-93/2007 dated 27.12.2007, U-9/2008 dated 14.2.2008, U-14/2008 dated 7.4.2008, U-23/2008 dated 16.6.2008, U-30/2008 dated 12.9.2008, U-34/2008 dated 31.10.2008, U-36/2008 dated 1.12.2008, U-16/2009 dated 25.5.2009, U-22/2009 dated 30.6.2009.

Replacement of Defective meters

1.37 The Utility identified those sub-divisions where the revenue was comparatively more but at the same time the system losses were on the higher side. The main cause for such higher system losses was identified to be due to large number of defective/sluggish electro-mechanical energy meters and as such the Utility decided to replace all the defective/ sluggish meters in phases in this process 638684 single phase

meters and 52849 three phase meters have been replaced so far upto 30.9.2009. The number of single-phase meters replaced is as under:

Table 35: Details of the replacement of defective single-phase meters

Sr. No	Year	No. of meters replaced
1	Upto 31.3.2004	492281
2	2004-05	76107
3	2005-06	26148
4	2006-07	12275
5	2007-08	56261
6	2008-09 to 2009-10 (upto Sept.-09)	8566

- 1.38 As regards, the replacement of all the slow/ sluggish/ defective 3 phase electromechanical meters, the Utility identified 79 sub-divisions where 83262 meters required immediate replacement. Out of which 52849 meters have so far been installed upto 30.9.09. The year wise Three Phase meters replaced is illustrated as under.

Table 36: Details of the replacement of defective three-phase meters

Sr. No	Year	No. of meters replaced
1	Upto 31.3.2004	33811
2	2004-05	4360
3	2005-06	1719
4	2006-07	5166
5	2007-08	16500
6	2008-09 to 2009-10 (upto Sept.-09)	1122

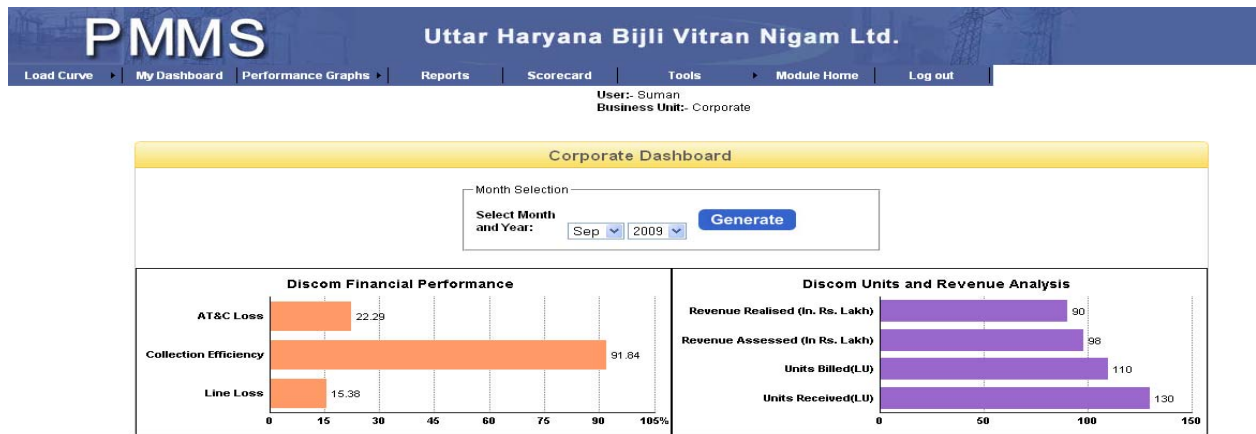
DT & Feeder Metering

- 1.39 The DT metering amounting to scheme amounting Rs. 205 Crore has been sanctioned by R.E.C for providing 86757 no. DT meters with GSM modem in the UHBVN covering all the districts of UHBVN. 2987 DT meters with LPR facility have been installed in Karnal, Panipat and Sonapat. DT metering is not complete in UHBVN because the tenders for procurement of DT meters did not materialise and further Nigam has decided to procure all new DTs with electronic meters. Feeder metering at 11 KV and 33 KV levels has been taken up.

Monitoring of losses

- 1.40 The utility is targeting loss reduction in line losses and the target for the current F.Y 2009-10 has been fixed as 24%. It is expected that the losses will further reduce because of energisation of HVDS in rural areas by the end of FY 2009-10.

- 1.41 The Nigam has also implemented a Performance Monitoring IT System-PMMS to enable the hierarchical monitoring of data which is entered at the field level. The PMMS enables monitoring of key parameters like AT&C losses, collection efficiency and line losses of sub-divisions, divisions and circles enabling the management to take corrective measures. Training has been given to the SDOs, XENs and the data entry operators at the field level and a data flow has been established in the system. A web-shot of the PMMS system is shown below:



Replacement of electromechanical meters with electronic meters

- 1.42 It was observed that electromechanical meters became sluggish with time. They are also susceptible to meter tampering and are influenced by magnetic fields and sometimes start recording erroneous data in the field of strong magnets. In light of this, the electromechanical meters are being replaced with tamper-proof electronic meters. A massive program has been launched to replace all the electromechanical energy meters with electronic meters, in single phase as well as three phase categories. Sales circulars were issued informing the field officers and consumers of the replacement procedure in Sales Circular No. U-74/2006 dated 3.11.2006, Sales Circular No. U-77/2006 dated 13.11.2006 and Sales Circular No. U-02/2008 dated 8.1.2008. This had been necessitated because of high losses occurring due to poor energy recording through electromechanical meters.

Providing meters on un-metered agriculture connections

- 1.43 Un-metered agricultural consumers tend to overdraw as they pay flat rates on BHP basis and are insensitive to the actual consumption of electricity. The consumption of unmetered agricultural consumers assumes significance in the light of their consumption pattern and hence, the Nigam has launched a metering drive of the unmetered agriculture connections. The total no. of unmetered agricultural connections as on 31.3.09 stands at 183180. There was a plan to install meters on the balance un-metered Tube well connections but due to stiff resistance from the farmers, the Nigam is not in a position to install the meters. However, every new tube well connection is being released by providing a static energy meter.

Relocation of meters outside premises

- 1.44 In order to prevent cases of meter tampering and theft of energy, it was decided by Nigam to shift the location of meters to the outside of premises on walls or on poles in weather proof meter pillar boxes to avoid access to the meters by the consumers with the intention of theft of energy. A circular was issued in this regard, directing the field officials on the modalities of relocation of meters vide Sales instructions No.U-40/2006. 63924 meters have so far been shifted outside the premises in the boxes in the FY 2006-07, 93672 Nos. of meter in FY 2007-08, 37542 Nos of the meters in FY 2008-09 and in the year 2009-10 upto 30.9.2009 12605 meters have so far been shifted out side the premises in the boxes.
- 1.45 In case of consumer owned electronic meter the accuracy shall be checked with accu-check meter & if accuracy is found O.K. the same meter shall be shifted to the nearby pole. Installation of each meter is done at an accessible height of 5' on the pole so that the meter reading could easily be taken by the Meter Reader. It was ensured that not more than 6 meters are installed at one pole.

LIST OF DIRECTIVES NOT FULLY COMPLIED WITH

Sr. No.	Directives	Action to be taken
1.	The investment planned for reduction of losses should be taken on priority and should be evaluated on completion of the same. A report on such schemes should be sent to the Commission on quarterly basis. (Direction given in 11.8.2001 order)	<p>The Nigam has been giving priority to loss reduction while planning the capital investment schemes. The Nigam has also segregated the capital investment schemes into five major heads for focused approach:</p> <ol style="list-style-type: none"> 1. AT&C Loss reduction, 2. Load management 3. Reliability improvement 4. Infrastructure development 5. Customer Service improvement <p>Because of the continuous efforts of the Nigam through capital schemes like HVDS, creation and augmentation of substations, bi/trifurcation of feeders, relocation of consumer meters etc, the T&D losses of UHBVN have reduced from 35.02% in 2002-03 to 27.02% in 2008-09.</p> <p>The capital expenditure projections for the FY 2010-11 has been done keeping in view the realistic loss reduction targets through loss reduction plan wherein the SDOs participated to spelled out their field requirement for realistic loss reduction. The Nigam had submitted the outlay plan of Rs. 702 Cr to the Hon'ble Commission for 2009-10 which covered the project-wise details of activities undertaken to reduce line losses and technical losses besides better availability of voltage at consumer end. It will also curb theft of energy/eliminate kundi connections. The status of major projects undertaken during FY 2009-10 is highlighted below:</p> <ol style="list-style-type: none"> 1. (i) <u>New 33 KV sub stations</u>. 21 Nos. new 33 KV substations and 19 Nos. of existing 33 KV sub stations were augmented / commissioned during 2008-09. During the year 2009-10, 9 nos. new sub stations and 11 nos. existing sub stations were augmented/ commissioned upto 30.09.2009 to meet with the growing load demand and to give better voltage supply to the consumers. (ii) HT capacitors of 32.4 MVAR capacity have been installed in the year 2008-09. During the FY 2009-10 it is proposed to install another 86.4 MVAR HT Capacitor Banks against defective capacitor banks as well as new and existing 33 KV sub stations. The HT capacitors of 24.3 MVAR capacity have already been installed till September'09.

Sr. No.	Directives	Action to be taken
		<p>2. (i) Bifurcation / Trifurcation of overloaded feeders. (ii) Release of BPL Connections under RGGVY Scheme.</p> <p>3. Segregation of rural domestic and agriculture feeder has been completed and data of segregated feeders is being collected.</p> <p>4. Providing Area load dispatch centre in order to ensure proper utilization of available power. The vendor has installed the server at Panchkula headquarter however the online data capturing process is yet to be initiated by deploying GPRS system.</p> <p>5. Providing feeders metering</p> <p>The quarter wise report is being sent on regular basis to the Commission. The data pertaining to the impact of Capex on various parameters such as reduction in losses, theft and improvement in voltages is attached as Annexure-A of the main ARR petition.</p>
2.	<p>The Commission directed that:</p> <p>(a) The Licensee should computerize all the receivable accounts at the earliest. This will help in ascertaining the precise amount of consumer category-wise and age-wise receivable position separately for sale of power, delayed payment surcharge, municipal tax and electricity duty. The period-wise recovery against current arrears as well as old arrears should also be known correctly.</p> <p>(b) The Licensee should undertake detailed receivable audit, preferably from an independent agency. The receivable audit should be undertaken consumer category-wise.</p> <p>(c) The Licensee should submit a report giving</p>	<p>(a) The process of computerization of receivables of all categories of the consumers is under progress. The field offices have been supplied with the prescribed formats for the same.</p> <p>(b) The work of appointment of an independent auditor will be initiated after the completion of work of computerization of receivables which is in process.</p> <p>(c & d) Compliance has been made against this directive.</p>

Sr. No.	Directives	Action to be taken
	<p>details of the action taken in each case to recover arrears from the consumers having arrears above Rs. 1 lakh and the reasons as to why supply in all such cases have not been disconnected so far.</p> <p>(d) The amount of sale of power and delayed payment surcharge due should be shown separately in the consumers' bills.</p>	
3.	The Licensee was directed to obtain the necessary ISO 9000 / 14000 certification at the earliest. (Direction given in 20.8.2003 order)	The process of obtaining ISO 9000/14000 certification stands initiated by the Nigam and is likely to take some time for such certification. In the meantime NPC has been appointed as consultant for assisting UHBVN in obtaining the necessary ISO 9000 / 14000 certification at the earliest.
4.	The Commission directed the licensee to act upon the establishment of computerized State-of-the-art Area Load Dispatch Centre stipulation of the license in time-bound manner and submit quarterly progress reports to the Commission. UHBVNL has asked for extension of time for establishing ALDC up to June 2007. (Direction given in 18.4.2005 and 9.11.2005 orders).	The Nigam has recently developed state of art Area Load Dispatch Centre at Vidyut Sadan, Panchkula for implementation of Power Regulatory Measure, Monitoring and load data recording. The Area Load Dispatch Centre is occupied with various modern facilities to accomplish the desired function of load control. It is further submitted that the tender for data acquisition from all the 11kV feeders emanating from various sub-stations have been finalized and awarded to M/S Nelco. The hardware has been setup at the headquarters. The data flow has not been initiated yet in absence of communication setup between meters and server. The data flow will commence once the communication system is established. The basic outcomes of the implementation shall be better Power Regulatory Measure, Monitoring and load data recording.
5.	The Commission directed the licensee that project for computerization, consumer indexing and Geographical Information System (GIS) mapping should be well integrated into a policy and implement the same in all circles. (Direction given in	<p>Consumer indexing, mapping, assets codification with GPS co-ordinates for HT/LT/All other consumers has been planned under APDRP. The consumer base selected for the activity is mentioned as under:</p> <ol style="list-style-type: none"> 1. 'OP' Circle Karnal =442853 no. 2. 'OP' Circle Sonapat =237646 no. 3. 'OP' Circle Ambala =268111 no. 4. 'OP' Circle Jind =209470 no.

Sr. No.	Directives	Action to be taken
		in the process of setting up an online system for preparation, transfer and analysis of MIS reports (Monthly Information System) from subdivisions to the head office. The system would assist in timely transfer of data from subdivisions and monitoring the performance of the subdivisions.
6.	The commission directed the licensee to undertake a detailed analysis of its human resources, assess its medium to long term needs and submit a human resource management plan for consideration of the commission. (Directions given in 20.8.2003 and 18.4.2005) The licensee is directed to immediately complete recruitment of its staff.	Nigam has prepared its restructuring plan wherein norms are elaborated. The same has been submitted to Govt of Haryana and observations made by GoH are being incorporated for resubmission and approval.
7.	The Commission directs the licensee to take the requirements for reporting of performance levels in terms of the HERC regulations into consideration while finalizing the policy for introduction of IT in distribution and supply business. (Direction given in 9.11.2005 order).	Under R-APDRP, IT consultants are required to prepare IT plan for computerization and baseline data estimation. Nigam has already appointed TCIL as its IT consultant and comprehensive IT plan is being prepared for implementation including special focus on monitoring of performance levels as per Hon'ble Commission's directive on standard of performance.
8.	The Commission directed the licensee to expedite the requisite action so that a smooth transition to ABT regime takes place in Haryana and submit the status report immediately. (Direction given in 9.11.2005 order and 23.08.2006 order).	A smooth working of ABT regime will be possible only when there is monitoring of real time data upto 11 KV level and that will be done only after the complete execution of SCADA/EMS/DMS project in Haryana Power Utilities. The Nigam has already assigned the job of data acquisition of all the 11 KV feeders on turnkey basis for real time monitoring of data. The data flow has not been initiated yet in absence of communication setup between meters and server. The data flow will commence once the communication system is established.
9.	The Commission directs the licensee to engage a third party to carry out a sample survey of metered agriculture pump set consumers (say 30% of the installation) under guidance of the Commission:-	HESL has been engaged as the third party for carrying out sample survey of metered agriculture pump set consumers. The licensee has finished the feeder segregation activity for segregating rural domestic load from agriculture load. This will help in arriving at the actual agriculture sales. Status of Segregation of Rural Domestic Load from Agriculture Load- Progress thereof (UHBVN) (September-08) is shown in the Table below:-

Sr. No.	Directives	Action to be taken																																										
	<p>(a) to determine and comment upon proper installation of energy meter vis-à-vis the licensee's standard on the subject.</p> <p>(b) to determine the working and accuracy of meter at site by a standard method used for site testing of consumer meter.</p> <p>(c) to ascertain and report the treatment meted out to the metered agriculture pump set consumer in case his meter is defective/ damaged for raising his energy bills and working out the corresponding quantum of his consumption included in the sales data transmitted to head-quarters.</p> <p>The report along with the licensee's analysis be submitted before submitting the ARR for FY 2008-09 so that the ground position to use the sales data for metered agriculture pump set consumers is clear to the Commission.(Chapter 3, Para 3.10.1)</p>	<table border="1" data-bbox="671 353 1374 1025"> <thead> <tr> <th rowspan="2">Total no. of Villages Under UHBVN</th> <th colspan="2">Work Allotted</th> <th rowspan="2">Total Cost of Scheme</th> <th rowspan="2">Loan Sanctioned from REC</th> </tr> <tr> <th>No. of Feeders</th> <th>No. of Villages</th> </tr> </thead> <tbody> <tr> <td>3619</td> <td>704</td> <td>3483</td> <td>255</td> <td>226.53</td> </tr> <tr> <td colspan="5">136 no. villages are already running on urban feeders.</td> </tr> <tr> <td colspan="5">Dates for completion of work on 704 feeders are as under:-</td> </tr> <tr> <td colspan="2">No. of Feeders</td> <td colspan="3">Date of Commissioning</td> </tr> <tr> <td colspan="2">691</td> <td colspan="3">Feeders fully segregated as on 12.07.09</td> </tr> <tr> <td colspan="2">13</td> <td colspan="3">Balance 13 feeders already covered in bid hence the work of these feeders are not required</td> </tr> <tr> <td colspan="2">704</td> <td colspan="3">Segregation work completed as on 12.07.09</td> </tr> </tbody> </table> <p>The World Bank has also appointed M/S IMACS for establishment of base line data for segregated agriculture feeders and agriculture consumption for the both the DISCOMs which includes energy audit for the selected agriculture feeders. The work is under process and final report is expected by the end of the current financial year. This will enable utilities to come up with an accurate estimation of supply hours to the agriculture sector</p>	Total no. of Villages Under UHBVN	Work Allotted		Total Cost of Scheme	Loan Sanctioned from REC	No. of Feeders	No. of Villages	3619	704	3483	255	226.53	136 no. villages are already running on urban feeders.					Dates for completion of work on 704 feeders are as under:-					No. of Feeders		Date of Commissioning			691		Feeders fully segregated as on 12.07.09			13		Balance 13 feeders already covered in bid hence the work of these feeders are not required			704		Segregation work completed as on 12.07.09		
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10.	<p>The licensee is directed to:</p> <p>a) Examine the reasons for excessive R&M expenditure as compared to normative.</p>	<p>a) The Hon'ble Commission had allowed the repair and maintenance expenditure as 3% of average GFA(Gross Fixed Assets) in its ARR order of FY 2008-09 based on past actual data of UHBVN. However, the total R&M expense in FY 2008-09 has decreased to 1.6% of average GFA However, the reason for steep rise in maintenance of R&M can be attributed to the</p> <ol style="list-style-type: none"> 1. Increasing capital expenditure and addition to the gross value of plant and machinery. 2. Higher maintenance cost on the old plant & machinery 																																										

Sr. No.	Directives	Action to be taken
	<p>b) Ensure that preventive maintenance expenditure is given preference and a special allocation is done for the same so that within a reasonable period the R&M expenditure is brought within the normative parameters.</p> <p>c) Analyse the R&M expenditure on transformers and to formulate a time bound plan to be submitted along with the ARR for FY 2009-10 for bringing the transformer failure rate within acceptable limit for which additional funds may be earmarked.</p>	<p>3. The distribution system under the jurisdiction of UHBVN being overloaded in many parts</p> <p>Hence, the repair and maintenance expenses are on the higher side as against the national level benchmarks/norms. Further, UHBVN is constantly striving to maintain the standards of performance set by Hon'ble Commission in view of consumer satisfaction and provide better service to the consumers. However, UHBVN has ambitious plans of system strengthening and capacity augmentation in the coming years to reduce the repair and maintenance expenses as a percentage of GFA.</p> <p>b) The work of preventive maintenance is being given preference to reduce the damage rate of equipments and hence R&M expenses. The targets for damage rate of DTs, meters etc is being allocated to the field offices and efforts are being taken to ensure proper monitoring to ensure compliance of the same. A comprehensive repair and maintenance manual has also been circulated to field officials for ready reference and compliance.</p> <p>c) Nigam is analyzing the R&M expenditure on transformers and a time bound plan shall be submitted by the end of the current financial year. The repair and maintenance expenditure on transformers (P&M) can be mainly attributed to the overloading of transformers and ageing of transformers. In order to bring down the R&M cost, new distribution transformers are being installed and existing DTs are augmented. Further, the individual subdivisions are being monitored individually to bring down the DT damage rate and instructed to carry out preventive maintenance. Nigam would further like to submit that the DT damage rate has decreased to 11.09% (including warranty period) and 7.71% (excluding warranty period) in first half of the FY 2009-10 (till 09/2009). The detail for damage rate of DTs is attached at Annexure B of the main ARR petition.</p> <p>To reduce the damage rate of distribution Transformers to the level set in the standards of performance regulation,2004 (i.e. 5% in Urban areas and 10% in Rural areas), the utility has taken various steps given as under:</p> <p>i) In new orders for purchase of distribution transformers, it has been laid down that the past performance of the firm with</p>

Sr. No.	Directives	Action to be taken						
		<p>the distribution company i.e. UHBVN/DHBVN should be satisfactory and for assigning the satisfactory condition, the damage rate of the firm should not be more than 10%.</p> <p>ii) Sample testing from any govt. lab / Govt. approved lab at the Nigam's cost has been introduced.</p> <p>iii) 100% checking of transformers is being done on load and no load basis.</p> <p>iv) For better maintenance of distribution transformers, each S/Divn has been authorized to engage 10 persons who have been deployed exclusively for carrying out the regular maintenance of distribution transformers, HT/LT lines and tightening of loose sags</p> <p>(v) The Voluntary Disclosure schemes are being offered by the Nigam from time to time for giving a chance to the consumers to declare their loads voluntarily so that further necessary action for planning to augment the over loaded transformers shall be taken to avoid damage. Over loaded transformers are being augmented so that they shall be able to bear the load declared by the consumers under the Voluntary Disclosure schemes.</p> <p>(vi) The field offices have been directed to check periodically the size of fuse wires used on the distribution transformers and ensure proper size of fuses</p> <p>(vii) The field offices have been asked to keep vigil on oil level of T/Fs periodically and top up the same with good quality oil after attending the leakage if any.</p>						
11.	<p>The Commission directs the licensee as under:</p> <p>a) Since the work of replacement of consumer meters with electronic meters is going on for the past few years, the licensee shall supply within one month details regarding phase wise and capacity wise no. of meters required to be replaced, those replaced till FY 2007-08 and the balance yet to be</p>	<p>a) The Utility identified those sub-divisions where the revenue was comparatively more but at the same time the system losses were on the higher side. The main cause for such higher system losses was identified to be due to large number of defective/sluggish electro-mechanical energy meters and as such the Utility decided to replace all the defective/ sluggish meters in phases in this process 638684 single phase meters and 52849 three phase meters have been replaced so far upto 30.9.2009. The number of single-phase meters replaced is as under:</p> <p>Details of the replacement of defective single-phase meters</p> <table border="1" data-bbox="671 2007 1498 2038"> <thead> <tr> <th data-bbox="671 2007 783 2038">Sr. No</th> <th data-bbox="783 2007 1259 2038">Year</th> <th data-bbox="1259 2007 1498 2038">No. of meters rep</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Sr. No	Year	No. of meters rep			
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	<p>replaced. The information shall be accompanied with the action plan to complete the balance work and costs involved.</p> <p>b) The licensee shall supply similar information in respect of the feeder meters also within one month</p> <p>The licensee is to ensure that the procurement and installation of meters is in line with CEA regulations.(Para 2.21 of 08-09 order)</p>	<table border="1" data-bbox="671 315 1495 539"> <tr> <td>1</td> <td>Upto 31.3.2004</td> <td>492281</td> </tr> <tr> <td>2</td> <td>2004-05</td> <td>76107</td> </tr> <tr> <td>3</td> <td>2005-06</td> <td>26148</td> </tr> <tr> <td>4</td> <td>2006-07</td> <td>12275</td> </tr> <tr> <td>5</td> <td>2007-08</td> <td>56261</td> </tr> <tr> <td>6</td> <td>2008-09 to 2009-10 (upto Sept.-09)</td> <td>8566</td> </tr> </table> <p>As regards, the replacement of all the slow/ sluggish/ defective 3 phase electromechanical meters, the Utility identified 79 sub-divisions where 83262 meters required immediate replacement. Out of which 52849 meters have so far been installed upto 30.9.09. The progress of replacement of the defective electro-mechanical meters are attached as Annexure-C of the main ARR petition. The year wise Three Phase meters replaced is illustrated as under.</p> <p>Details of the replacement of defective three-phase meters</p> <table border="1" data-bbox="671 1021 1495 1272"> <thead> <tr> <th>Sr. No</th> <th>Year</th> <th>No. of meters rep</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Upto 31.3.2004</td> <td>33811</td> </tr> <tr> <td>2</td> <td>2004-05</td> <td>4360</td> </tr> <tr> <td>3</td> <td>2005-06</td> <td>1719</td> </tr> <tr> <td>4</td> <td>2006-07</td> <td>5166</td> </tr> <tr> <td>5</td> <td>2007-08</td> <td>16500</td> </tr> <tr> <td>6</td> <td>2008-09 to 2009-10 (upto Sept.-09)</td> <td>1122</td> </tr> </tbody> </table> <p>The progress of installation of 3 phase and single phase electronic meters is attached as Annexure C of the main ARR petition.</p> <p>b) Feeder metering at 11 KV and 33 KV levels has been taken up and the progress has been attached as Annexure-D of the main ARR petition.</p> <p>While formulating comprehensive metering plan, UHBVN has also prepared a check list with respect to compliance of the CEA regulation including installation, testing and service conditions of the meter. The same plan has been circulated to metering and protection wing of the Nigam for compliance.</p>	1	Upto 31.3.2004	492281	2	2004-05	76107	3	2005-06	26148	4	2006-07	12275	5	2007-08	56261	6	2008-09 to 2009-10 (upto Sept.-09)	8566	Sr. No	Year	No. of meters rep	1	Upto 31.3.2004	33811	2	2004-05	4360	3	2005-06	1719	4	2006-07	5166	5	2007-08	16500	6	2008-09 to 2009-10 (upto Sept.-09)	1122
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12.	<p>The licensee is directed to furnish complete details on the observations of the Commission within a month from the date of issue of this order whether all such consumers are continuing</p>	<p>Nigam would like to submit that the most of the consumers who have availed of surcharge waiver scheme, do not default again. In case of any default by the consumers, the action of Temporary Disconnection (TDCO) and PDCO (Permanent Disconnection) are taken as per the instructions of the sales manual of Nigam. The status of the surcharge waiver scheme</p>																																							

Sr. No.	Directives	Action to be taken
	to pay their current bills without any default or there are some consumers who have again defaulted and action taken by the licensee in case of default has not been given by the licensee.(Para 2.6.3 of 08-09 order)	is attached as Annexure-E of the main ARR petition.
13.	<p>Keeping in view the observations of the Commission, the distribution licensee are directed to submit the following details within three months from date of order:</p> <p>a) Copy of the instructions, is any, being followed for release of connections at 66kV and above</p> <p>b) Detailed note on:</p> <ol style="list-style-type: none"> 1. Present system for application and grant of connections to such consumers 2. How the billing is done for 66kV and above consumers, whether at the consumer premises or at substation and if the billing is done at consumer premises or at substations and if the billing is done at consumer premises, then who bears line losses between substations and consumer premises. 3. Ownership and maintenance of the system at which connection is given to such consumers 4. present number of consumers, their locations and connected load who are connected at 66kV and above 	<p>a) Details provided in the sales manual of Nigam which is available on the official website of Nigam.</p> <p>b) The point wise reply is given below:</p> <ol style="list-style-type: none"> 1. As per the instructions mentioned above 2. The billing is being done at substation end based on the readings of the meter installed at substations and the line losses are born by UHBVN/HVPN as the case may be. The HERC regulations in this regard have been changed recently and the Nigam has issued new instructions, according to which, the billing is to be done at sub-stations. 3. The ownership and maintenance of the system lies with the Nigam. 4. Attached as Annexure-F of the main ARR petition.

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	<p>5. difficulties being faced by the licensee and consumers in the present system Suggestions for overcoming these difficulties (Para 2.6.4 of 08-09 order)</p>	<p>5. No difficulties being faced by licensee and consumer</p>
14.	<p>The licensee is directed to submit the proposal on MYT as sought in the Commission's tariff order for FY 2006-07</p>	<p>Petition has been filed with Hon'ble Commission for finalizing the terms and conditions of MYT (Multi-year tariff). Meanwhile, discoms (UHBVN and DHBVN) have jointly appointed M/s ICRA Ltd. for conducting the cost of service and report of study is being regularly submitted to the Commission. Further, the Commission has issued a concept paper on proposal for introduction of Multi Year Tariff and asked the concerned utilities to submit comments on the same. UHBVN has submitted its comments on the concept paper issued by the Commission. Subsequent to finalization of concept paper, the detailed terms and conditions for MYT regulations would be issued by the Commission.</p>
15.	<p>The licensee is directed to explain the reasons for not initiating action for compliance of directive since 4/2005 and intimate the expected date of completion of activity. (Para 2.6.9 of the tariff order FY 2008-09)</p>	<p>The load dispatch center is already functioning as per HERC directives. However, establishment of computerized state of art dispatch centers with SCADA facility for DMS will take some time to mature.</p>
16.	<p>The distribution licensee is directed to review its human resources with an eye on activity wise assessment of the existing manpower and future requirements as the business expands. The assessment should also include re-training/re-skilling, relocation and redeployment of surplus staff (if any) in gainful activities. The discoms should submit a status report and a comprehensive human resource plan.</p>	<p>The activity wise assessment of existing employees and the proposed requirement has been established in the proposed restructuring covering the existing strength and future requirements (abolishing of posts, outsourcing of posts, and creation of new posts) according to class of employees and different wings/functions of Nigam. The restructuring plan has been submitted to the State Government for approval from the Government.</p>
17.	<p>It is directed to report separately the transformer damage rate for urban and rural</p>	<p>The transformer damage rate for urban and rural areas is attached as Annexure-B of the main ARR petition.</p>

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	areas in further reporting ending September 2008.	
18.	The Commission is of the view that the licensee's assessment of un-metered agriculture pump set consumer consumption is not accurate. The licensee is, therefore directed to probe this issue in detail and carry out a study on their own or through third party and come up with accurate assessments in their filings, duly supported by methodology and data.(Para 2.10 of 08-09 order)	The World Bank has also appointed M/S IMACS for establishment of base line data for segregated agriculture feeders and agriculture consumption for the both the Discoms which includes energy audit for the selected agriculture feeders. The work is under process and final report is expected by the end of the current financial year. This will enable utilities to come up with an accurate estimation of supply hours to the agriculture sector. The methodology for estimation of agriculture consumption is under discussion. In the meantime Nigam proposes feeder meter based agriculture consumption estimation.
19.	Determination of wheeling charges, cross subsidy surcharge and additional surcharge needs segregated accounts including voltage wise assets and losses for the distribution and retail supply business, the distribution licensees are directed to submit the same along with the next ARR.	The Nigam has initiated process for appointment of financial consultant for segregation of accounts for D&RS business. The tender has already been floated and bids have been received. Evaluation of bid is under process. After the study is finalized, the Nigam shall submit the segregate accounts for voltage wise assets and losses for D&RS business along with the determination of wheeling charge cross subsidy surcharges and additional surcharge.