COMMISSION'S ORDER

ON

AGGREGATE REVENUE REQUIREMENT OF HVPNL FOR TRANSMISSION BUSINESS & SLDC FOR FY 2014-15 TO 2016-17AND TRANSMISSION TARIFF & SLDC CHARGES FOR FY 2014-15 UNDER THE MYT FRAMEWORK

CASE NO: HERC/PRO - 6 OF 2014

29th May, 2014

HARYANA ELECTRICITY REGULATORY COMMISSION

Bay No. 33-36, SECTOR - 4, PANCHKULA - 134 112, HARYANA

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HARYANA ELECTRICITY REGULATORY COMMISSION

BAYS NO. 33-36, SECTOR - 4, PANCHKULA - 134 112

CASE NO: HERC / PRO - 6 OF 2014

IN THE MATTER OF

Petition / Application filed by Haryana Vidyut Prasaran Nigam Limited (herein after referred to as HVPNL or the petitioner) for approval of Aggregate Revenue Requirement (ARR) for Transmission business and State Load Dispatch Centre (SLDC) for years 2014-15 to 2016-17and determination of Transmission Tariff and SLDC Charges for FY 2014-15 under MYT Framework.

Present:

Shri R. N. Prasher	**Chairman**
Shri Jagjeet Singh	**Member**
Shri M.S.Puri	**Member**

ORDER

The Haryana Electricity Regulatory Commission (hereinafter referred to as ‘the Commission’), in exercise of powers vested in it under section 62 of the Electricity Act, 2003 and Section 26 of the Haryana Electricity Reforms Act, 1997 and all other provisions enabling it in this behalf, passes this order determining the Aggregate Revenue Requirement (ARR) for Transmission and State Load Despatch Centre Business of Haryana Vidyut Prasaran Nigam Limited for years 2014-15 to 2016-17 and the transmission tariff and SLDC charges for the FY 2014-15. The Commission while passing this order has considered the petition filed by HVPNL for ARR for Transmission Business & SLDC, Transmission tariff & SLDC charges for FY 2014-15 to 2016-17, subsequent filings made by HVPNL in response to various queries of the

Commission, the objections / comments of UHBVNL on the ARR Petition of HVPNL in response to the Public Notice, submissions made by HVPNL in its presentation in the public hearing held on 18.3.2014.

In its consultative process the Commission convened a meeting of the State Advisory Committee on 8.5.2014 and their views on different aspects of transmission tariff & SLDC charges have been kept in mind while passing this order. Further all other relevant facts and information on the record of the Commission have been perused before passing this order.

1. PROCEDURAL ASPECTS OF THE ARR FILING

1.1 Background

(i) The Petitioner i.e. Haryana Vidyut Prasaran Nigam Ltd. (HVPNL) is a State Government owned company registered under Indian Companies Act, 1956. It is presently engaged in the business of transmission in the State and is also operating State Load Dispatch Centre (SLDC) at Sewah in Distt. Panipat. HVPNL came into being on 14.8.1998 as per the provisions of the first Transfer Scheme Rules, 1998 notified by the Government of Haryana under HERA for implementation of Power Reforms & Restructuring of erstwhile Haryana State Electricity Board (HSEB). Initially both transmission as well as distribution business was vested in HVPNL. Thereafter, through the Second Transfer Scheme Rules, 1999, the Distribution business was separated from HVPNL and vested into two distribution companies, namely Uttar Haryana Bijli Vitran Nigam Ltd. (UHBVNL) & Dakshin Haryana Bijli Vitran Nigam Limited (DHBVNL)

(ii) The Government of Haryana vide its notification No. 1/10/2003-1/ Power dated 9.12.2003 notified HVPNL as the State Transmission Utility (STU) for the purpose of section 39(1) of E.A. 2003. Through another notification No. 1/11/2003-1 Power dated 9.12.2003, the State Govt. notified that SLDC at Sewah in Distt. Panipat, established for the purpose under section 31 (1) of the Act, shall be operated by HVPNL w.e.f. 10.12.2003.

(iii) HVPNL also holds ownership interest in the generation project i.e. BBMB. HVPNL's share of Power Generation from BBMB hydro projects i.e. Bhakra, Dehar and Pongs has been assigned to the UHBVNL & DHBVNL in the ratio of 1:1 vide Govt. of Haryana Notification dated 11.4.2008. Being interstate generation projects, the power to fix generation tariff for these projects are not vested with the Commission and same is regulated as per the Power Supply Agreement entered between HVPNL and the two Discoms.

(iv) **Compliance of directive for alteration / modification in the Transmission license**

Haryana Vidyut Prasaran Nigam Limited is the holder of the "The Haryana Transmission and Bulk Supply License [License No. 1 of 1999] granted to it by the Commission under section 15 of the Haryana Electricity Reform Act, 1997. However, the Government of Haryana vide its notification no. 116/2005/1/ Power dated 9th June, 2005, transferred the rights relating to procurement & bulk supply of electricity or trading of electricity from HVPNL to HPGCL and subsequently to distribution licensees. Since the original license of HVPNL was both for transmission as well as bulk supply business, it required some alterations or modifications in view of transfer of bulk supply business from HVPNL to HPGCL and subsequently to HPPC. In compliance to the provisions of regulations 22.2 of Form-1 in HERC (Conditions for Transmission License) Regulations, 2008 notified by the Commission on 31st October, 2008, HVPNL had submitted for the approval of the Commission the modifications required in its existing license. The Commission vide order dated 11.01.2013, in line with the Regulation No. 09/2004 namely "Haryana Electricity Regulatory Commission (Transmission and Distribution Licensing) Regulation, 2004 and Section 18 of the Electricity Act, 2003 granted the amended Transmission License to HVPNL for carrying on the business of transmission of electrical energy in the area of supply within the State of Haryana as per the terms and conditions mentioned in the amended License i.e. License No. 1 of 1999, 1st Amendment dated 11.01.2013.

(v) As per Section 86 (a) of Electricity Act, 2003 the power to determine tariff for generation, transmission, supply & wheeling of Electricity, wholesale, bulk or retail, as the case may be, are vested with the Commission. The present petition filed by Haryana Vidyut Prasaran Nigam Ltd. (HVPNL) is for determination of ARR for Transmission business & SLDC and for fixation of transmission tariff & SLDC charges by the Commission in exercise of powers vested in it under section 62 read with section 64 (3) (a) and section 64 (6) of the Electricity Act, 2003, for the FY 2014-15.

1.2 HVPNL's ARR Petition for FY 2014-15 to FY 2016-17:

The MYT Regulations, 2012 provides the time line for filing of various documents. Accordingly HVPNL was required to file Capital Investment and Business Plan by 01.08.2013 and MYT petition by 30.11.2013. However they sought extension in the time line and after considerable delay filed the MYT Petition on 15.01.2014.

Haryana Vidyut Prasaran Nigam Ltd. (hereinafter referred to as HVPNL or the Petitioner), had filed the present Petition for approval of Aggregate Revenue Requirement (ARR) and tariff for transmission and SLDC charges for the financial years 2014-15 to 2016-17 vide Memo No.Ch- 53 / SE / RAU / F-122 dated 15th^{h} January, 2014 under Sections 32 (3), 62 and 64 of the Electricity Act, 2003. They have also sought approval of Capital Investment Plan submitted by them.

1.3 Public Proceedings

In accordance with the provisions of section 64 (2) of the Act, HVPNL published its petition in the abridged form in order to ensure public participation. The Public Notice was issued by the HVPNL in The Tribune (English) dated 29.01.2014 & Amar Ujala (Hindi) dated 28.01.2014 inviting objections/suggestions/comments from the stakeholders and general public. Subsequently the Commission issued public notice on 16.01.2014 in The Hindustan Time (English) and on 17.05.2014 in Dainik Jagarn (Hindi) inviting objections and suggestions on the MYT petition filed by HVPNL for FY 2014-15 from the public and other stakeholders.

In response to the public notices issued by the petitioner and subsequently by the Commission M/s Tata Power Trading Corporation Limited (TPTCL) filed their Objections/ comments vide letter dated 14.03.2014. HVPNL responded to the same vide Memo No. CH-91/SE/RAU/G-122/Bol-1 dated 28.03.2014.

The Commission proceeded to hold public hearing on the MYT petition of HVPNL for FY 2014-15 to FY 2016-17 on 18.03.2014 after intimating the date of public hearing in the newspaper on 08.03.2014. The date of hearing was also posted on the website of the Commission under the heading 'Schedule of Hearing'.

The public hearing was held on 18.3.2014 in the conference hall of the Commission. The Managing Director of HVPNL made a presentation on HVPNL's MYT Petition in the hearing. The Managing Director and other officers of HVPNL responded to the queries of the Commission and those raised by the intervener i.e. TPTCL.

1.4 Salient features of the ARR Petition of HVPNL:

1.4.1 HVPNL's Proposal for ARR of Transmission business for FY 2014-15 to FY 2016-17:

HVPNL, in its petition, has provided the details of various expenses projected by them for transmission business for FY 2014-15 to FY 2016-17 including salary & wages, repair and maintenance (R&M) expenses, administrative and general (A&G) expenses, depreciation, interest cost on capital expenditure related borrowings & working capital, Income tax & special appropriations etc.

In addition to the above mentioned expenses Return on Equity (ROE) has been claimed by HVPNL @14%. HVPNL has also claimed Unitary Charges payable to the Concessionaire for the transmission project executed through Public Private Partnership mode i.e. Jhajjar KT Transco Private Ltd.

1.4.2 Annual Revenue Requirement and Tariff for the Control Period

The following Table presents the summary of the Annual Revenue Requirement for the Control Period as proposed by HVPNL.

Table 1.1: Annual Revenue Requirement for Transmission Business (Rs. Millions)

Particulars	2013-14	2014-15	2015-16	2016-17
	RE	Proposed		
O&M Cost	4,161	4,419	4,763	5,181
Interest on Loan	2,681	2,890	3,355	4,003

Interest on Pension Bonds	673	673	639	572
Interest on PF Bonds	160	160	152	136
Depreciation	2,624	3,244	3,928	4,552
Interest on Working Capital	270	297	329	365
Return on Equity	2,251	2,768	3,304	3,818
Share of SLDC Charges	7	14	21	22
PPP Charges	596	600	600	600
Less: Short Term Open Access Charges	138	-	-	-
Less: Non-Tariff Income	52	52	52	52
Annual Revenue Requirement	**13,234**	**15,012**	**17,039**	**19,196**

1.4.3 Operational Parameters

Transmission availability and Losses proposed by HVPNL are as under:

Table 1.2: Technical Parameters

Parameter	**FY 14**	**FY 15**	**FY 16**	**FY 17**
	RE	Proposed		
Availability	98.0%	98.2%	98.4%	98.5%
Transmission Loss	2.75%	2.72%	2.70%	2.70%

1.4.4 Sharing of SLDC Charges

The HVPNL has applied the methodology as provided in the HERC MYT Regulations, 2012 for estimating the share of SLDC charges to be borne by them. The details are as under:

Table 1.3: Share of SLDC Charges (Rs. Millions)

Particulars	**2013-14**	**2014-15**	**2015-16**	**2016-17**
	RE	Proposed		
Share of SLDC Charges	7	14	21	22

1.4.5 Tariff for Beneficiaries:

HVPNL has submitted the average monthly demand for FY 2013-14 up to Sept. 2013 at 7203 MW. The same has been increased for the purpose of projections as per the anticipated increase in transformation capacity in order to project the Peak Load for the Control Period. The details are as under:

Table 24: Peak Load (MW)

Projected Peak Load	**2013-14**	**2014-15**	**2015-16**	**2016-17**
	RE	**Proposed**		
Peak Load	7203	8335	9608	10872

The petitioner has calculated the transmission expenses based on pro-rata distribution of the ARR for the calculation of transmission charges to be paid by Tata Power Trading Company Ltd. The details as per HVPNL filing is as under:

Transmission Charges to be paid by TPTCL for FY 2013-14 as estimated by HVPNL is as under:

TC Total ARR (Contracted e mand of TPTCL/Average Pea e mand met)

$$, 24 \left(\frac{24}{20}\right) \text{ Rs. } 22 \text{ . Million}$$

Table 3: Annual Transmission Charges to be paid by TPTCL (Rs. Millions)

Transmission Charges	2013-14	2014-15	2015-16	2016-17
	RE	Proposed		
TPTCL	227.81	218.91	216.10	215.60

The Annual Revenue Requirement after subtracting the transmission charges to be paid by TPTCL has been apportioned between the two Discoms based on their respective transformation Capacity. The details are as under:

Table 4: Transformation Capacity (MVA)

Share of Transformational Capacity	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17
	RE	Proposed			
UHBVNL	8349.2	8,826	10,126	11,240	11,974
DHBVNL	8242.9	9,027	10,974	13,040	15,461
% Share of UHBVNL	50.3%	49%	48%	46%	44%
% Share of DHBVNL	49.7%	51%	52%	54%	56%

Revenue projected by HVPNL from each Discom for the Control Period based on the transformation capacity is as under.

Table 5: Projected Monthly Charges from DisComs (Rs. Million)

Monthly Charges	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17
	RE	Proposed		
UHBVNL	536	592	649	690
DHBVNL	548	641	753	891

1.4.6 Annual Revenue Requirement of SLDC:

The following Table presents the summary of the Annual Revenue Requirement for the Control Period as proposed by HVPNL in their MYT Petition.

Table 6: Projected Annual Revenue Requirement of SLDC (Rs. Millions)

Particulars	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17
	RE	Proposed		
O&M Cost	42	52	60	68
Interest on Loan	11	51	86	86
Depreciation	25	46	70	73
Interest on Working Capital	2	3	5	5
Return on Equity	8	21	37	39
Less: Non-Tariff Income	1	1	1	1

Total Annual Revenue Requirement	87	172	257	270

1.4.7 Share of Charges:

The Share of the Charges as proposed by HVPNL in accordance with the MYT Regulations 2012 is as under: -

Table 7: Market Operations (Rs. Millions)

Market Operations (20%)	**2013-14**	**2014-15**	**2015-16**	**2016-17**
	RE	**Proposed**		
TPTCL	4.34	8.60	12.83	13.52
UHBVNL	4.34	8.60	12.83	13.52
DHBVNL	4.34	8.60	12.83	13.52
HPGCL	4.34	8.60	12.83	13.52
TOTAL	**17.37**	**34.39**	**51.31**	**54.08**

Table 8: System Operation Function (Rs. Millions)

System Operation Function (80%)	**2013-14**	**2014-15**	**2015-16**	**2016-17**
	RE	Proposed		
TPTCL	0.54	0.90	1.17	1.09
UHBVNL	15	29	42	42
DHBVNL	16	32	49	54
HPGCL	31.26	61.91	92.35	97.34
TS of HVPNL	6.95	13.76	20.52	21.63
TOTAL	**69.47**	**137.58**	**205.22**	**216.30**

Total Charges to be paid by each of the beneficiaries as proposed by HVPNL is summarized in the table below.

Table 9: Share of beneficiaries of SLDC (Rs. Millions)

Particulars	2013-14	2014-15	2015-16	2016-17
	RE	Proposed		
TPTCL	4.88	9.50	14.00	14.61
UHBVNL	19.53	37.88	55.04	55.52
DHBVNL	19.88	40.33	61.80	67.76
HPGCL	35.60	70.51	105.18	110.86
TS of HVPNL	6.95	13.76	20.52	21.63
TOTAL	**87**	**172**	**257**	**270**

1.4.8 Mid-Year Review Petition for FY 13-14 for Transmission Business

In this section HVPNL has submitted the actual performance up to Sept 2013 for FY 2013-14. The same is re-produced below.

1.4.9 Technical Performance for FY 2013-14

The following table provides the technical performance of the HVPNL as reported by them.

Table 10: Technical Performance for Current Year

Technical Parameter	HERC Norm	Performance in FY 13-14 (up to Nov)
Transmission System Availability (%)	98	99.80
Intra-State Transmission Losses (%)	-	2.80

1.5 Operation Related Expenditures for FY 2013-14:

The following table summarizes the actual expenditures against those approved by the Commission as per HVPNL's submissions.. HVPNL has stated that the employee expenses (including Terminal benefit expenses) are beyond the control of the petitioner and hence the same may be allowed as per actual employee expenses incurred by them. The actual expenses provided by HVPNL are as per the financial statements for the first half of the current financial year 2013-14. HVPNL has further submitted that due to the financial losses, they had to resort to short term borrowings in order to meet the expenses and hence interest on working capital has exceeded the normative levels prescribed in the MYT Regulations, 2012. The details provided by HVPNL are as under:-

Table 11: Mid-Year Performance (Rs. Millions)

Technical Parameter	HERC Tariff Order	HERC Norms For Half Year	Performance in FY 13-14 (up to Sept)
Employee Expenses	2737	1369	1756.57
Repair & Maintenance Exp	276.9	138.5	68.40
Admin & General Exp.	128.8	64.4	78.18
O&M Expenses	**3043**	1522	1903.15
Interest and Finance Charges	1982	991	1470.25
Interest on Working Capital	151.5	75.8	263.04

1.6 State Advisory Committee

The Commission, in order to have the benefit of the views of State Advisory Committee (SAC) members, convened a meeting of the State Advisory Committee, constituted under Section 87 of the Electricity Act, 2003, on 08.05.2014. The SAC members were provided executive summary of the MYT petition of HVPNL for Transmission & SLDC business for the control period beginning FY 2014-15. The SAC members mostly expressed concern about non-issuance of NOC for short-term Open Access and non-adherence of deemed NOC for Open Access by the SLDC after the stipulated number of days i.e. 3 days prescribed by the Open Access Regulations notified by the Commission. The Commission informed the SAC members that vide letter dated 06.05.2014 (Memo No. 413-416) HVPNL/ SLDC has been directed to submit the names of the officers concerned so that they may be asked to explain the reason, if any, for violating the law so that the Commission may initiate action against them under Section 142 of the Act.

The Commission has duly considered the view of the Members of SAC while finalizing the present Tariff Order.

2. ANALYSIS OF THE ARR FILING AND COMMISSION'S ORDER

The Commission has considered HVPNL's petition comprising of the ARR & Tariff application dated 15.01.2014 under the MYT Regulations, 2012 additional information provided from time to time, oral submissions of HVPNL and subsequent discussions during the public hearing held on 18.3.2014. The Commission has also taken into account the objections dated 14.3.2014 filed by Tata Power Trading Company Limited on the issue of clause 2.11 of the Open Access Regulations and rebate/ late payment surcharge and the reply dated 28.03.2014 filed by HVPNL thereto. The suggestions/comments of SAC members have also been taken into account while passing the present order

The ARR for the Transmission business & SLDC dealt with by the Commission in this chapter covers the fixed expenses including capital expenditure and the operating expenses. The various elements of transmission and SLDC expenses proposed by HVPNL including capital investment plan, return on equity, non-tariff income and incidence of taxation have been analyzed and the Commission's order on each item is presented in the paragraph that follows.

2.1 Operation and Maintenance (O&M) Expenditure

Employees' cost, administration & general expenses and repair & maintenance expenses, which together comprise the O & M expenditure, are analyzed under this sub-head. The O&M expenses, as per the MYT Regulations, 2012 are considered as controllable costs with the exception of terminal benefit costs which are considered as uncontrollable. The MYT Regulations, 2012 clearly set out the methodology to calculate the O&M expenses for the transmission business for the control period. The relevant regulation 45.3 of the MYT Regulation, 2012 is reproduced below:

The actual audited Employee cost (excluding terminal liabilities) and A&G expenses for the financial year preceding the base year, subject to prudence check, shall be escalated at the escalation factor of 4% to arrive at the Employee cost (excluding terminal liabilities) and A&G expenses for the base *year of the control period. The O&M expenses for the n^{th} year of the control period shall be approved based on the formula given below:*

$$(\qquad) \; (\qquad)$$

Where,

$R\&M_n$ – Repair and maintenance costs of the transmission licensee for the n^{th} year;

EMP_n – Employee costs of the transmission licensee for the n^{th} year excluding terminal liabilities;

$A\&G_n$ – Administrative and general costs of the transmission licensee for the n^{th} year;

The above components shall be computed in the manner specified below:

(a) $$\left(\frac{INDX_n}{INDX_{n-1}}\right)$$

Where,

‘ ’ is a constant (expressed in %) governing the relationship between O&M costs and Gross Fixed Assets (GFA) for the n^{th} year. ***The value of K will be 0.50% for the entire control period;***

GFA *is the average value of gross fixed assets for the n^{th} year;*

$INDX_n$ *means the inflation factor for the n^{th} year as defined herein after:*

Explanation: *The value of ‘K’ used for computation of R&M expenses by the Commission ranges from 0.46% to 0.55% over the last three years. The Commission after due consideration has fixed the value of ‘K’ as 0.50 for the control period.*

(b) $$(\qquad) \qquad (\quad - \quad -)$$

$$\left(\quad / \quad \right)$$

Where,

$INDX_n$ *– Inflation Factor to be used for indexing the employee cost and A&G cost. This will be a combination of the consumer price index (CPI)* *and the wholesale price index (WPI) for immediately preceding year and shall be calculated as under:*

$$\mathbf{IND_n \quad 0 \qquad CPI_n \quad 0\;4 \qquad PI_n}$$

Note: As and when any material price index specific to power sector or a more relevant Index becomes available, the same shall replace the Index used for working out R&M cost.

(c) ***X_n is an efficiency factor for n^{th} year***

X_n will be calculated by the Commission by analyzing the change in the total operating expenditure i.e. expenditure before depreciation, interest and taxes (i) Per unit of circuit km over last three years; and (ii) Per unit of transformation capacity over last three years.

The Value of X_n will be determined by the Commission in the MYT order for the control period. The transmission licensee will be required to submit the above data based on the actual for the last three years.

The details of O&M expenses as proposed by HVPNL for FY 2014-15 to FY 2016-17 vis-à-vis those approved by the Commission for FY 2013-14 and the actual expenditure in FY 2012-13 as per their audited accounts under each of the accounting heads is as per in Table 2.1.

Table 2.1 - O&M expenses (Rs. millions)

Particulars	**Audited**	**HERC order**	**HVPNL Proposal**		
	FY 2012-13	**FY 2013-14**	**2014-15**	**2015-16**	**2016-17**
Employee Expense	1808	1893	2,542	2,904	3,308
Terminal Benefits	1681	843	1,298	1,189	1,114
A&G Expense	141	122	169	185	203
R&M Expense	119	261	410	486	557
Total	**3750**	**3119**	**4,419**	**4,763**	**5,181**

The Commission has considered the latest available audited accounts i.e. FY 2012-13 of HVPNL with appropriate adjustments / changes for calculating the allowable expenses as part of the ARR for FY 2014-15 to FY 2016-17.

The various expenses that form part of O&M expenses are discussed in detail in the paragraphs that follow.

2.1.1 Employees' cost:

The employees' cost includes cost incurred for the working employees as well as the retirees. The cost of working employees comprises of salary, dearness allowance and other allowances such as HRA, CEA, LTC, medical reimbursement, etc. In the case of retired employees and those who would be retiring during the financial year under consideration, HVPNL has to discharge its liability in respect of payment of pension, gratuity, leave encashment & other benefits / payments as admissible to the employees under the applicable service rules.

The Commission is not in favour of increasing the number of employees indiscriminately in view of the already high employee cost of HVPNL in comparison to the other Transmission utilities in the country. The Commission expects HVPNL to be a trendsetter and a leader in all parameters of the transmission services in the country. **HVPNL is directed not to make any new recruitment including any recruitment against sanctioned posts beyond the approval accorded by the Commission. The licensee should outsource as many services as could be done without compromising on the quality of service.** In ultimate analysis the objective ought to be improving employee output ratio rather than employment generation.

The methodology of calculating employee cost has been set out in the MYT Regulations, 2012 and the same has been considered to calculate the expenses for the control period.

2.1.2 Terminal benefits

As per the MYT Regulations, 2012, the expenses on account of terminal benefits are to be allowed on actual cost basis or as established by way of actuarial valuation. As this cost is considered to be uncontrollable and is a pass through expenses in the tariff, it is implied that the valuation of terminal liability is done in an extremely prudent and scientific manner. The Commission had observed that the data used for actuarial valuation of pension liabilities is inaccurate and requires use of correct and authentic data in order to arrive at a fair valuation. It was further observed that HVPNL continues to book certain expenses on account of medical benefits to the pensioners and LTC on actual payment basis as well as on accrual basis as per actuarial valuation, hence leading to confusion as major part of these expenses is being paid and charged on actual basis by the distribution licensees and transmission licensee as well on actuarial basis. It is of utmost importance that the transmission licensee takes into account all these anomalies while estimating such liabilities. Further the return on assets held by the pension trust ought be managed in a manner that the pension trust is able to discharge its pension liabilities.

The Commission observes that inadequate returns earned by the pension fund have led to a shortfall of an amount of Rs. 1709.8 Millions in the fund corpus. Therefore out of total unfunded liabilities as on 31.03.2012 (as per the audited accounts) amounting to Rs. 8620 million, Rs. 1709.8 million is on account of accumulated shortfall in return on pension fund assets, Rs. 3022.5 million is on account of LTC and medical liabilities and the balance gap remained unexplained by HVPNL.

The Commission had directed HVPNL to examine the reasons behind the shortfall between the asset and liability of the trust and submit a report to the Commission. The report was submitted and has been examined by the Commission. It is observed that the licensee has only tried to justify the mismatch and has not made any effort to examine the reasons behind the shortfall in the earnings by the trust which has led to erosion in the value of the corpus of the pension trust. The licensee must always keep in view the fact that the funds entrusted to the trust have been recovered from the consumers by way of tariff. However, for the purpose of determining the ARR for the control period, the Commission approves the figures proposed by the licensee subject to prudence check and true up by the Commission.

In view of the above discussions, the Commission approves the employee cost for the transmission business and for SLDC business as per details provided in Table 2.2 and 2.3.

Table 2.2 - Employees' cost for Transmission FY 2014-15 to FY 2016-17 (Rs. millions)

Particulars	HVPNL Proposal	HERC approval
Employee cost excluding terminal benefits as per audited accounts for FY 2012-13		1808.33
4 % escalation to arrive at estimated cost for the base year (FY 2013-14)		1986.56
Indexation factor		9.86%
Employee cost (excluding terminal benefits) for FY 2014-15	2541.91	2177.09
Employee cost (excluding terminal benefits) for FY 2015-16	2903.78	2382.77
Employee cost (excluding terminal benefits) for FY 2016-17	3307.57	2615.73
Terminal benefits for FY 2014-15	1297.62	1297.62
Terminal benefits for FY 2015-16	1189.04	1189.04
Terminal benefits for FY 2016-17	1113.92	1113.92

Table 2.3 - Employees' cost for SLDC FY 2014-15 to FY 2016-17 (Rs. Millions)

Particulars	HVPNL Proposal	HERC approval
Employee cost excluding terminal benefits as per audited accounts for FY 2012-13		28.79
4 % escalation to arrive at estimated cost for the base year (FY 2013-14)		29.94
Indexation factor		9.86%
Employee cost (excluding terminal benefits) for FY 2014-15	37.91	32.89
Employee cost (excluding terminal benefits) for FY 2015-16	43.31	36.13
Employee cost (excluding terminal benefits) for FY 2016-17	49.33	39.69

The licensee is directed to ensure that all statutory dues of the employees towards pension and Provident Fund contributions are timely made to the trusts set up in this regard.

2.1.3 Repair and Maintenance Expenses (R&M)

The estimation of R&M expenses as per the MYT Regulation, 2012 which should be the basis for estimation of R& M expenses is reproduced below:

(a) $$\left(\quad / \quad - \right)$$

Where,

' ' *is a constant (expressed in %) governing the relationship between O&M costs and Gross Fixed Assets (GFA) for the n^{th} year.* ***The value of K will be 0.50% for the entire control period;***

GFA *is the average value of gross fixed assets for the n^{th} year;*

$INDX_n$ *means the inflation factor for the n^{th} year as defined herein after:*

Explanation: *The value of 'K' used for computation of R&M expenses by the Commission ranges from 0.46% to 0.55% over the last three years. The Commission after due consideration has fixed the value of 'K' as 0.50 for the control period.*

The Commission has calculated the R&M expenses in line with the MYT regulations keeping in view the inflation factor as proposed by the licensee. However, as the estimates of capital investments approved by the Commission are lower than those proposed by the licensee, the corresponding R&M expenses are also lower. The R&M expenses for SLDC are as proposed by the licensee.

The R&M expenses proposed by HVPNL and that approved by the Commission, based on the approved capital investment plan for the control period, is given below in table in table 2.4.

Table 2.4 - R&M Expenses for Transmission and SLDC for FY 2014-15 to FY 2016-17 (Rs. millions)

	HVPNL Proposal	**HERC approval**	**HERC approval**	**HERC approval**
	Transmission	Total	SLDC	Transmission
FY 2014-15	410.16	301.29	4.54	296.75
FY 2015-16	485.45	331.22	7.03	324.19
FY 2016-17	556.33	390.07	7.39	382.68

The Commission had observed in its order for FY 2012-13 that due to major differences in the execution of capital works, the amount of R&M allowed to the licensee on normative basis has exceeded the actual expenditure in the previous years. The same situation is continuing in FY 2012-13 also. The difference in the amount along with interest thereon is now available with the licensee. The Commission allows the licensee to utilize the same for the proposed R&M to be undertaken during the control period. The difference, if any, shall be trued up subject to approval of the Commission to the maintenance work undertaken by HVPNL. The calculation of the funds available for additional R&M works is as given in table 2.5

Table 2.5 – Excess R&M expenses allowed in earlier years (Rs. Millions)

	HERC Order	**HVPN Audited**	**Difference**	**Interest cost**	**Total**
FY 2009-10	137.07	130.63	6.44	2.42	8.86
FY 2010-11	182.16	120.05	62.11	15.53	77.64
FY 2011-12	220.65	125.62	95.03	11.88	106.91
FY 2012-13	208.42	119.06	89.36	18.95	196.27
Total			**252.94**	**48.77**	**301.71**

2.1.4 Administrative and General Expense (A&G)

The estimation of A&G expenses as per the MYT Regulation, 2012 was as under:-

The actual audited Employee cost (excluding terminal liabilities) and A&G expenses for the financial year preceding the base year, subject to prudence check, shall be escalated at the escalation factor of 4% to arrive at the Employee cost (excluding terminal liabilities) and A&G expenses for the base year of the control period. The O&M expenses for the n^{th} year of the control period shall be approved based on the formula given below:

( ) ( )

Where,

$R\&M_n$ – Repair and maintenance costs of the transmission licensee for the n^{th} year;

EMP_n – Employee costs of the transmission licensee for the n^{th} year excluding terminal liabilities;

$A\&G_n$ – Administrative and general costs of the transmission licensee for the n^{th} year;

As the estimation of A&G expenses by the Commission is similar to the amount proposed by the licensee, the Commission approves the A&G expenses as proposed by the licensee as the same is in line with the MYT Regulation, 2012. The proposed and approved A&G expenses are given in the table that follows :

Table 2.6 - A&G Expenses for Transmission for FY 2014-15 to FY 2016-17 (Rs. millions)

Particulars	**HVPNL Proposal**	**HERC approval**
A&G expenses for FY 2014-15	168.92	168.92
A&G expenses for FY 2015-16	185.10	185.10
A&G expenses for FY 2016-17	202.87	202.87

Table 2.7 - A&G Expenses for SLDC for FY 2014-15 to FY 2016-17 (Rs. millions)

Particulars	HVPNL Proposal	HERC approval
A&G expenses for FY 2014-15	9.18	9.18
A&G expenses for FY 2015-16	10.06	10.06
A&G expenses for FY 2016-17	11.02	11.02

2.2 Interest cost

Interest cost in case of the transmission business comprises of interest on borrowings for financing capital investment plan, working capital borrowings, bonds issued for financing the liabilities of pension and provident fund. In addition to the above, HVPNL has also issued bonds on behalf of the two distribution licensees as part of the financial restructuring scheme. Interest on these bonds is to be paid by the state government/ distribution licensee and thus shall not form part of the ARR of the transmission business. Apart from the above bonds, the Commission, vide its order dated 8.1.2014, allowed HVPNL to issue bonds amounting to Rs. 1000 crores in order to finance the liabilities arising out of various appeals allowed to HVPNL and HPGCL by the Hon'ble Appellate Tribunal for Electricity. Interest on these bonds is to be recovered in the ARR of the transmission licensee. All other interest costs countered and allowed by the Commission are discussed hereunder.

2.2.1 Capex & Interest on borrowings thereto

In view of capital expenditure approved by the Commission, as discussed in Para 2.9, the borrowings for capital expenditure for transmission business and SLDC are estimated at Rs. 5264.69 million for FY 2014-15, Rs. 4917.44 million for FY 2015-16 and Rs. 4251.75 million for FY 2016-17 and interest is calculated accordingly.

The interest on working capital related borrowings, bonds issued on behalf of the distribution licensees, pension and PF bonds, borrowings from Agriculture Marketing Board have not been considered for arriving at the interest cost for transmission business and SLDC. The repayment of loans for calculating interest in the ARR has been considered by the Commission as proposed by the petitioner. The Commission has already allowed funds for repayment of Market Committee loans in FY 2008-09, hence interest cost on the same has not been considered. However, In case the petitioner is able to get the interest accrued on this loan waived off, as claimed by them, the same will be adjusted in the subsequent ARR. **The licensee is directed to keep the Commission informed of the latest status on this issue.**

The total interest cost for transmission business is further reduced by the amount of interest capitalized i.e. Rs. 876.85 million for FY 2014-15, Rs. 907.36 million for FY 2015-16 and Rs. 814.54 million for FY 2016-17. On the new capital works to be taken up in FY 2014-15 interest is capitalized for a period of six months only as the loans are assumed to be received evenly during the entire year. In case the licensee is able to provide a detailed month wise capitalization schedule, the Commission may consider the calculation of IDC on prorata basis as proposed by the petitioner.

Interest cost on borrowings for Capital works for SLDC has been allowed as proposed by the licensee and is reduced from the total interest calculated above in order to arrive at interest cost on term loans for the transmission business.

In view of the difference in approach on the issue of Capitalization, HVPNL is directed to submit the details of the actual capitalization in FY 2012-13 and FY 2013-14 so as to enable the Commission to consider the same at the truing up stage.

2.2.2 Interest on working capital borrowings

The borrowings for working capital for the transmission business and SLDC are being allowed in line with the MYT Regulations, 2012. HVPNL has proposed an interest rate of 13%. However, as per the MYT filings, the licensee has repaid all borrowings from commercial banks as on 31.3.2014, the Commission has no information available on the actual rate of interest on short term borrowings for HVPNL. Also, the average rate of interest on borrowings as per the ARR comes to less than 10%, therefore the Commission is allowing the benchmark interest @ 10% (SBI lending rate) on the allowed working capital borrowings.

Table 2.8 – Interest on working capital borrowings for Transmission (Rs. Millions)

S No.	Particulars	Ensuing Year (2014-15)	Ensuing Year (2015-16)	Ensuing Year (2016-17)	Ensuing Year (2014-15)	Ensuing Year (2015-16)	Ensuing Year (2016-17)
		HVPNL Projection			HERC approval		
1	O&M Expenses for a month	368.22	396.95	431.72	328.36	341.26	359.60
2	Spares (15% of annual O&M Expenses)	662.79	714.51	777.10	591.06	614.27	647.28
3	Receivables - 1 Months	1,250.99	1,419.91	1,599.67	841.60	761.81	821.75
4	Total working Capital (1+2+3)	2,282.00	2,531.36	2,808.50	1,761.02	1,717.34	1,828.63
5	Working Capital Loan	2,282.00	2,531.36	2,808.50	1,761.02	1,717.34	1,828.63
6	Normative Interest Rate (%)	13.00%	13.00%	13.00%	10.00%	10.00%	10.00%
7	Normative Interest on Working Capital (5 X 6)	**296.66**	**329.08**	**365.10**	**176.10**	**171.73**	**182.86**

Table 2.9 – Interest on working capital borrowings for SLDC (Rs. Millions)

S No.	Particulars	FY 2014-15	FY 2015-16	FY 2016-17	FY 2014-15	FY 2015-16	FY 2016-17
		HVPNL projection			HERC order		
1	O&M Expenses for a month	4.30	5.03	5.64	3.88	5.03	5.64
2	Spares (15% of annual O&M Expenses)	7.74	9.06	10.16	6.99	9.06	10.16
3	Receivables - 1 Months	14.33	21.38	22.53	12.05	17.58	18.33
4	Total working Capital (1+2+3)	26.38	35.47	38.34	22.93	31.68	34.14
5	Working Capital Loan	26.38	35.47	38.34	22.93	31.68	34.14
6	Normative Interest Rate (%)	13.00%	13.00%	13.00%	10.00%	10.00%	10.00%
7	Normative Interest on Working Capital (5 X 6)	**3.43**	**4.61**	**4.98**	**2.29**	**3.17**	**3.41**

2.2.3 Other interest costs

HVPNL, apart from interest on borrowings for working capital and capital expenditure, has also claimed interest on Pension Bonds and PF bonds in the ARR of transmission business. The liabilities on account of Pension bonds and Provident fund bonds in the books of HVPNL are of a specific nature and these are not related to its transmission business. It arose as a consequence of the unbundling of the power sector in Haryana. It needs to be noted that the

Provident fund liability in the books of the licensee arose because the erstwhile Electricity Board (HSEB) utilized the Provident fund contributions of employees as additional working capital in total contravention of Provident fund rules. The consumers have, in fact, already paid for this amount by way of salary of the employees in the past years.

2.2.3.1 Pension bonds

The liability for pension bonds arose as a consequence of unbundling of power sector in Haryana. At the time of HSEB, the pension liability was expected to be met out of future earnings. However, on corporatization, the liability was assessed at Rs.6730 million and brought into books of HVPNL. The assets of HVPNL were revalued upwards and also its investments in distribution companies and generation companies were brought into books to balance these liabilities. The petitioner has claimed that it has no means/resources to redeem these liabilities. Incase these liabilities are not redeemed at the earliest; the interest cost on these pension bonds would continue to distort the transmission tariff indefinitely. Also the consumers of the state would continue to be unnecessarily burdened by the cost which has no relation to the service being provided to them by the power utilities. The revenue earned from sale of assets including land must therefore be utilized to meet the cost of these liabilities.

Despite the fact that the above mentioned liabilities, strictly speaking, do not arise as a consequence of carrying out of transmission business by the petitioner; the Commission allows Interest on the bonds issued by HVPNL against the pension and provident fund liabilities in compliance of the orders of the Hon'ble Appellate Tribunal for Electricity in case no 2 of 200 . The interest cost on these bonds therefore, burdens the users of transmission services over and above the normal transmission costs. The electricity consumers of Haryana have been bearing this cost for more than ten years now. Hence, the Commission is of considered view that such liabilities are to be taken care of at the earliest in order to normalize the transmission cost borne by the consumers of Haryana. It is observed from the ARR petition that interest comprises of more than 30% of the transmission cost in Haryana which by any standard is excessive and ought to be reined in.

In order to achieve the objective of normalizing the transmission cost by minimizing the avoidable burden on consumers of Haryana, the Commission in its order dated 16.4.2010 on the ARR of transmission and SLDC business for FY 2010-11 had adjusted profit of Rs. 605.97 million on sale of land that had accrued to HVPNL during FY 2008-09 and revenue generated as a consequence of the order of the Hon'ble Appellate Tribunal for Electricity in Case No. 27 of 2007, while calculating interest on pension fund bonds to be recovered in the ARR. HVPNL in the hearing objected to the adjustment of profit generated from sale of land and revenue generated as a consequence of the order of the Hon'ble Appellate Tribunal for Electricity in case no. 2 of 2007 for retiring of pension bonds and submitted that such revenues may be allowed to be used for payment of other loans by HVPNL.

The Commission observes from the submissions of the petitioner that they are in agreement with the approach adopted by the Commission i.e. the revenue generated through sources other than transmission tariff and charges can be utilized for retirement of debt. The only point of disagreement is on the nature of loan that is to be retired. On this issue, the Commission would like to point out that the payment of all other liabilities is covered from one source of funding or the other e.g. liabilities on account of borrowings for capital works are met from depreciation, liabilities on account of borrowings for working capital are covered either through ARR or through penalty levied on distribution licensees for late payment of transmission tariff and charges. Consequently the liabilities on account of pension bonds and PF bonds alone remain to be taken care of from revenue from generation assets, distribution assets, return on equity and revenues from any other sources generated by HVPNL. Interest on these bonds is allowed to be recovered in the ARR by way of transmission tariff in addition to interest on borrowings for capital works and for working capital which, in opinion of the Commission, is in total contravention of cost causation principle of ARR and accounting principles as no benefit is accruing to the consumers of Haryana for the cost incurred by the Pension and PF bonds. The Commission is of the view that the additional revenue accruing to the licensee from the above mentioned sources ought to be utilized to reduce the interest cost burden on the consumers, who had not, in any manner whatsoever, caused the expenditure namely pension bonds and are not going to derive any benefit from such expenditure. In case the liabilities still remains unmet, the petitioner, being a Government company, should approach the State government for assistance. In redemption of these liabilities the Commission cannot allow funds for redemption of these bonds out of the ARR of the transmission business in view of the judgment of the Hon'ble Appellate Tribunal for Electricity in Appeal No. 58 and 59 of 2007.

In light of the above discussions, the Commission is of the considered view that it will be appropriate to adjust all possible accruals towards reduction of interest cost of these bonds so as to reduce the burden on the electricity consumers. Thus, revenue from short term open access consumers, interest on refund of income tax and liability to DVC written back are adjusted against pension bonds so that the interest burden is reduced to that extent. The revenue from short term open access arises only as a consequence of the transmission business. Also, the expenditure base as per the audited accounts used for estimating the allowable expenses of the transmission business for ensuing year and consequently the transmission tariff include expenses incurred by HVPNL on account of **monitoring and control with respect to short term open access related transactions** also. For FY 2015-16 and FY 2016-17, only the 25% of estimated revenue from short term open access customers is adjusted based on actual revenue generated in FY 2012-13.

Consequently, the interest on pension bonds is allowed as Rs. 193.55 million for FY 2014-15, Rs. 91.97 million for FY 2015-16 and Rs. 61.97 million for FY 2016-17 calculated on average balance of pension bonds during the year @ 10% p.a. The calculation of balance of pension bonds is as presented in table 2.10.

Table 2.10 – Other Interest Costs (Rs. Millions)

Pension bonds	Amount
Estimated Balance as on 31.3.2014	2801.29
Adjustment of 25% of revenue from short term open access consumers FY 2012-13	318.14
Interest on refund of income tax 2012-13	15.80
Liability to DVB written back 2012-13	1397.60

Estimated Balance as on 31.3.2015	1069.75
Interest on average balance of bonds for FY 2014-15	193.55
Estimated Adjustment of 25% of revenue from short term open access consumers FY 2014-15	300.00
Estimated Balance as on 31.3.2016	769.75
Interest on average balance of bonds for FY 2015-16	91.97
Estimated Adjustment of 25% of revenue from short term open access consumers FY 2015-16	300.00
Estimated Balance as on 31.3.2017	469.75
Interest on average balance of bonds for FY 2016-17	61.97

2.2.3.2 PF bonds

Regarding interest on PF (Provident fund) bonds, the same has been worked out by the Commission @ 8% p.a. as proposed by HVPNL. The licensee is expected to repay PF bonds amounting to Rs. 481.93 million out of its internal accruals as per the principle established in the Commissions' order on Transmission Tariff for FY 2011-12 onwards. At this rate the PF bonds are expected to be repaid by the end of FY 2015-16 and thus no interest on PF bonds shall be payable thereafter. The computations of interest expenses are presented in Table 2.11 & 2.12.

Table 2.11 - Interest on PF Bonds for FY 2014-15 to FY 2016-17 (Rs. Millions)

PF bonds	Amount
Estimated Balance as on 31.3.2014	900.22
Repayment out of transmission profits and return on equity for FY 2014-15	481.93
Balance as on 31.3.2015	418.29
Interest on average balance of bonds for FY 2014-15	58.01
Repayment out of transmission profits and return on equity for FY 2015-16	418.29
Balance as on 31.3.2016	0.00
Interest on average balance of bonds for FY 2015-16	18.40

2.2.3.3 Bonds issued by HVPNL pursuant to HERC order dated 8.01.2014

On an application, the Commission allowed HVPNL to raise funds via issue of bonds in order to fund financial liabilities arising out of various orders of the Hon'ble Appellate Tribunal for Electricity in cases no's 00 of 20 2, 9 of 2011, 108 of 2012 and review petition filed by HVPNL against Tariff orders for FY 2012-13 and FY 2013-14. The various amounts calculated are as given below:

Table 2.12:- Additional amount to be allowed to HVPNL

	Year	Allowed as per ARR order	Revised calculations	Balance to be allowed
Return on equity	2012-13	0.00	508.35	508.35
	2013-14	604.72	853.33	248.61
Depreciation	2012-13	2044.60	2195.20	150.60
Terminal benefits as part of employee cost				
	2012-13	1020.59	1681.23	660.64
Total (A)		3669.91	5238.11	1568.20
HPGCL				
	FY 2011-12			578.19
	FY 2012-13			4880.00
True up of employee cost for FY 2012-13				524.60
Total (B)				5982.79
Total value of bonds (A+B)				7550.99

The Commission has allowed HVPNL to issue bonds amounting to Rs. 1000 crores against these dues which have now been evaluated at Rs. 755 crores. Therefore the Commission orders that the balance amount of Rs. 245 crores is to be adjusted against the FSA outstanding for FY 2013-14 that still stands unrecovered. As and when FSA is recovered from the consumers, this amount shall stand dissolved. Interest on these bonds is allowed at an average rate of 9.83%.

The Commission directs HVPNL to remit the amounts to the Utilities concerned w.e.f. the date of issue of bonds or the date of Order of the Commission, whichever is earlier.

Table 2.13 - Interest Cost for Transmission Business for FY 2014-15

(Rs. Millions)

Particulars	HVPNL Proposal	HERC approval
Interest on Loans for Capital Expenditure		
Gross Interest Cost for Transmission and SLDC Works		2404.50
Less: Interest Cost Capitalized		876.85
Interest Cost net of Capitalization		1527.65
Less SLDC		50.91
Net interest cost on term loan for transmission works(1)		**1476.74**
Interest on Loans for Working Capital (2)		**176.25**
Interest on Pension bonds (3)		**193.55**
Interest on PF Bonds (4)		**58.01**
Interest on other bonds		**983.00**
Total		**2887.40**

Table 2.2 - Interest Cost for Transmission Business for FY 2015-16 (Rs. millions)

Particulars	HVPNL Proposal	HERC approval
Interest on Loans for Capital Expenditure		
Gross Interest Cost for Transmission and SLDC Works		2322.69
Less: Interest Cost Capitalized		907.36
Interest Cost net of Capitalization		1415.33
Less SLDC		85.66
Net interest cost on term loan for transmission works(1)		**1329.67**

Interest on Loans for Working Capital (2)		**171.73**
Interest on Pension bonds (3)		**91.97**
Interest on PF Bonds (4)		**18.40**
Interest on other bonds		**983.00**
Total		**2594.78**

Table 2.3 - Interest Cost for Transmission Business for FY 2016-17 (Rs. millions)

Particulars	**HVPNL Proposal**	**HERC approval**
Interest on Loans for Capital Expenditure		
Gross Interest Cost for Transmission and SLDC Works		2346.54
Less: Interest Cost Capitalized		814.54
Interest Cost net of Capitalization		1532.00
Less SLDC		86.08
Net interest cost on term loan for transmission works(1)		1445.93
Interest on Loans for Working Capital (2)		**182.86**
Interest on Pension bonds (3)		**61.97**
Interest on PF Bonds (4)		**0**
Interest on other bonds		**983.00**
Total		**2673.76**

2.3 Depreciation

HVPNL has considered the depreciation of existing assets for the control period at the average rate of depreciation for the previous years. The existing average rate of depreciation is 4.42% for transmission assets.

Depreciation for new assets has been projected as per the weighted average of rates of depreciation provided in HERC MYT Regulations, 2012. The weights are assigned as per capital expenditure in different asset categories like equipment, Civil, IT etc. according to the capital investment plan submitted as part of the Business Plan.

The following table summarizes the Depreciation on existing assets

Table 2.4: Depreciation calculations by HVPNL (Rs. Millions)

Particulars	2013-14	2014-15	2015-16	2016-17
Depreciation on existing assets				
Average GFA	56,205	56,205	56,205	56,205
Rate of Depreciation	4.42%	4.42%	4.42%	4.42%
Depreciation during the year	2,355	2,355	2,355	2,355
Depreciation for New Assets				
Average GFA	5660	18461	32390	45300
Rate of Depreciation	5.41%	5.30%	5.24%	5.21%
Depreciation during the year	269	889	1573	2196
Total Depreciation	2,624	3,244	3,928	4,552

For working out depreciation, the Commission has enhanced the audited value of gross fixed assets as on 31.03.2013 by the value of allowed additions to GFA for FY 2013-14 and has applied the methodology and rates proposed by the licensee; this being the first year of the new depreciation and rates prescribed under the MYT Regulation, 2012. Out of the total depreciation, the depreciation on SLDC assets and depreciation against assets funded by consumer contributions or grants are reduced to arrive at the depreciation allowed by the Commission for the relevant year for the transmission business.

The Commission observes that HVPNL has not been able to achieve the projected additions to capital works in FY 2012-13 i.e. as against the proposed capital additions of Rs. 9261.67 million, the licensee was able to utilize only about Rs. 6205.78 million. However, this figure is quite close to the capital additions approved by the Commission. The projected capitalization schedule forms the basis of a large number of expenses and depreciation is one of them. A shortfall in achievement of desired capitalization results in a double loss to the consumers. On one hand the consumer is deprived of the services for which he has already paid for as part of tariff in the relevant year and on the other hand the additional cost already borne by him is not refunded.

In view of the perpetual failure of HVPNL in adhering to execution of capital works and capitalization schedule, t**he depreciation allowed for each year of the control period shall be subject to adjustment in the future ARR's in case the petitioner is unable to achieve the approved additions to the transmission system. The computation of depreciation for transmission assets is presented in the Table 2.9.**

Table 2.5 -Depreciation for FY 2014-15 to FY 2016-17 (Rs. Millions)

	HERC Approval	**HERC Approval**	**HERC Approval**
	FY 2015	**FY 2016**	**FY 2017**
Depreciation on existing assets			
Gross Fixed Assets at the beginning of the year	44524.72	44524.72	44524.72
Less cost of land	2951.00	2951.00	2951.00
Net depreciable assts	41573.72	41573.72	41573.72
Depreciation rate	4.42%	4.42%	4.42%
Depreciation Expense (A)	1837.56	1837.56	1837.56
Depreciation on new assets			
Gross Fixed Assets at the beginning of the year	6637.06	14281.53	22692.53
Less cost of land	439.89	946.55	1504.01
Net depreciable assts	6197.17	13334.98	21188.52
Depreciation rate	5.41%	5.41%	5.41%
Depreciation Expense (A)	335.27	721.42	1146.30
Total Depreciation Expense (A+B)	2172.83	2558.98	2983.86
Less Depreciation against Capital reserve	52.43	54.35	56.26
Less Depreciation against SLDC	45.59	69.73	73.17
Net Depreciation for the year	2074.80	2434.90	2854.43

The depreciation for SLDC business of HVPNL is allowed as proposed by them.

2.4 Special appropriations

2.4.1 Income Tax

As per the MYT regulations 2012, notified by the Commission income tax does not form part of expenditure in the ARR. Accordingly the Commission has not considered any income tax in the ARR for the control period. Further the ROE allowed by the Commission is inclusive of MAT / Income Tax, if any is to be paid by HVPNL.

2.4.2 Contribution to Contingency Reserve

There is no provision for any contingency reserve in the MYT Regulations and hence is not allowed in the ARR. As far as the previous balance is concerned, the **Commission directs that any drawl from the Contingency Reserve shall be made only with prior approval of the Commission.**

2.5 Unitary charge (PPP Transmission Project)

The petitioner has claimed Rs. 600 million as unitary charge to be paid by them in view of the Transmission Service Agreement (TSA) for execution of transmission project through Public Private Partnership (PPP) between HVPNL and M/s Jhajjar KT Transco Private Limited. The TSA including monthly unitary charge already stands approved by the Commission and hence the licensee may recover the same by raising a separate bill on the beneficiaries in ratio of their usage from the date of commissioning of the line for which a separate transmission license has been granted by the Commission. The said Unitary Charge is not being included in the ARR as this cost has no impact on the ARR and consequently the transmission tariff for use of system set up by HVPNL.

2.6 Non-Tariff Income and Other Income

2.6.1 Non-tariff income for the FY 2014-15 to FY 2016-17

HVPNL has projected Non-Tariff Income based on the performance in the past years and excluding the extraordinary items like liabilities transferred from the books of the company to the DISCOMS (Rs. 139 Crores).

HVPNL had issues bonds on behalf of the DISCOMS. The interest paid by the Discoms was considered as part of Non- Tariff Income in the business plan. An equivalent amount of interest expense incurred by the Petitioner had been considered as part of the interest and finance charges. This income and interest expenditure has not been considered as part of the ARR for the petitioner.

The following table summarizes the non-tariff income for the control period

Table 2.24: Non-Tariff Income Transmission Business (Rs. Millions)

Particulars	2014-15	2015-16	2016-17
Non-Tariff Income	**52.14**	**52.14**	**52.14**

The Commission has examined the projections of Non-tariff income proposed by the licensee. The estimate of the non-tariff income by the licensee seems to be on lower side keeping in view the items shown in the audited accounts of the licensee for FY 2012-13. However, the Commission approved the estimates of non-tariff income proposed by the licensee subject to truing up based on audited figures. In the case of SLDC, the Commission allows non-tariff income of Rs. 0.76 million as proposed by the petitioner for each year of the control period.

2.6.2 Truing up of Non-Tariff Income for FY 2012-13

As per audited accounts for FY 2012-13, the licensee has earned Rs. 2237.99 million as non-tariff income and Rs. 41.88 million as reactive energy charges from UHBVNL and DHBVNL. After exempting income of Rs.132.88 million from treasury operations, liability of DVB written back Rs. 1397.60 million, interest on bonds issued on behalf of the DISCOMS Rs.514.411 million and interest on refund of income tax Rs. 15.79 million used for redemption of pension bonds and non-tariff income of Rs. 31.31 million allowed in the ARR order for FY 2012-13, the balance amount of Rs. 187.88 million is added to the non-tariff income for FY 2014-15. The procedure adopted for truing up is the same as in previous years. All these incomes have been earned on expenses which have been incurred by the consumers of HVPNL at one time or the other and hence are due for truing up.

2.7 Return on Equity (ROE)

The petitioner has sought Return on Equity (ROE) amounting to Rs. 2768.02 million for FY 2014-15, Rs. 3304.20 million for FY 2015-16 and Rs. 3817.82 million for FY 2016-17@ 14% on the closing balance of equity for each year.

The HERC MYT regulation 20 clearly states as below:

"20.2 Return on equity shall be allowed on equity employed in assets in use considering the following and subject to regulation 20.1 above:

i. Equity employed in accordance with regulation 19.1 and 19.2 on assets (in use) commissioned prior to the beginning of the year; plus,

ii. 50% of equity capital portion of the allowable capital cost for the assets put to use during the year.

Provided that for the purpose of truing up, return on equity shall be allowed from the COD on pro-rata basis based on documentary evidence provided for the assets put to commercial operation during the year.

20.3 Return on equity invested in work in progress shall be allowed from the actual date of commercial operation of the assets.

20.4 There shall be no Return on Equity for the equity component above 30%".

Based on the audited accounts of the licensee for FY 2012-13, proposed equity infusion to fund capital expenditure and capital expenditure plan approved by the Commission, the equity base is arrived at on which a return is to be allowed.

The Commission observes that there is a significant shortfall in undertaking expenditures for capital works by HVPNL vis – a – vis those proposed by them. The execution of the approved capital works would have enhanced the integrity and reliability of the transmission system. HVPNL, despite the directions of the Commission failed to provide data on dependability of their transmission system as distinguished from the transmission system availability. Further, HVPNL, despite repeated directions of the Commission has failed to provide SEMs on all its interface points with the Discoms as well as reduce intra – state transmission losses. Hence in view of shortfall in performance, the Commission decides to restrict ROE @ 10%. The approved Return on equity approved by the Commission amounts to Rs. 1425 million for FY 2014-15, Rs. 1745 million for FY 2015-16 and Rs. 2078.27 million for FY 2016-17.

For SLDC, no return on equity is to be calculated as per the MYT Regulations, 2012 as only the charges for operations of SLDC are to be recovered and there is no profit element involved.

2.8 Aggregate Revenue Requirement

The Aggregate revenue requirement approved by the Commission with respect to the transmission business for the financial years 2014-15, 2015-16 and 2016-17 is Rs. 10099.22 million, Rs. 10821.32 million and Rs. 11869.50 million respectively. Tables 2.10 & 2.11 provides the details of HVPNL's proposed expenditures in respect of their Transmission business and SLDC charges respectively and those approved by the Commission for the control period.

Table 2.6 - ARR for the Transmission Business for FY 2014-15 to FY 2016-17(Rs. Millions)

S.NO.	Particulars	FY 2014-15	FY 2015-16	FY 2016-17	FY 2014-15	FY 2015-16	FY 2016-17
		HVPNL Projected			HERC Approval		
	Expenditure						
1	O&M expenses	4,418.61	4,763.37	5,180.70	3940.38	4095.15	4315.21
a	R&M Expenses	410.16	485.45	556.33	296.75	338.25	382.68
b	Employee Expenses	2,541.91	2,903.78	3,307.57	2177.09	2382.77	2615.73
c	Terminal Benefits	1,297.62	1,189.04	1,113.92	1297.62	1189.04	1113.92
d	A&G Expenses	168.92	185.10	202.87	168.92	185.10	202.87
2	Depreciation	3,243.91	3,927.61	4,551.51	2074.80	2434.90	2854.43
5	Interest on term Loans	2,889.74	3,354.57	4,003.06	1476.74	1329.67	1445.93
6	Interest on Pension Bonds	673.00	639.35	572.05	193.55	91.97	61.97
7	Interest on PF Bonds	160.32	152.30	136.27	58.01	18.40	0.00
8	Interest on working Capital	296.66	329.08	365.10	176.10	171.73	182.86
	Interest on bonds (others)				983.00	983.00	983.00
	Other appropriations						

9	Share of SLDC Charges	13.76	20.52	21.63	11.57	16.88	17.60
A	Total Expenditure	11,695.99	13,186.81	14,830.32	8914.15	9141.71	9861.01
B	Return on Equity	2,768.02	3,304.20	3,817.82	1425.08	1731.74	2060.62
C	Non Tariff Income	52.14	52.14	52.14	52.14	52.14	52.14
	True up of non tariff income for FY 2012+13				187.88		
D	PPP Charges	600.00	600.00	600.00			
F	**Aggregate Revenue Requirement**	**15,011.87**	**17,038.87**	**19,196.01**	**10099.22**	**10821.32**	**11869.50**

Table 2.27 - SLDC Approved Expenditure for FY 2014-15 to FY 2016-17 (Rs. Millions)

S.No.	**Particulars**	**FY 2014-15**	**FY 2015-16**	**FY 2016-17**	**FY 2014-15**	**FY 2015-16**	**FY 2016-17**
		HVPNL Projected			**HERC Approval**		
	Expenditure						
1	O&M expenses	51.63	60.39	67.74	46.61	53.22	58.10
a	R&M Expenses	4.54	7.03	7.39	4.54	7.03	7.39
b	Employee Expenses	37.91	43.31	49.33	32.89	36.13	39.69
c	Terminal Benefits	-	-	-	-	-	-
d	A&G Expenses	9.18	10.06	11.02	9.18	10.06	11.02
2	Depreciation	45.59	69.73	73.17	45.59	69.73	73.17
5	Interest on term Loans	50.91	85.66	86.08	50.91	85.66	86.08
8	Interest on working Capital	3.43	4.61	4.98	2.29	3.17	3.41
A	Total Expenditure	151.57	220.40	231.97	145.41	211.78	220.76
B	Return on Equity	21.16	36.89	39.17	-	-	-
C	Non Tariff Income	0.76	0.76	0.76	0.76	0.76	0.76
F	**Aggregate Revenue Requirement (A+B-C)**	**171.97**	**256.53**	**270.38**	**144.65**	**211.02**	**220.01**

The methodology for working out the various components of SLDC ARR is the same as discussed in the case of ARR for the transmission business of the petitioner. Hence the same is not repeated here.

2.9 Capital Expenditure (CAPEX)

2.10 Capital Base & CWIP

In light of the above discussions the capital expenditure for the control period approved by the Commission for transmission works & SLDC is as below and in case HVPNL is not able to spend the same, necessary adjustment shall be carried out in the next year's ARR.

Table 2.8 - Calculation of CWIP for FY 2014-15 (Rs. Millions)

	FY 2014-15	FY 2015-16	FY 2016-17
	HERC Order	**HERC Order**	**HERC Order**
Opening CWIP excluding Generation Proj.	11,317.60	12,370.13	12,149.13
Additions during the year	8,697.00	8,190.00	7,182.00
Total	20,014.60	20,560.13	19,331.13
Transfer to GFA	7,644.48	8,411.00	7,938.30
Closing Balance excluding generation works	12,370.13	12,149.13	11,392.83
Funding of CAPEX:			
Equity	**3,382.31**	**3,222.56**	**2,880.25**
consumer contribution	**50.00**	**50.00**	**50.00**
Loan Funds	5,264.69	4,917.44	4,251.75
Total funds	8,697.00	8,190.00	7,182.00

2.11 Gross Fixed Assets (GFA)

The opening balance of GFA as on 1.4.2014 is based on the closing balance of GFA as on 31.3.2013 in accordance with the audited accounts of HVPNL. The additions to GFA are derived from the CWIP. The computation of gross fixed assets for the control period is presented in the Table that follows.

Table 2.9 - Determination of GFA for FY 2014-15 (Rs. millions)

Particulars	HERC RE	HERC order	HERC order	HERC order
	FY 2014	FY 2015	FY 2016	FY 2017
Opening Balance of gross fixed assets	44524.72	51161.78	58806.25	67217.25
Add: Additions to GFA	6637.06	7644.48	8411.00	7938.30
less: Retirement	0.00	0.00	0.00	0.00
Closing balance	51161.78	58806.25	67217.25	75155.55
Consumer Contribution	1321.41	1371.41	1421.41	1471.41
SLDC	**434.97**	1217.96	1347.94	1347.94

2.12 Capital Investment Plan (CIP) &Transmission Losses:

The MYT Regulations, 2012 provides that the Commission shall determine the ARR for each year of the control period and tariff for the first year of the control period separately for Generation Company (ies), transmission licensee(s) and distribution licensee(s). The Regulations also provides the norms for operation for transmission licensee.

Capital Investment Plan and Business Plan for Control Period:

HVPNL has filed the proposed Capital Investment Plan (CIP) relating to the transmission & SLDC business for the control period i.e. FY 2014-15 to FY 2016-17 vide memo no. Ch-14/SE/RAU/F-66 dated: 23-12-2013. The capital investment plan was examined. There were certain observations and the same were conveyed to HVPNL vide memo no. 4382/DDT/HERC dated 23.01.2014, followed by reminder vide this office memo no. 4468/DDT/HERC dated 30.01.2014. HVPNL submitted their reply vide Ch-50/SE/RAU/F-66/Vol-VII dated 10.02.2014 and Ch-60/SE/RAU/F-66/Vol-VII dated 24.03.2014. The abstract of CIP submitted is as under:

Institution	Expected investment 2013-14	Expected investment 2014-15	Expected investment 2015-16	Expected investment 2016-17
ASIDE	6	-	-	-
NABARD	368	298	191	25
PFC	1,055	336	29	10
REC	1,178	759	320	300
World Bank	2,190	4,717	1,990	215
Yet to be posed	929	4,575	6,903	8,144
NABARD (POSED)	446	377	203	35
REC (POSED)	106	182	158	72
JICA	638	1,085	542	-
Land (Not tied up)	1,372	634	774	759
Total	**8,287**	**12,964**	**11,110**	**9,559**

Abstract of works:

Work	2013-14	2014-15	2015-16	2016-17
Sub station	4,058	7,092	7,531	7,495
Transmission Lines	2,398	4,297	1,849	320
Land	1,372	634	774.2	759
Information Technology	156	106	10	10
Miscellaneous	303	835	945	975
Total	**8,286.66**	**12,963.83**	**11,110.03**	**9,558.95**

The Commission, on the basis of information provided by HVPNL, observes as under:

Section 3.2.2 of HGC provides that the licensee shall submit details of demand forecasts, data methodology and assumption on which the forecasts are based. These information was not submitted by HVPNL along with the Capital Investment Plan and Business Plan. Instead of planning the capital investment as per provisions in Haryana Grid Code including details as required under Section 3.2.2 of Haryana Grid Code, the licensee, in reply to the observation had indicated that they have relied on Electric Power Survey.

As per Regulation 9.1 (f & g) of MYT Regulation, 2012 the schemes under CIP should include cost benefit analysis, payback period and envisaged reduction in O&M cost/losses. Details about the same have not been provided. In reply HVPNL had submitted that the CIP has been finalized after discussions with the Discoms. As the Commisison found that the reply was incomplete, the same was referred back and Instead of cost benefit analysis HVPNL has submitted vide its reply dated 24.03.2014 a undert:

'The capital investments of a transmission company can largely be categorized in following areas –

Investments in New Transmission Infrastructure to support the demand requirements or power evacuation from generation projects.

System augmentation and strengthening including renovation and modernization to maintain the performance of the existing system and to deter investments.

As the projects are primarily reactive investments to meet demand requirements and system strengthening purposes, It is, therefore, difficult to measure the benefit of the projects in monetary terms and the petitioner prays to the Commission to approve the projects as sought by the utility.

The pay-back period of the project would, however, depend upon the RoE allowed by commission. With 70:30 debt equity ratio and allowed RoE, the payback period of the project post commercial operation date of the project are summarized below:

Allowed Rate of RoE (%)	***Payback Period (Years)***
14%	*7.28*
7%	*14.57*

The Commission observes that HVPNL has failed to provide the cost benefit analysis and envisaged reduction in O&M cost / losses as required under Section 9.1 (f) & (g) of MYT Regulation 2012.

As per Regulation 9.2 (ii) of MYT Regulation 2012, per MW reduction in transmission cost is also required, which was not provided by HVPNL. In reply to the observations of the Commission the licensee has indicated that the same will be provided after approval of ARR for FY 2014-15 with reference to peak met.

As per Section 9.5 of MYT Regulation CIP is to incorporate list of schemes in order of priority. The priority was not indicated by HVPNL. HVPNL submitted that the Capital Investment Plan is primarily to meet the increase in load and improve the reliability of the transmission system. As such HVPNL has requested that the Commission may approve the Capital Investment Plan as submitted by them. The Commission observes that the reply filed by HVPNL is not adequate as all the schemes cannot be expected to be implemented simultaneously. Further schemes, as per CIP, amounting to Rs.929 Million (2013-14), Rs.4575 Million (2014-15), Rs.6903 Million (2015-16) are yet to be posed to the financial institutions.

In view of the above, the Commission has limited the cost of such works which are "yet to be posed" to the extent as under:

FY	Amount (Rs. millions)	Approval (%)
2014-15	4575	50%
2015-16	6903	75%
2016-17	8144	100%

It is observed that numbers of augmentations of the transformers of different rating are proposed in CIP. Licensee was requested to provide proposals for utilization of transformers which will be rendered surplus after augmentation. The Licensee had indicated utilization of only four transformers out of about 156 such transformers of different ratings. Further HVPNL had submitted that every effort is being made to utilize the transformers depending upon the health of transformers and the transformers which cannot be used shall be surveyed off. The Commission is of the view that the transformers in operation prior to augmentation are supposed to be in healthy condition. Simultaneous utilization is important as keeping transformers idle will lead to deterioration and render them useless after sometimes.

In the Capital Investment Plan submitted by HVPNL it is observed that some projects/schemes are continuing from the preceding years. The dates of start/commencement of such schemes along with respective originally scheduled completion dates have not been submitted by HVPNL. Details, as to how the demand is being met without commissioning of such delayed schemes/projects, including impact on transmission losses on account of such delayed schemes has also needs to be provided. In reply to this observation the Licensee has informed that there are certain projects continuing from preceding years and there is delay in their commissioning because of unavoidable circumstances beyond the control of HVPNL and necessary efforts are being made to commission the same without further delay. The Licensee has further indicated that due to non-commissioning of these projects the Discoms may possibly have to resort the power regulation during peak load hours. Additionally the Licensee has submitted that it is not feasible to assess or to calculate the impact on transmission losses due to delayed schemes as the transmission losses are generally based on the loading conditions beyond the control of transmission utility.

The Commission observes that the Licensee has not provided the requisite information i.e. the dates of start/commencement of such schemes along with respective originally scheduled completion dates, which could have been easily provided. The reply by Licensee that it is not feasible to assess the impact is also not acceptable as they could have applied load flow studies with and without particular element as part of network to assess the impact.

It is pertinent to mention here that the capacity of such fully loaded / over loaded sub stations need to be augmented on priority so that the consumers are served better without load restrictions. The reasons for delay in such augmentation works is mainly delayed supply of equipments/ power transformers and the matching material. There is a need to develop the capability by the transmission and distribution utilities to carry out such augmentation within three months time and to maintain inventory of material required for such works.

Performance of earlier capital investment plans submitted by the licensee and progress with reference to approval of the Commission are as under:-

Capital expenditure projected by HVPNL, Approved by HERC & Actual

FY	Projected Expenditure by HVPNL (Rs. Millions)	Expenditure approved by HERC (Rs. Millions)	Actual Expenditure (Rs. Millions)	% of actual w.r.t. projected expenditure (Rs. Millions)	% of actual w.r.t. approved expenditure (Rs. Millions)
2008-09	9613.90	6601.41	6704.40	69.73	101.56
2009-10	24009.75	19000	10818.80	45.06	56.94
2010-11	23605.60	17000	10927.00	46.29	63.64
2011-12	14057.51/ 9172 rev.	10158	7061.90	50.23	69.52
2012-13	9261.68/ 9100.89 rev	6878	6202.1	68.14	90.17
2013-14	11274.48 11810.88 rev.	7368	8287 7358 (likely)	62.29	99.86

It is observed from the above that during past six years the Licensee could actually utilize 57% of its projected funds on an average. According to the information provided by HVPNL vide their letter dated 24.03.2014 works amounting to approximately Rs1500 Million are likely to spill over to 2014-15 and even beyond, though these works were scheduled to be completed by 2013-14. Thus the effective expenditure is likely to be even less than Rs. 7358 Million. This shows that considerable works are not completed by the licensee as planned. It is further observed that the proposed CIP by licensee is on higher side given the availability of funds and execution capability of HVPNL as evident from the past data. The licensee could execute only about 50.23% and 68.14% percent of the projected capital expenditure in its ARR in the year 2011-12 and 2012-13 respectively. Thus the licensee is likely to incur Rs. 7358 million as capital expenditure in 2013-14 against its projected expenditure of Rs.11810 million which is 62.30%.

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In view of above discussions the Commission allows the capital expenditure as Rs. 8337 million, Rs. 7744 million and Rs.7182 million for the year 2014-15, 2015-16 and 2016-17 respectively for transmission and Rs. 360 million and Rs. 446 million for SLDC for the year 2014-15 and 2015-16 respectively.

Normative annual transmission system availability factor:

The Licensee (HVPNL) has proposed the Transmission System availability [%] on lower side than what has been provided in MYT Regulation. The same is provided below:

	2014-15	2015-16	2016-17
Transmission System availability [%] Proposed in MYT Regulation 2012	98.8	99	99.2
Transmission System availability [%] proposed by HVPNL	98.2	98.4	98.5

The Transmission System availability of HVPNL during last few years, as provided by HVPNL, is as under:

Year	Transmission System availability of HVPNL [%]
2011-12	99.55
2012-13	99.66
2013-14 (up to Nov.13)	99.8

The Commission observes that even the CERC has notified 98.5% availability for AC Systems, for incentive purpose in Tariff Order 2014-19 with only two tripping p.a., on each element are allowed and any additional tripping on the element to cost 12 hours of outage while working out availability.

HVPNL was asked to provide the reasons for proposed decline in Normative Transmission System Availability during the Control Period, despite its consistent better performance and massive capital investment. In reply HVPNL has submitted that the transmission system availability proposed by HVPNL in ARR/Business Plan is lower than benchmark specified in MYT Regulations, 2012 because normative annual transmission availability factor as figures specified in HERC MYT regulations are increasing every year, therefore, a rational figure has to be defined for all period which may be fixed at 98% as done in present CERC Regulations. The Commission finds it difficult to accept the reply of HVPNL on this issue and observes that the licensee is fully aware of its level of transmission system availability and hence by lowering the benchmark to claim incentive under Regulation 12 of MYT Regulation, 2012 is not appropriate. HVPNL therefore should adhere to the norms provided in the MYT Regulations, 2012 for the transmission system availability i.e 98.8%, 99.0% and 99.2% for the years 2014-15, 2015-16 and 2016-17. The licensee is directed to submit month-wise information in respect of tripping and break down at various voltage levels in its system for the year 2012-13 and 2013-14 to the Commission.

Capital Investment Plan (CIP) & Transmission losses:

Regulation 45.4 of MYT Regulation 2012 provides as under:

> *‘(a)The Commission may specify the trajectory for intra-state transmission loss based on the approved capital investment plan in the MYT order;*
>
> *(b) The losses shall be borne by the beneficiaries in kind. The SLDC shall reduce the demand scheduled by the beneficiaries during each time block by the 12 months rolling transmission losses (the said period will be the 12 months period preceding the relevant month by 3 months). The SLDC shall post the rolling 12 months losses regularly on its website. The SLDC, however, shall develop necessary software for working out rolling 52 week losses and reduce the scheduled demand accordingly thereafter.’*

The above has not been complied by the licensee. On this issue, HVPNL, in its reply has stated as under:

"The Commission may specify the trajectory for intra-state transmission loss based on the approved capital investment plan in the MYT order; (b) The losses shall be borne by the beneficiaries in kind. The SLDC shall reduce the demand scheduled by the beneficiaries during each time block by the 12 months rolling transmission losses (the said period will be the 12 months period preceding the relevant month by 3 months). The SLDC shall post the rolling 12 months losses regularly on its website. The SLDC, however, shall develop necessary software for working out rolling 52 week losses and reduce the scheduled demand accordingly thereafter."

Further Regulation 5 of MYT provides that "as and when intra state ABT is implemented, all variations between actual net injection and scheduled net injection for generating plant, and all variations between actual net drawl and schedule net drawl for beneficiaries shall be treated as their respective unscheduled interchanges (UI) and will be dealt with as per the intra-State ABT regulations to be notified by the Commission".

HVPNL has further submitted that the transmission losses are being calculated on the basis of energy account issued by Energy Center, Shakti Bhawan, Panchkula in respect of State Generator/ UHBVN/DHBVN etc. and basis of UI Account issued by NRPC.

It was further submitted that the Intra State ABT is yet to be implemented; however HVPNL, with the co ordination of other utilities, is trying to implement only scheduling for intra state ABT within two to three months where the schedule demand will be reduced according to section 45.4 of the MYT regulation.

From the above the Commission observes that the licensee has failed to comply with the provisions of Regulation 45.4 of the MYT Regulation 2012. The licensee's contention is not acceptable as the losses are applicable to open access customers as well and the provisions under section 45.4 are independent of the intra state ABT.

Further vide Memo No. Ch-88/SE/RAW/F-122/Vol-I dated 21.03.2014 HVPNL has indicated that the necessary software for calculating losses on weekly basis will required a lot of infrastructure including manpower/GPRS based AMR in the meter installed at interface points with respect to injection and drawl, modification of meter technical specification and will be developed within two years.

The above reply submitted by the licensee is not adequate. HVPNL has indicated that they have installed SEMs at all interface locations with Discoms/HPGC/Open Access Customer interface. Similar Interface meters at all Inter-State interface points already exist and the same have been provided by PGCIL. Readings of these SEMs are taken on weekly basis through CMRI and transmitted to the office responsible for working out energy, by e-mail/AMR. This practice is being followed by PGCIL. HVPNL has been providing weekly reading to PGCIL by e-mail every week for the locations falling under the purview of HVPNL. There is may not be requirement of any modification of technical specifications of SEMs installed by HVPNL as these SEMs are supposed to meet with the standards provided in the CEA (Installation and Operation of Meters) Regulations, 2006 with latest amendment, if any.

In view of the above licensee is directed to develop the capability as indicated in 45.4 (b) within 3 months from the date of this order and submit compliance report to the Commission.

As regard trajectory for intra-state transmission loss based on the approved capital investment plan in the MYT order is concerned, it is observed that the Licensee has proposed 49 new substations, 81 Substation augmentations, 1676.25 km transmission lines from 2013-14 to 2015-16 (three years). The transformation capacity as on 2012-13 is 16592.1MVA which has been projected to increase to 27435 MVA by 2016-17.

For 2013-14, the intrastate transmission losses were pegged at 2.5%. For 2012-13 the same level of 2.5% was allowed. During 2012-13 the losses were 2.49 while during 2013-14 (up to September, 2013) the losses were 2.80%. Such increase requires further analyses by the licensee as it had already achieved the figure of 2.49% during 2012-13.

A comparison of the month wise losses as provided by HVPNL is also made for FY 2012-13 and FY 2013-14 as under:

Month	**Losses during FY 2012-13 (%)**	**Losses during FY 2013-14(%)**
April	**1.684**	2.537
May	**1.704**	3.000
June	2.069	3.018
July	2.934	3.184
August	2.683	2.378
September	3.061	2.604
October	3.083	
November	2.799	
December	2.834	
January	2.828	
February	**1.223**	
March	2.491	
Total	**2.494**	**2.808**

It is observed from the above that substantial variation is appearing even in month to month comparison which requires thorough analyses by the licensee. At different occasions the licensee has achieved loss level even less than 2%.

In view of the above including CIP planned and in the absence of information on proposed reduction of losses as provided under Regulation 9.1 (f & g) of MYT Regulation, 2012 by HVPNL and in absence of development capability by SLDC on rolling 52 week basis/12 months basis under Regulation 45.4 of MYT Regulation 2012. The target for Intra-State losses for FY 2014-15 is kept at the same level as that of 2013-14 i.e. 2.5% with the road map for reduction of these losses at least @ 0.02% p.a during control period, subject to penalty clause in line with HERC MYT Regulations 2012, is as under:

S.No.	Year	Transmission Losses as proposed by HVPNL (%)	Approved Transmission Losses (%)
1	2014-15	2.72	2.50
2	2015-16	2.70	2.48
3	2016-17	2.70	2.46

HVPNL is directed to study the variations in the transmission losses for the month of April, May and June, 2013 where the difference is observed to be more than 50 percent as compared to the losses in the corresponding months of FY 2012-13 and submit a report to the Commission within three months.

Inter-State Transmission losses:

As far as inter State transmission losses are concerned NRLDC is posting 52 weeks losses on its website. NRLDC is also posting PoC losses on its website on day to day basis. In view of the same the Commission is not providing any trajectory and the inter – state transmission losses shall be considered as per the actual data.

Quality of supply/ Failure of Power Transformers:

The Commission in its earlier orders for ARR and tariff proposal of HVPNL transmission business had advised HVPNL to strictly enforce the preventive maintenance schedules, ensure healthiness of the protection system, prevent over loading and implement the findings of the enquiry reports of the Maintenance and Protection wing of the HVPNL so as to aim for zero damage rate for Power Transformers.

The following table provides the status of damage of power transformers during the last six years.

Sr. No.	Period	Total no. of Power Transformers	No. of Transformers damaged	
			Nos.	% age
1	2008-09	710	20	2.82
2	2009-10	742	20	2.70
3	2010-11	776	23	2.96
4	2011-12	841	29	2.02
5	2012-13	971	22	2.26
6	2013-14 (up to Nov. 2013)	-NA-	10	-

It is observed from the above that during FY 2011-12 twenty nine power transformers have damaged. During 2012-13 twenty two power transformers have damaged and 10 numbers power transformers have damaged till November 2013. This is a very alarming state of affair. The damaged rate in other utilities is much lower. (AP Transco 1.08%, GETCO 1.25%). This shows failure on part of the utility in terms of protection coordination and to save the power transformers from damage.

The Licensee was directed to intimate efforts being made by the utility to reduce damage rate of power transformers. In reply the licensee has stated that preventive maintenance and protection audit is being carried out to prevent the transformer damage.

The Commission is of the view that there is need to put more focus on this issue to contain this loss of vital and costliest element of the transmission network. This not only adds to the financial loss of HVPNL but also causes outages of long durations leading to harassment to the electricity consumers.

The Licensee is directed to submit a report with regard to investigation into the causes of damage of power transformers and action taken thereof to avoid recurrence of such damage in future. Further the licensee has not supplied the capacity wise damage rate of power transformers vis-à-vis the population of power transformers for the year 2012-13 and 2013-14.

The licensee was required to submit its action plan for replacement of sick power transformers during 2013-14 but the same has not been provided. HVPN may provide the number of sick power transformers in the system along with rating, age and location and to monitor the above work at the senior level for timely replacement of these sick powers transformer in the system. Further the licensee is directed to fix responsibilities and recommend preventive measures to ensure safety for future. The report must be submitted to the Commission quarterly.

Procurement of polymer insulators:

The Licensee has informed that 89% work under phase 1 and, 53% work under phase II for replacement of porcelain insulators by Anti-Fog insulators has been completed as on 30.09.2012. The licensee is directed to complete the balance work expeditiously under intimation to the Commission.

Safety Standards:

The CEA (Measures relating to Safety and Electric Supply) Regulation 2010 and the CEA (Safety Requirements for Construction Operation and Maintenance of Electrical Plants and Electrical Lines) Regulations 2011 were notified during 2010 and 2011 respectively. Directions were given by the Commission in its order dated 29th March, 2013 had directed the licensee to develop Safety Manual as per the provisions of CEA Regulations.

The licensee has informed that the Safety Manual as per provision of CEA regulation 2010 will be drafted within three months and circulated within six months. HVPNL has indicated that preparation of the safety manual is in process. The following table provide the data in respect of fatal / non-fatal accidents during the last five years.

Sr. No.	Period	Human Beings		Animals		Total	
		Fatal	Non fatal	Fatal	Non Fatal	Fatal	Non-Fatal
1	2008-09	1	1	1	3	2	4
2	2009-10	1	4	0	0	1	4
3	2010-11	1	3	0	0	1	3
4	2011-12	2	5	-	-	2	5
5.	2012-13	2	11	-	-	2	11
6.	2013-14(up to Nov. 2013)	2	2	-	-	2	2

The licensee is directed to ensure development of Safety Manual as per the provisions of CEA Regulations by 30th June 2014 and be circulated within one month thereafter positively. The staff may be provided adequate training and sensitized for use of safety equipment and to take necessary safety precautions while working on electrical lines and equipment to safeguard the precious human life and the costly equipments. The licensee may be asked to provide necessary action taken for the appraisal of the Commission.

Installation of Capacitor Banks:

Reactive energy charges have been proposed by HVPNL, to be recovered as per Regulation 5.5.1 of Haryana Grid Code and are not proposed to be recovered through ARR.

HVPNL has installed adequate capacitor banks and considerable amount on this account is being received through Reactive Energy Account of NRPC. Utilization of such reactive energy charges collected by transmission licensee has not been indicated though the capacitors have been provided as per the system requirement and are capitalized by HVPNL.

HVPNL has submitted that the reactive energy charges payable or receivable by HVPNL for each year of the control period 2014-15 to 2016-17 may be trued up together at the end of the control period as part of non-tariff income. No specific utilization of reactive energy charges is being done by them.

As per information received from HVPNL, the amount payable / receivable by HVPNL from PGCIL has been tabulated as under:-

Financial Year	Amount Payable to PGCIL(Rs.)	Amount receivable from PGCIL (Rs.)	Net receivable by HVPNL (Rs.)
2010-11	4,84,25,430/-	12,04,61,342/-	7,20,35,912/-
2011-12	1,07,24,871/-	15,19,73,939/-	14,12,49,068/-
2012-13	1,24,78,455/-	32,45,65,909/-	31,20,87,454/-
2013-14 (upto 02.03.2014)	Nil	30,86,11,489/-	30,86,11,489/-

Similarly the position of receivable from/payable by HVPNL from Discoms is as under:-

Financial Year	Amount receivable from UHBVNL (Rs.)	Amount receivable from DHBVNL (Rs.)
2010-11	(-) 36,53,849/-	82,74,660/-
2011-12	7,63,880/-	5,57,37,465/-
2012-13	1,21,76,119/-	2,97,03,994/-
2013-14 (upto Nov. 2013)	4,26,98,944/-	70,93,992/-

From the above it is apparent that capacitor banks are being managed in a better way by HVPNL so far as the provisions under Grid Code are concerned i.e. injection of MVAR when voltage is less than 97% of normal and absorption when voltage is above 103% of normal. Simultaneously it is also apparent that management of capacitor banks in case of DHBVNL / UHBVNL requires considerable improvement.

In order to improve the reactive power management of the transmission and distribution system, provisions under the Haryana Grid Code, as incorporated in Regulation 4.10 and 5.5 (a) are required to be adhered to. The amount receivable by the licensee from NRPC for the years 2010-11 & 2013-14, as other income, shall be considered for truing up.

Further the licensee is advised by to undertake surprise checks by senior officers to ensure that the instructions for proper operation of capacitor banks in the system are followed in letter and spirit and to install 11 KV automatic switchable capacitors banks in its substations which can be operate without human intervention as per system requirements. This needs to be continued.

The licensee is directed to provide details of defective capacitor banks and their plan to revive the same and submit reports in respect of checking by the senior officers about operation of capacitor banks in substations to the Commission by 30th September and 31st March every year.

Efficiency Factor

Regulation 45. of the MYT Regulation provides that "X_n" (efficiency factor) is to be calculated by the Commission for which total operating expenditure i.e. expenditure before depreciation, interest and taxes (i) per unit of circuit km over the last three years and (ii) per unit of transformation capacity over last three years, is to be submitted by the transmission licensee, which is to be based on actual. In MYT Petition HVPNL has not provided the requisite details and it was submitted by them that as the O & M expenses are indexed to market parameters (CPI & WPI) and given stringent parameters provided by the Commission no further reduction of O & M expenses is envisaged on account of efficiency factor X_n.

The Commission directed the Licensee to submit the requisite information. In response HVPNL provided the details on the efficiency factor (Xn). The same is as under:

Particulars	**2010-11**	**2011-12**	**2012-13**
Repair & Maintenance Expense	105.41	110.72	137.1
Employee Benefits Expense	3531.15	2336.78	3489.56
Admin & General Expense	103.38	110.72	141.37
Total (Rs. Millions)	**3739.94**	**2558.22**	**3768.03**
Total line Length (Circuit Km) (400 kv+ 220 kv+ 132 kv + 66 kv)	9902.5	11270.21	11992.09
Expenditure per Ckt km (Rs. million Per km)	**0.38**	**0.23**	**0.31**
Total Transformation Capacity at Interface point (Mva)	13920.6	15373.6	16592.1
Expenditure per MVa (Rs. Million /MVA)	**0.27**	**0.17**	**0.23**

It is observed from the above that though there has been some improvement in expenditure per Ckt Km and expenditure per MVA of transformation capacity during the year 2011-12. However, the same have increased considerably in FY 2012-13. The licensee is required to examine the issue and submit a report to the Commission.

SLDC :

Capital Investment plan of SLDC for the control period:

In case of Capital Investment Plan for SLDC the details of existing communication system and RTUs, details of proposed addition of communication system/schemes and RTUs were not provided by HVPNL while an expenditure of Rs.720.4 million has been proposed to be incurred in 2014-15 and Rs. 86 million in 2015-16. In reply to the observations of the Commission HVPNL subsequently provided the details of existing Wideband communication system as well as RTUs. All the existing RTUs as per list attached are stated to be in working condition. The list of new RTUs showing concerned substation name is also enclosed. Presently, the wideband communication system is OPGW based and is available between SLDC Panipat – PTPS Panipat (13 Kms.) and between Narwana – Safidon – Panipat TPS (80 Kms.). All the 220 KV and above substations are envisaged for making wideband communication nodes. It is further mentioned that the envisaged communication system and RTUs are meant for providing the real-time data of substations to SLDC Control Center for enhanced monitoring and management of the State grid and benefits to be achieved are long term. However, the cost benefit analysis and payback period was not provided by HVPNL

The Commission observes that RTUs and communication schemes normally form part of new substations. HVPNL was asked to indicate whether the proposed RTU / communication schemes in Capital Investment Plan are other than such provisions, and if so, reasons thereof. In reply it is indicated that it is true that the RTUs and the wideband communication system equipment are installed at Substation premises itself. But as for HVPNL, these provisions are not being included with the substation equipment etc. since the very beginning. Instead, there has been a separate setup to look after such provisions i.e. for providing / facilitating the SLDC System Operation Wing.

Further against approved CIP of Rs.343.62 Million for SLDC for the FY 2013-14, capital investment of only Rs.97.8 Million is likely to be made as per CIP. Reasons for the gap as informed by HVPNL are that SLDC System expansion projects under Strengthening of the Communication system, providing RTUs and Auxiliary Power Supply System are World Bank funded projects. One of the packages i.e. Procurement of Supply, Installation, Testing and Commissioning of Fibre Optic Cabling Package has already been awarded and other two projects i.e. for Communication equipment and providing RTUs are likely to be awarded soon. Thus, in the coming period, with the award and commencement of execution etc. more expenditure is likely to occur with higher pace.

The Commission accepts the reply filed by HVPNL. The Commission observes that the SLDC is able to invest only about 28.46% of approved CIP during 2013-14. The CIP considered by the Commission during the MYT control period is as under:

FY	CIP Amount Rs.m	Proposed Reduction	Proposed CIP Amount Rs.m
2013-14	97.8 (Actual)	0%	97.8
2014-15	720.4	50%	360.2
2015-16	86	nil	446.2 (360+86)
2016-17	0	nil	0

Performance of SLDC:

Regulation 5.8 of Haryana Grid Code provides that:

a) A weekly report covering the performance of the State grid for the previous week shall be issued by SLDC to all users. Such weekly report shall also be available on the website of the SLDC for at least 12 weeks. The weekly report shall contain the following:-

(i) frequency profile; (ii) voltage profile of selected substations; (iii) major generation and transmission outages ; (iv) transmission constraints; (v) instances of persistent/significant non-compliance of HGC; (vi) demand and supply situation.

b) The SLDC shall prepare a quarterly report which shall be issued to all the users, and shall bring out the system constraints, reasons for not meeting the requirements, if any, of security standards and quality of service, along with details of various actions taken by different users, and the users responsible for causing the constraints.

c) The SLDC shall also provide information/report, which can be called for by users in the Interest of smooth operation of the State transmission system.

The Commission observes that the above reports are not appearing on website of SLDC. HVPNL has submitted that the report is available in SLDC website for 14 days backup is attached as Annexure-II. Further the daily report prepared is being sent to all users in the Interest of smooth operation of the State transmission system. (attached Annexure-III).

The licensee has again tried to divert the issue by providing time slot wise data which being received under unified LDC project of PGCIL. This data cannot be substitute for the provisions under section 5.8 of HGC. HVPNL has further indicated vide Ch-88/SE/RAU/F-122/Vol-I dated 21.03.2014 that the Haryana SLDC Website was designed & put in place during June, 2004 and at that time Haryana Grid Code was not enforced. Keeping in view the best requirement of HPGC/UHBVNL/DHBVNL, the site was designed for 100 real time analogs with a facility of 15 days back up of each real time value for 96 slots at an interval of 15 minutes. The SLDC Website of Delhi, Punjab, Himachal & Rajasthan was developed and put in place by the respective States at a very later stage i.e. during the year 2010 or so. These Websites are working in the present scenario requirement as well and thus fulfills almost all the points deliberated under section 5. of State Grid Code "Periodic Reports". For ma ing 00% compliance of all the reporting concerns under section 5.8, SLDC Website needed to be revamped and for that suitable vendor who can develop the software requirement pertaining to the SLDC Website will be required.

It is observed by the Commission that during 2004 power purchase was with HVPNL and parameters were planned accordingly as DISCOMS and HPGCL were not required to interact with RLDCs and HVPNL was taking care of scheduling and UI repercussions. Power purchase was shifted to HPGCL in 2005 and to DISCOMS / HPPC thereafter. Haryana Grid Code was notified in 2009 and HERC MYT Regulation was notified in 2012. The Commission has been allowing Haryana SLDC the Capital Investment Plan and O&M expenses as required every year. It is only on observations raised by the office of the Commission the SLDC / HVPNL has awakened to affirm that SLDC Website needed to be revamped and for that suitable vendor who can develop the software requirement pertaining to the SLDC Website will be required. The action taken by SLDC/HVPNL (operating SLDC) since notification of Haryana Grid Code in 2009 and till date has not been indicated.

In view of the above HVPNL is directed to develop the capability of SLDC as provided in regulation 5.8 of HGC within 3 months and submit a compliance report to the Commission.

3. TRANSMISSION TARIFF & SLDC CHARGES

3.1 Tariff Filing of HVPNL:

This Section deals with the determination of transmission tariff and SLDC charges for FY 2014-15 based on the ARR determined by the Commission in Chapter– 2 of this order. As transmission system cost and cost of operating SL C are 'fixed cost' having no variable component the Commission has been determining a single part transmission tariff based on the consolidated transformation capacity (MVA) of UHBVNL and DHBVNL as projected by the petitioner for respective years. Thus the entire cost of transmission business (including SLDC) was considered as of 'fixed' nature, and hence the Commission considered it reasonable to allow recovery of entire cost through a 'demand charge' on a monthly basis. The Commission has notified the Haryana Electricity Regulatory Commission (Terms and Conditions for Determination of Transmission Tariff for Generation, Transmission, Wheeling and Distribution & Retail Supply under Multi Year Tariff Framework) Regulations, 2012. Regulation 51 of the said regulations provides for payment of Transmission Charges as under:-

(a) Transmission licensee shall recover the transmission charges at the normative annual transmission system availability factor specified for it by the Commission.

(b) Payment of transmission charges

Annual transmission charges shall be fully recoverable at the specified level of target availability. Payment of transmission charges below the specified target availability shall be on pro-rata basis. The transmission licensee may recover its annual transmission charges by way of a fixed charge based on transformation capacity. The transmission charges shall be calculated on a monthly basis. In case of more than one beneficiaries of the transmission system, including the distribution licensees and long term and medium term open access consumers (but subject to any exclusion of any other open access consumers as per the open access regulation notified by the Commission), the *monthly transmission charges leviable on each beneficiary shall be computed as per the following formula.*

$$\textit{Monthly Transmission Charges} \quad \frac{TC}{} \quad \frac{C}{C}$$

Where,

ATC	=	*Annual Transmission Charges payable by all the beneficiaries after deducting any benefits to be considered as decided by the Commission;*
CA	=	*Transformation Capacity (MVA) allocated to each beneficiary.*
CS	=	*Sum of Transformation Capacity (MVA) allocated to all beneficiaries*

Note: Where allocated Transformation Capacity (MVA) of a beneficiary is not available, the contracted capacity in MW shall be converted in MVA at a power factor of 0.90 and the same shall be considered for computation of monthly transmission charges payable by the beneficiaries.

Provided that monthly Transmission tariff shall also be shared by a Generation Company (including Renewable Energy Generators which opt for third party sale) if power from such Generating Company is sold to a consumer outside the State of Haryana to the extent of capacity contracted outside the state.

Provided also that the transmission charges shall be payable by the short term open access consumers for the scheduled energy drawl at per kWh rate as worked out by dividing the annual transmission charges by the total volume of energy sales by the distribution licensee(s) during the previous year.

The transmission tariff & SLDC charges approved by the Commission in the tariff order for 2013-14 are presented in the Table 3.1.

3.2 Tariff Proposed by HVPNL for FY 2014-15:

The following Table presents the summary of the Annual Revenue Requirement for the Control Period.

Table 3.1: Annual Revenue Requirement for Transmission Business (Rs. Millions)

Particulars	2014-15	2015-16	2016-17
O&M Cost	4,419	4,763	5,181
Interest on Loan	2,890	3,355	4,003
Interest on Pension Bonds	673	639	572
Interest on PF Bonds	160	152	136
Depreciation	3,244	3,928	4,552
Interest on Working Capital	297	329	365
Return on Equity	2,768	3,304	3,818
Share of SLDC Charges	14	21	22
PPP Charges	600	600	600
Less: Short Term Open Access Charges	-	-	-
Less: Non-Tariff Income	52	52	52
Annual Revenue Requirement	**15,012**	**17,039**	**19,196**

Tariff for Beneficiaries

Average Monthly demand for FY 13-14 up to Sept. is 7203 MW which has been increased as per the increase in transformation Capacity to project the Peak Load for the Control Period

Table 3.2: Projected Peak Load for the Control Period (MW)

Projected Peak Load	2013-14	2014-15	2015-16	2016-17
Peak Load	**7203**	**8335**	**9608**	**10872**

The petitioner has calculated the transmission expenses based on the pro-rata distribution of the ARR for the calculation of transmission charges to be paid by Tata Power Trading Company Ltd.

Transmission Charges to be paid by TPTCL for FY 2013-14

$$TC \quad Total \quad RR \quad \frac{Contracted \;\; e \;\; mand \; of \; T \; TC}{verage \quad ea \quad em \; and \; Met}$$

$$3 \quad 3 \quad \frac{}{03} \quad Rs. \quad . \quad million$$

3.2.1 Transmission Charges to be paid by TPTCL

Table 3.3: Annual Transmission Charges to be paid by TPTCL (Rs. Millions)

Transmission Charges	2013-14	2014-15	2015-16	2016-17
TPTCL	227.81	218.91	216.10	215.60

The Annual Revenue Requirement after subtracting the transmission Charges to be paid by TPTCL is distributed among the DisComs based on the transformation Capacity Allocated to each of the Discoms.

Table 3.4: Transformation Capacity (MVA)

Share of Transformation Capacity	2012-13	2013-14	2014-15	2015-16	2016-17
UHBVNL	8349.2	8,826	10,126	11,240	11,974
DHBVNL	8242.9	9,027	10,974	13,040	15,461
% Share of UHBVNL	50.3%	49%	48%	46%	44%
% Share of DHBVNL	49.7%	51%	52%	54%	56%

Projected Revenue from each Discom for the Control Period based on the Distribution of the transformation capacity.

Table 3.5: Projected Annual Revenue from Discoms (Rs. Millions)

Projected Annual Revenue from DisComs	2013-14	2014-15	2015-16	2016-17
UHBVNL	6,430	7,099	7,788	8,284
DHBVNL	6,576	7,694	9,035	10,696

3.2.2 HVPNL's projected Monthly Charge from each Discom for the Control Period

Table 3.5: Projected Monthly Charges from Discoms (Rs. Millions)

Monthly Charge	2013-14	2014-15	2015-16	2016-17
UHBVNL	536	592	649	690
DHBVNL	548	641	753	891

3.3 Analysis of the Tariff Proposal

The Commission has considered the HVPNL's proposed transmission tariff and SLDC charges for FY 2014-15 as well as their oral submissions in the hearing held on 18.03.2104 and other written submissions following the tariff petition made by the licensee from time to time.

3.3.1 Transmission Cost

HVPNL has proposed Rs. 15012 millions as their net aggregate revenue requirement for transmission business for FY 2014-15. The Commission as per the details presented in Chapter-2 (Table 2.17) of this order has determined Rs. 9110.16 millions as the net aggregate revenue requirement for transmission business in FY 2014-15. Hence the net ARR approved by the Commission for FY 2014-15 shall form the basis of estimating monthly recovery from the users of the transmission system i.e. UHBVNL & DHBVNL.

3.3.2 Tariff Design

The Commission, in its earlier order(s), allowed recovery of cost of transmission charges based on the ratio of respective projected transformation capacity of the two Discoms i.e. UHBVNL & DHBVNL. The Commission has notified the Haryana Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff for Generation, Transmission, Wheeling and Distribution & Retail Supply under Multi Year Tariff Framework) Regulations, 2012 dated 5.12.2012. As per these regulations the annual transmission charges shall be fully recoverable at 98.8% target availability in FY 2014--15. Payment of transmission charges below 98.8% shall be on pro-rata basis. The transmission licensee may recover its annual revenue requirement by way of a fixed charge based on transformation capacity, contracted capacity, a charge based on energy transmitted, connectivity charge, reactive energy charge or a combination of these charges. The transmission charges shall be calculated on a monthly basis. In case of more than one beneficiaries of the transmission system, including the distribution licensees and long term open access customers, the monthly transmission charges leviable on each beneficiary shall be computed as per the formula incorporated in the terms and conditions notified by the Commission for determining transmission tariff".

In line with the above regulations, the Commission has determined the recovery of transmission cost based on the projected transformation capacities of the user(s) i.e. UHBVNL, DHBVNL & TPTCL.

3.4 Transmission tariff

The Commission, for determining transmission tariff, has considered the fact that entire cost allocated to the transmission business is of 'fixed' nature as already stated. Hence, it would be reasonable to recover the entire cost through a demand charge based on the ratio of the projected transformation capacity of the distribution licensees and long- term open access customer i.e. TPTCL.

Considering the above factors, **the Commission approves monthly fixed charges (Rs. million) for the transmission of power by HVPNL and transmission tariff for short term open access consumers for FY 2014-15 as per details given in the Table 3.4:-**

Table 3.6 - Determination of Transmission Tariff (FY 2014-15)

Particulars	
Transmission Cost (Rs. millions)	**10099.22**
Projected Transformation Capacity (MVA)	19614.28
UHBVNL's Share (MVA)	9476.0
H BVNL's Share (MVA)	10000.5
TPTCL's Share (MVA) (124 MW divided by 0.90 power factor)	137.8
Ratio of Average Transformation Capacity	
UHBVNL (%)	48.31%

DHBVNL (%)	50.99%
TPTCL (%)	0.70%
Transmission Charges Recoverable from UHBVNL (Rs. millions)	4879.109
Transmission Charges Recoverable from DHBVNL (Rs. millions)	5149.170
Transmission Charges Recoverable from TPTCL (Rs. millions)	70.941
Monthly Transmission Charge UHBVNL (Rs. millions)	**406.592**
Monthly Transmission Charge DHBVNL (Rs. millions)	**429.097**
Monthly Transmission Charge TPTCL (Rs. millions)	**5.912**
Transmission Tariff for short term open access customers based on energy sales of 35189 MUs (Rs / kWh)	**0.29**

The short term open access customers will be subject to a single rate of Rs. 0.29/kWh (rounded off) as determined above. As the entire cost of transmission system including renovation, modernization and augmentation under the present tariff design is borne by the distribution companies and long term open access consumers, the Commission in line with regulation 47 (b) of HERC Regulations, 2012 allows 25% of the charges collected from the short – term open access consumers for use of intra – state transmission system to be retained by HVPNL and the balance shall be adjusted towards reducing the transmission charges payable by the existing long term / medium term users.

3.5 Reactive Energy Charges

The petitioner has submitted that the Discoms, Generators and Open Access consumers are expected to provide adequate reactive compensation in order to ensure that they do not draw / inject VArs during low / high voltage conditions, in line with the criteria laid in clause 6.6 of the Indian Electricity Grid Code (IEGC). According to Clause 6.6(2) of the IEGC the VArh shall be @ 10 paisa / kVArh w.e.f. 1.4.2010 and the same shall be escalated at the rate of 0.5 paisa / kArh per year thereafter. Accordingly HVPNL has proposed to charge UHBVNL & DHBVNL and all long term open access consumers @ 12 paisa / kVArh on the basis of recording done by existing SEMs and individual ABT compliant meters of long term Open Access Consumers in FY 2014-15.

The Commission has considered the above and observes that HERC Regulations, 2012 in vogue provides as under:

48. REACTIVE ENERGY CHARGES

(a) The reactive energy charges shall be as provided in the Haryana Grid Code as amended from time to time.

(b) Reactive energy charge shall be payable and shared as per regulation 5.5.1 of Haryana Grid Code (HGC) Regulation, 2009 as amended from time to time ;

(c) Reactive energy account shall be maintained and operated as per the intra-State ABT regulations to be notified by the Commission and as amended from time to time. Until the intra-State ABT regulations are notified by the Commission, CERC ABT regulations shall be applicable;

(d) The reactive energy charges from embedded open access consumers shall be recovered by the distribution licensee by apportioning the total reactive energy drawn during the month in the ratio of energy drawn through open access and the energy drawn from the distribution licensee. The reactive energy charges shall be recovered for the apportioned reactive energy corresponding to energy drawn through open access at the applicable rate.

In view of the above regulations the Commission holds that reactive energy charge is a legitimate charge, the same is allowed to be recovered as per the provisions of the regulations notified by this Commission.

3.6 Billing

The billing of transmission charges shall be in accordance with the HERC MYT Regulations, 2012 as reproduced below:

"54.BILLING AND PAYMENT OF CHARGES

54.1 *The State Transmission Utility shall raise bills for SLDC and transmission charges payable by the beneficiaries on a monthly basis. The STU shall raise bills for UI charges on weekly basis as and when intra state ABT is implemented. UI accounting procedures shall be governed by intra-state ABT regulations to be notified by the Commission as amended from time to time".*

The transmission tariff for wheeling, determined by the Commission in terms of Rs. / kWh, shall be recoverable from the short term 'open access' customers availing HVPNL's transmission system. The wheeling charges recovered from short term customers, subject to 25% retention by HVPNL, shall be adjusted towards reduction in the transmission service charges payable by the long term and medium term users.

3.7 Recovery of charges by SLDC from beneficiaries

The Recovery of charges by SLDC from beneficiaries shall be in accordance with the HERC Regulations, 2012 as reproduced below:

(a) The annual charges of SLDC, as determined as per regulations 6 and 16, shall be apportioned between system operation function and market operation function as mentioned below:

System operation function	*80% of annual charges*
Market operation function	*20% of annual charges*

(b) ***Collection of system operation charges***

(i) System operation charges shall be collected from the beneficiaries as given below:

(1) Intra-State transmission licensee	*10% of operational charges*
(2) Generating stations and sellers	*45% of operational charges*
(3) Distribution licensee and buyers	*45% of operational charges*

(ii) The system operation charges shall be levied on the intra-State transmission licensees on the basis of the ckt.- km of the lines

owned by them as on the last day of the month prior to billing of the month;

(iii) *The system operation charges from the generating companies and sellers (which excludes short term open access consumers) shall be collected in proportion to their installed capacity or contracted capacity, as the case may be, as on the last day of the month prior to billing of the month;*

(iv) *The system operation charges from distribution licensees and buyers (which exclude short term open access consumers) shall be collected in proportion to the sum of their allocations or contracted capacities, as the case may be, as on the last day of the month prior to billing of the month.*

(c) ***Collection of market operation charges.***

(i) *The market operation charges shall be shared equally by all the beneficiaries of SLDC except intra-State transmission licensees.*

(ii) *Market operation charges shall be collected on monthly basis.*

(iii) *Any deviation in the value of annual market operation charge determined and collected from the beneficiaries shall be trued up during the mid-year performance review and true-up.*

3.8 Share of Charges as per MYT Regulations, 2012 – Proposal by HVPNL

The Share of the Charges has been calculated as per the HERC MYT Regulations 2012.

"The annual charges of SLDC, as determined as per regulations 6 and 16, shall be apportioned between system operation function and market operation function as mentioned below:

System operation function	*80% of annual charges*
Market operation function	*20% of annual charges*

(a) ***Collection of system operation charges***

(i) System operation charges shall be collected from the beneficiaries as given below:

(1) Intra-State transmission licensee	*10% of operational charges*
(2) Generating stations and sellers	*45% of operational charges*
(3) Distribution licensee and buyers	*45% of operational charges*

(c) ***Collection of market operation charges.***

(i) The market operation charges shall be shared equally by all the beneficiaries of SLDC except intra-State transmission licensees".

The Petitioner has applied the same methodology as provided by the Commission in the MYT Regulations, 2012. The details are as under:

Table 3.7: Market Operations (Rs. Millions)

Market Operations (20%)	2013-14	2014-15	2015-16	2016-17
TPTCL	4.34	8.60	12.83	13.52
UHBVNL	4.34	8.60	12.83	13.52
DHBVNL	4.34	8.60	12.83	13.52
HPGCL	4.34	8.60	12.83	13.52
TOTAL	**17.37**	**34.39**	**51.31**	**54.08**

Table 3.8: System Operation Function (Rs. Millions)

System Operation Function (80%)	2013-14	2014-15	2015-16	2016-17
TPTCL	0.54	0.90	1.17	1.09
UHBVNL	15	29	42	42
DHBVNL	16	32	49	54
HPGCL	31.26	61.91	92.35	97.34
HVPNL (transmission)	6.95	13.76	20.52	21.63
TOTAL	69.47	137.58	205.22	216.30

Total Charges to be paid by each of the beneficiaries are summarized in the table below.

Table 3.9: ARR Share of beneficiaries of SLDC (Rs. Millions)

Particulars	2013-14	2014-15	2015-16	2016-17
TPTCL	4.88	9.50	14.00	14.61
UHBVNL	19.53	37.88	55.04	55.52
DHBVNL	19.88	40.33	61.80	67.76
HPGCL	35.60	70.51	105.18	110.86
HVPNL (transmission)	6.95	13.76	20.52	21.63
TOTAL	87	172	257	270

3.9 Annual Revenue Requirement for SLDC

The Commission has determined the ARR/ operating cost of SLDC for FY 2014-15 as per details provided in Chapter – 2 of the present order at Rs. 144.65 million. The SLDC charges approved by the Commission have been first functionalised into market operation activity and system operation function in the ratio of 20:80. Hence Rs. 28.93 millions was apportioned towards the former and Rs. 115.72 million towards the latter. Further the Market Operation charges amounting to Rs. 28.93 Millions was equally apportioned to all the entities i.e. TPTCL/UHBVNL/DHBVNL and HPGCL. The System Operation charges amounting to Rs. 115.72 Millions was first allocated to HVPNL (10%), Generating Stations / sellers (45%) and Discoms / buyers (45%). The amount allocated to the Discoms / Sellers were further distributed amongst UHBVNL, DHBVNL and TPTCL in the ratio of their transformation capacity. As in the case of TPTCL no transformation capacity was available, in accordance with the MYT Regulations, the MW capacity i.e. 124 MW was converted into MVar by applying a power factor of 0.9 for the purpose of allocation of system operation charges as determined by the Commission. The details are provided below:

Beneficiaries	**Market Operations Function (20%)**	**System Operation Function (80%)**	**Total (Rs. Millions)**
TPTCL	7.233	0.365	7.597
UHBVNL	7.233	25.15	32.389
DHBVNL	7.233	26.553	33.785

HPGCL	7.233	52.074	59.307
HVPNL (transmission)	0	11.572	11.572
Total	**28.93**	**115.72**	**144.65**

3.9.1 Short Term Open Access Consumers

The short-term open access consumers (if any) shall pay a composite fee and charges as per **HERC (Terms and Conditions for grant of connectivity and open access for intra – state transmission and distribution system) Regulations, 2012 dated 11th January, 2012 along with its amendments.** The total receipt of SLDC charges from short term open access consumers shall be utilized to reduce the SLDC charges payable by the beneficiaries.

3.9.2 SLDC Application Fee

The application fee shall be as per **HERC (Terms and Conditions for grant of connectivity and open access for intra – state transmission and distribution system) Regulations, 2012 dated 11th January, 2012 along with its amendments.**

3.10 Incentive

HVPNL, for its transmission business, has claimed incentive on achieving annual availability beyond 98% (target availability) as per formula approved by the CERC.

The Commission observes that incentive, if any, shall be governed by HERC Regulations, 2012. The relevant extract is reproduced below:

(c) Only for Transmission Licensee

(i) ***Availability****- Applicable when actual availability falls below or exceeds the level specified by the Commission. The incentive for actual availability above target availability shall be worked out as per the following formula:*

$$TC \quad (\qquad T\ )/T$$

Where

I = *Incentive*

ATC = Annual transmission charges

AA = Annual availability achieved (actual)

TA = Normative target availability

Note 1: *The incentive mechanism for availability shall be applicable only when the transmission licensee submits detailed computation of the availability figures to the Commission and the Commission approves the same. The detailed computation will include all details of the input data, methods of recording the data (manual or through electronic modes), formula used for computation and all other details required to establish the current level of availability.*

While reporting the level of availability to the Commission, the transmission licensee shall enclose a certificate from the SLDC validating the indicated level of availability.

Note 2: *For all purposes the 'normative target availability factor' shall be considered for recovery of fixed charges. Any fall in the actual availability from the normative target availability shall result in pro-rata reduction of fixed charges.*

3.11 Rebate / Late Payment Surcharge

The Rebate/Late payment surcharge shall be as per regulations 54.2 & 54.3 of HERC Regulations, 2012 notified by the Commission on 5.12.2012. The relevant extract of the regulations is reproduced below:

54.2 Rebate for early payment

In case of early payment of bills of transmission and other charges the rebate as under shall be admissible:

Days from the date of receipt of bills of transmission charges	***Rebate (%)***
0-7	*2*
8-14	*1*
15-21	*0.5*
22-30	*0.25*

54.3 Late payment surcharge

In case the payment of bills of transmission and other charges by the beneficiary is delayed beyond a period of 30 days from the date of receipt of bill, a late payment surcharge of 0.04% per day shall be payable by the beneficiary.

The Commission shall also monitor quality of supply (transmission system availability, transformer failure rate and system reliability), safety standards in accordance with the provisions of the Haryana Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff for Generation, Transmission, Wheeling and Distribution & Retail Supply under Multi Year Tariff Framework) Regulations, 2012. :

4.0 Other Issues / directives:

Use of Multi Circuits towers

In view of the fact that the cost of land has increased significantly and the right of way problem is being faced in the field. In certain cases the majority of land of the farmers/the owners is utilized for laying the electric lines which create lot of problem for the farmers and put a significant loss and resulting in to increasing number of Court Cases. The lines are not being completed in time. Hence the option to lay the line on multi circuit towers be considered and such existing cases be settled.

Financial Transactions through Banks:

All type of financial transactions must be done through the nationalized banks. In utilities the financial transactions may also be allowed through E-payment. The cadre of cashiers may be considered as diminishing cadre and they may be deployed elsewhere as per requirement.

Online Tenders:

In order to bring in efficiency/transparency in the process of procurement E-procurement be implemented and the NIT with Short description be published in the Newspaper and detail should be given on web site to exercise economy. The officers/ officials concerned may also be trained for this purpose at the earliest.

Reporting of losses/Public Audit of Loss

The utilities are required to place on their website the circle wise losses being suffered along with the name of the concerned officers working in the supervisory capacity and their designations. The above information should be updated periodically on quarterly basis.

The information in respect of total losses incurred in a year should also be made public at the time of filing ARR for information of the consumers.

Monitoring of Court Cases

The Licensee is required to ensure monitoring of the court cases regularly with proper care and caution on day to day basis. In case of any lapse/negligence committed on the part of any officer/official concerned in this regard, the responsibility of the erring officer / official be fixed and the financial loss be recovered.

Rest House /Guest House maintained by the Nigam

All rest houses of the HVPNL located in private building (except Panchkula, Gurgaon & Faridabad) is closed immediately due to financial constants and the regular staff in working in the rest houses should be adjusted against the vacant post elsewhere.

The rate of the guest house should be revised and a minimum of `100/- per day be charged from the officers/officials on their official tours and in case of non official journey `300/- per day be charged. In case of private person the charges posted should be `1500 /- per day.

Phone No. of the Officers and E-mail address for complaint:-

The office phone and mobile number of all officers working in a supervisory capacity to whom the HVPNL be published in local newspapers or local media channel along with their e-mail address for making complaint by the consumers for immediate redressal.

Abolition of Vacant Posts:

The Commission, on several occasions, has expressed concern regarding high and ever increasing employees cost of the utilities and outsourcing of works wherever possible. Hence, all non-technical posts lying vacant for the last three years in the /HVPNL needs to be abolished but it will not be applicable for the post where the contract/outsource staff have been engaged.

Economic Measures

The Commission directs the transmission licensee to undertake effective economic measure in the utilities to contain the unproductive expenditure.

Any other issue not specifically dealt with in this order shall be governed by the provisions of the Haryana Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff for Generation, Transmission, Wheeling and Distribution & Retail Supply under Multi Year Tariff Framework) Regulations, 2012 and other relevant Regulations as may be applicable to HVPNL.

4. CONCLUSION:

The Commission, under section 62 read with section 64(3) (a) and section 64(6) of the Act, issues this tariff order for FY 2014-15 determining the ARR for transmission business and SLDC business of HVPNL, the transmission/ SLDC charges and the transmission tariff for short term open access customers as per details given in the order and summarised as under:-

a) The net ARR of HVPNL, for its transmission business, is determined as Rs 10099.22 million for FY 2014-15.

b) The recovery of monthly transmission cost shall be Rs. 406.592 million (UHBVNL), Rs. 429.097 million (DHBVNL) and Rs. 5.912 million from TPTCL.

c) The Net ARR of HVPNL for its SLDC business is determined at Rs. 144.65 million (total recovery of Rs. 32.389 million from UHBVNL, Rs. 33.785 million from DHBVNL, 59.307 million from HPGCL, 11.572 million from TS of HVPNL and Rs. 7.597 million from TPTCL).

d) Transmission tariff / Wheeling Charges for short-term open access consumers shall be Rs. 0.29/ kWh.

e) Intra-state Transmission losses are pegged at 2.5% (FY 2014-15), 2.48% (FY 2015-16) and 2.46% for FY 2016-17.

The licensee shall implement the tariff and charges contained in this order with effect from 29th May 2014.

This order is signed, dated and issued by the Haryana Electricity Regulatory Commission on 29th May, 2014.

Date: 29th May, 2014.
Place: Panchkula.

(M. S. Puri)	(Jagjeet Singh)	(R.N. Prasher)
Member	Member	Chairman