



COMMISSION'S ORDER

ON

TRUE-UP PETITION FOR THE FY 2016-17, ANNUAL (MID-YEAR)
PERFORMANCE REVIEW FOR THE FY 2017-18 AND TRANSMISSION
TARIFF

& SLDC CHARGES FOR THE FY 2018-19

CASE No: HERC/PRO - 08 OF 2018

31st October, 2018

HARYANA ELECTRICITY REGULATORY COMMISSION
BAYS 33-36, SECTOR-4, PANCHKULA-134112, HARYANA

<https://herc.gov.in>

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HERC

BEFORE HARYANA ELECTRICITY REGULATORY COMMISSION

BAYS NO. 33-36, SECTOR-4, PANCHKULA-134112

CASE NO: HERC / PRO-08 OF 2018

IN THE MATTER OF

Petition / Application filed by Haryana Vidyut Prasaran Nigam Limited (herein after referred to as HVPNL or the Petitioner or the Licensee) for approval of true-up of the Aggregate Revenue Requirement (ARR) for Transmission business and State Load Dispatch Centre (SLDC) for the FY 2016-17, Annual (mid-year) Performance Review for the FY 2017-18 and determination of Transmission Tariff and SLDC Charges for the FY 2018-19.

QUORUM

Shri Jagjeet Singh

Chairman

ORDER

The aforesaid petition has been filed by HVPNL, the transmission licensee / State Transmission Utility also designated as the State Load Dispatch Centre by the State Government.

The Haryana Electricity Regulatory Commission (hereinafter referred to as 'the Commission' or 'HERC'), 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, has considered the petition for determining the true-up for the FY 2016-17, Annual (mid-year) Performance Review for the FY 2017-18 and revised ARR/ transmission tariff and SLDC charges for the FY 2018-19. The Commission, while passing this Order, has considered the Petition filed by HVPNL, subsequent / revised filings made by HVPNL in response to various queries of the Commission and submissions made by HVPNL in its presentation in the public hearing held on 10.09.2018.

CHAPTER 1

1.1 ARR/TARIFF PETITION FILED BY HVPNL

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 ("MYT Regulations 2012") was notified on December 5th, 2012. As per the provisions of the said Regulations the Transmission Licensee i.e. Haryana Vidyut Prasaran Nigam Limited (HVPNL) is required to file, each year, an Annual Performance Review (APR) Petition for true-up of past year and review of estimates for the ensuing year, as per the MYT Order for the Control Period, in accordance with Regulation 11 of the ibid Regulations. The Commission, after following due process, notified 1st Amendment to the ibid MYT Regulations, 2012 wherein the first Control Period was extended to the FY 2017-18. Subsequently, as the MYT Regulations for the next control period is yet to be finalized the Commission has considered it appropriate to extend the control period for further one year. Consequently, the present petition shall be examined in the light of the MYT Regulations, 2012 with appropriate adjustments / indexing wherever justified.

Accordingly, HVPNL vide Memo No. Ch.43/SE/RAU/F-161 dated 30.01.2017 filed the true-up petition for the FY 2016-17, Mid-year performance review for the FY 2017-18 and revised ARR / Tariff for the FY 2018-19 for consideration and approval of the Commission. The Licensee, in the present petition, has proposed revision in various components of the ARR primarily based on two aspects i.e. audited figures for the FY 2016-17 and change in opening gross fixed assets for the FY 2017-18 on account of actual capitalization during the FY 2016-17. The Petitioner has prayed that the Commission may consider the revised estimates for the FY 2017-18 and the FY 2018-19 based on the audited accounts of the FY 2016-17 on the plea that it would provide more realistic basis for estimates during the MYT Control Period.

The Petitioner has also submitted the status of capital expenditure approved vis-à-vis the envisaged capital expenditure for the FY 2017-18 and the FY 2018-19 as part of MYT Business Plan, including the Capital Expenditure Plan. The changes in the envisaged capital expenditure and the impact thereto on the relevant elements of ARR/ Tariff have been provided in the present petition.

The Petitioner has submitted that while passing the true-up Order for the FY 2015-16, the Commission had considered the audited annual accounts for true-up most of the elements of the ARR, hence, the Petitioner has prayed that based on the same principles the true-up exercise for the FY 2016-17 may also be undertaken.

1.2 HVPNL'S PETITION

1.2.1 TRUE-UP FOR THE FY 2016-17 FOR TRANSMISSION BUSINESS

In accordance with the MYT Regulations, 2012, as amended from time to time, the Petitioner has filed the present true-up Petition for the FY 2016-17. The item wise submissions are briefly stated in the paragraphs that follow:-

1.2.2 OPERATIONS AND MAINTENANCE COST (O&M)

That the O&M expenditure comprises of employees' cost, administration and general expenses (A&G), and repair and maintenance expenses (R&M).

That the Regulation 45.3 of the MYT Regulations 2012 provides for determination of O&M cost as per the actual audited employees cost (excluding terminal liabilities) and A&G expenses for the financial year preceding the base year, subject to prudence check, to be escalated at 4% per annum to arrive at the employees' cost (excluding terminal liabilities) and A&G expenses for the base year of the Control Period.

The Petitioner has submitted the details of approved and actual O&M expenses incurred by them as under:-

Particulars (Rs. Millions)	Approved	Actual	Difference
Employee Cost	2,506.49	3,250.53	(744.04)
Terminal liability	2,093.11	3,185.72	(1092.61)
Repair& Maintenance Cost	414.56	232.56	182
A&G Expenses	151.69	206.27	(54.58)
Total O&M Expenses	5165.85	6875.09	(1709.24)

1.2.3 EMPLOYEES' COST

It has been submitted that the Commission, while allowing the actual employees' cost for FY 2015-16, projected the employee cost for FY 2016-17 considering an inflation factor of 2.47% only. However, the actual increase in the employee cost has been higher than that considered by the Commission. The details of the approved vis-à-vis actual employees' cost incurred by the Petitioner are presented below:-

Particulars (Rs. Millions)	Approved	Actual	Difference
Employees' cost	2,506.49	3,250.53	(744.04)

It has been submitted that the increase in actual cost as against the approved employee cost is primarily due to revision in salaries on account of implementation of 7th Pay Commission and the same is beyond the control of the Petitioner. Also, there has been increase in the

employee cost due to increase in contractual employees of HVPN. The breakup of employees' cost in the FY 2016-17 and in the FY 2015-16 as provided by HVPNL is reproduced below:-

Particulars (In Rs Millions)	Actual FY 2016-17	Actual FY 2015-16
Basic	1197.25	863.24
DA	1010.78	1002.03
Other allowances	357.29	349.75
Contract employees	631.97	521.62
Contribution to new pension scheme (NPS)	53.24	48.72
Total Employees' cost	3250.53	2785.36
Employees' cost capitalized	0.00	(150.75)
Net Employees' cost Expensed	3250.53	2634.61
• For Transmission Business – Excl. SLDC business	3250.53	2600.59

Additionally, it has been submitted that in accordance with the directive of the Commission, the Petitioner has not undertaken any new recruitment of employees in the FY 2016-17. The increase in employees' cost as against that approved by the Commission is purely on account of factors beyond their control. The Petitioner has relied completely on the directions of the Commission to increase the number of contractual employees, thus limiting the financial burden.

HVPNL has prayed that the Commission may consider the actual employees' cost of the FY 2016-17 as per the audited accounts and the same may also be considered as a base for the projection of employees' cost for the MYT Control Period.

1.2.4 TERMINAL LIABILITY

That Regulation 8 of the MYT Regulations, 2012 classifies terminal liability as 'uncontrollable' element of ARR. In this regard, it has been submitted that the Hon'ble APTEL in its judgment dated 30.04.2013 in Appeal No. 100 of 2012, has held that the terminal benefits may be trued-up based on the actual as per the audited accounts. The terminal benefits (liability) for the FY 2016-17 is Rs.3185.72 millions for which the Petitioner has submitted actuarial valuation report for consideration of the Commission while seeking true up of the same.

Particulars (Rs. Millions)	Approved	Actual	Difference
Terminal Liability	2,093.11	3,185.72	(1,092.61)

1.2.5 REPAIR AND MAINTENANCE COST (R&M)

The Petitioner has submitted that the actual R&M cost incurred in the FY 2016-17 is lower than the approved R&M cost and also that the entire R&M expenses incurred is related to

works which are recurring in nature and the Petitioner has applied significant prudence in undertaking these works, the benefit of which can be passed on to the beneficiaries. This is in line with the principle adopted by the Commission in previous True up order dated 30.05.2017.

Particulars (Rs. Millions)	Approved	Actual	Difference
R&M Cost	414.56	232.56	182

1.2.6 ADMINISTRATIVE AND GENERAL EXPENSES (A&G)

The Petitioner has submitted A&G expenses approved by the Commission and actual A&G expenses incurred as provided below:-

Particulars (Rs. Millions)	HERC Approved	Actual	Difference
A&G Expenses	151.69	206.27	(54.58)

It has been submitted that the increase in A&G cost is due to the actual rate of inflation in the economy and certain expenditure items such as rates and taxes, legal and professional fees are unavoidable in nature, which have largely contributed to the increase in A&G expenses. Therefore, it is prayed that the actual A&G expenses may kindly be approved for true up. Hence, the benefit of the same may be passed on the beneficiaries.

1.2.7 RETURN ON EQUITY (ROE)

The Petitioner has submitted that the RoE for the FY 2016-17 has been estimated after taking into account the equity pending allotment. It has been submitted that they have estimated RoE in line with the approach adopted by the Commission in its previous True up Order dated 30.05.2017 i.e. 50% of the equity portion of assets capitalized has been considered for estimating the amount of equity eligible for RoE. The rate of return on equity has been considered at 10% in line the approach adopted by the Commission in its MYT Order dated 29th May 2014.

The Petitioner has submitted that details of the approved RoE vis-a-vis the entitled RoE as under:-

Particulars(Rs. Millions)	HERC Approved	HVPNL Proposed	Difference
Return on Equity	1,704.60	2,052.70	(348)

1.2.8 DEPRECIATION

The Petitioner has submitted that the actual average rate of depreciation is different from the average depreciation rate considered by the Commission. This is mainly due to the change in composition of assets as substantial part of the assets added during the year are depreciable

at rates different from 5.28% as provided in the MYT Regulations 2012 and is reflected in the slightly lower actual depreciation during the FY 2016-17.

It has been further submitted that the principle adopted by the Commission in its True up order is being followed. Accordingly, depreciation chargeable to SLDC assets and assets financed through consumer contribution has been deducted for computing the depreciation amount for the Transmission Business.

The Petitioner has sought true-up of the depreciation amount for the FY 2016-17 on actual basis, as under:-

Particulars (Rs. Millions)	HERC Approved	Actual	Difference
Depreciation	3,285.91	3,313.91	(28)

1.2.9 INTEREST AND FINANCE CHARGES

The Petitioner has submitted that the actual interest and finance charges for borrowings incurred by them are lower as compared to that approved by the Commission, as under:-

Particulars (Rs. Millions)	HERC Approved	Actual	Difference
Interest Cost (Capex Loan)	2,655.75	2,499.06	156.69

The Petitioner has prayed that the Commission may allow the same based on the actual interest cost as per the audited annual accounts for the FY 2016-17.

The breakup of finance cost (interest expenses) of transmission business as per audited annual accounts is provided below.

Particulars (Rs. Millions)	Interest Cost Incurred
Interest on Cap-Ex Loan	2,499.06
Interest on Working Capital loan	212.01
Interest on Uday Bonds	332.21
Interest on Pension/PF Bonds	170.21
Interest on bonds issued by HVPN on behalf of Discoms	1,421.96
Other Finance Charges	42.66
Total interest incurred by HVPN	4,678.11

It has been submitted that the PF Bonds and Pension Bonds have been taken over by the Government and UDAY bonds of Rs 855 Crores have been issued @ 8.18% per annum interest rate has been issued in its place. Interests on UDAY bonds issued for have been accordingly considered as per actuals.

1.2.10 INTEREST ON WORKING CAPITAL

The Petitioner has submitted that the interest on working capital approved by the Commission on the ARR was in line with the MYT Regulations 2012. The actual Interest on

Working Capital incurred by the Petitioner is lower than that approved by the Commission. Therefore, the Petitioner has prayed that the Commission may approve the actual interest on working capital incurred by the Petitioner, which is based on the audited accounts for the FY 2016-17 as under:-

Working Capital/Bank Loans (Rs. In Millions)	Approved	Actual	Difference
Interest	253.8	212.01	41.79

1.2.11 INCENTIVES AND PENALTY (TRANSMISSION SYSTEM AVAILABILITY)

The Petitioner has submitted that the transmission system availability has been lower than the normative availability during the FY 2016-17, for which the penalty is to be levied. The penalty of Rs. 12.921 million for the FY 2016-17 based on system availability has been estimated and the Petitioner has proposed to pass on the impact of such penalty levied on the ARR of HVPNL to the consumers by reduction of its ARR. The remaining 50% share of Rs 12.921 million shall not be passed on to the beneficiaries.

1.2.12 LOSS DUE TO FOREIGN EXCHANGE RATE VARIATION (FERV)

The Petitioner has proposed recovery of FERV, in line with the Commission's order dated 31.03.2016, Clause 3.4.11, whereby the principle of recovery based on cash loss due to FERV has been considered, as reproduced below:-

"...However, in order to spread the incidence of recovering FERV, the cash payment basis can be adopted for the purpose of regulatory practice. Under this methodology, the Licensee will claim the FERV as and when the repayment of loan is made. However, care should be taken that the FERV which has been capitalized should not be recovered again while making payment of the loan. Accordingly, the capitalized value of FERV will be divided into 50 instalments (based on the number of instalments of loan repayment) and while calculating the FERV on the each repayment installment, the additional FERV will be reduced by 1/50th of the FERV already capitalized."

Accordingly, in order to estimate the incidence of FERV to be capitalized, the Petitioner has considered recovery of Rs. 4.20 Cr up to the previous year, while for the FERV capitalized during FY 2016-17, is Rs.8.52 Cr., the amount has been spread over 45 instalments, as only 45 instalments are yet to be paid. The details are provided as below:-

Year	FERV Capitalized (in Rs . Cr.)	FERV Charged to P&L (in Rs Cr.)	Total FERV
2011-12	42.42	15.9	58.32

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Year	FERV Capitalized (in Rs . Cr.)	FERV Charged to P&L (in Rs Cr.)	Total FERV
2012-13	27.77	6.6	34.37
2013-14	79.16	15.8	94.96
2014-15	30.72	13.43	44.15
2015-16	17.38	43.77	61.16
Total	197.45	95.5	292.96
Capitalization recovery for 47 Instalments (for amount till FY 2017)	4.20		
2016-17	(8.52)	(18.22)	(26.73)
Capitalization recovery (for 45 instalments)	(0.19)		
Total FERV Capitalization to recovered in current year	4.01		

The details of calculation of FERV, proposed as part of true up is provided in the table below:-

Calculation of FERV on 1st instalment Paid in 2016-17	Figure	(in Crore)
Amount received (1st Instalment of loan drawl)	USD	2.76
Repayment – 3 rd instalment for FY 16-17	USD	0.37
Amount Paid – 4th instalment for FY 16-17	USD	0.41
Exchange Rate at the time of receipt of instalment	INR	45.82
Exchange Rate at the time of Payment of 3rd instalment - in FY16-17	INR	67.08
Exchange Rate at the time of Payment of 4th instalment - in FY16-17	INR	68.05
FERV on 3 rd instalment	INR	7.92
FERV on 4th instalment	INR	9.21
Less: Recovery of capitalized FERV	INR	4.01
Net FERV on 3 rd and 4 th Instalment of loan	INR	13.11

The Petitioner has requested the Commission to allow the recovery of FERV as quantified in the table above.

1.2.13 REVISED ARR FOR TRANSMISSION BUSINESS (FY 2016-17)

The ARR approved by the Commission for the FY 2016-17 and the revised ARR submitted by HVPNL for true-up, is summarized below:-

REVISED ARR FOR TRANSMISSION BUSINESS FOR FY 2016-17 (RS. MILLIONS)

ARR - Transmission (In Rs Million)	HERC Approved (FY 16-17) – Order Dt. 31.03.2016	Proposed for True Up	Surplus/(Gap)
O&M expenses	5165.85	6875.09	(1,709.24)
Employees' cost	2506.49	3250.53	(744.04)
Terminal benefits	2093.11	3185.72	(1,092.61)
R&M expenses	414.56	232.56	182.00
A & G Expenses	151.69	206.27	(54.58)
Depreciation	3285.91	3,313.91	(28.00)
Interest on Loans	2655.75	2,499.06	156.69
Interest on Uday Bonds		332.21	(332.21)
Interest on Pension/PF Bonds	6.72	170.21	(163.49)
Interest on working Capital	253.80	212.01	41.79
Other Finance Charges		42.66	(42.66)
Share of SLDC Charges			-
Total Expenditure	11361.31	13445.14	(2,083.83)
Return on Equity	1704.60	2052.70	(348.10)
Less Non Tariff Income	(314.38)	(354)	39.19
Total ARR		15,144	(15,144.27)

Less SLDC expenses forming part of O&M expenses	(69.00)		(69.00)
True-up for FY 2014-15 for Transmission	902.97*	902.97	-
Carrying cost on true-up for FY 2014-15	97.97*	97.97	-
Add: Loss Due to Foreign Exchange Rate Variation		131.144	(131.14)
Total ARR		16,276	
Add: Incentive based on Transmission Availability passed on to beneficiary		(12.92)	12.92
Aggregate Revenue Requirement	13683.47	16,263	(2,579.96)

In view of the difference between the HERC approved and actual expenditures as per the audited accounts for the FY 2016-17, truing-up amount of Rs. 2579.96 million has been proposed by HVPNL for the FY 2016-17 including an incentive of Rs. 12.92 million for the FY 2016-17 which has been proposed to be carried forward. HVPNL has prayed that the Commission may approve the same along with carrying cost.

1.3 REVISED ARR OF SLDC (FY 2016-17)

The table that follows provides the details of ARR approved for SLDC business by the Commission in its Tariff Order for the FY 2016-17 and the amount actually incurred as per the audited accounts. In line with the methodology adopted for the revised ARR for Transmission business, HVPNL has submitted that the true-up for SLDC business may also be considered and approved by the Commission. The details provided by HVPNL are as under:-

ARR OF SLDC FOR FY 2016-17

SLDC ARR (Rs. Million)	HERC Approved	Actual	Surplus/ (gap)
O&M Cost	69	54.61	14.39
Employees' cost		34.32	
A & G Expenses		14.29	
R&M expenses		6.00	
Depreciation	50.00	8.23	41.77
Interest on loan	50.00	3.33	46.67
Interest on Working Capital	3	2.32	0.67
Non-Tariff Income	(1.00)	(0.76)	0.24
Less: true-up for FY 2014-15	(54.98)		(54.98)
Annual Revenue Requirement	116.02	122.34	48.28

1.3.1 REVIEW OF ANNUAL REVENUE REQUIREMENT FOR THE FY 2017-18 AND THE FY 2018-19

1.3.2 CAPITAL EXPENDITURE

It has been submitted that in order to meet the power requirement of the consumers, the petitioner intends to revise the Capex plan approved for the FY 2017-18 based upon the latest available data from the field and system operations. The petitioner has requested the Commission to review the Capex for the control period from FY 2018-19 to 2022-23 and approve the revised capex plan for the FY 2017-18. The Petitioner has further requested

Commission to approve the Capital expenditure plan for the control period for the FY 2018-19 to FY 2022-23 as submitted in the Business cum Capital Expenditure Plan for the period. The sub-sections below details out the revised capital expenditure proposed by the Petitioner.

CAPITAL EXPENDITURE (RS. MILLIONS)

Works	FY 2017-18 (Revised Estimates)	FY 2018-19 (Proposed)
Substation	4,800	8,745
Lines	837	2,278
Information Technology	111	14
Land	77	79
Miscellaneous	200	200
Total	6,025	11,316

HVPNL has submitted that the considering the efficient performance of HVPN in past, with low transmission loss and high system availability, HVPNL has focused on catering to the increasing demand in the State. The Licensee is committed towards making quality power supply available and further improving the reliability by augmenting or strengthening of the existing transmission system.

HVPNL has further submitted that the new substations have been planned along with the requisite lines, while older, inefficient equipment at the existing stations has been considered for replacement with modern and efficient equipment. New transmission lines are planned for power evacuation, meeting the load demand, and the current lines will be strengthened and renovated as required. It is planned that the capital expenditure will be focused mainly on meeting the increasing demand and after meeting the demand, the focus will shift towards the maintenance and upkeep of the network for uninterrupted transmission of power. Further meticulous planning has been put in to ensure effective modernization of the system through IT implementation and negotiate problems and delays faced on account of Land and Right of Way issues.

SUBSTATIONS

HVPNL has submitted that the adequate infrastructure is required to ensure that unforeseen breakdowns in few parts of the system do not have any adverse impact on the availability of overall transmission system. Therefore, the capacity addition and the necessary expenditure are planned in manner to create sufficient redundancies in the system considering the state of existing infrastructure and growth in power demand. The revised expenditure related to proposed substations in two transmission zones is summarized in the table below:

Substations (In Rs. Millions)	FY 2017-18	FY 2018-19	FY 2019-20
Panchkula Zone	1503.3	2671.8	2039.6
Hisar Zone	3296.7	6073.0	4901.4
Total	4800.0	8744.8	6941.0

TRANSMISSION LINES

HVPNL has submitted that the number of new transmission lines have been proposed together with repair and maintenance activities for the existing lines. The year-wise expenditure planned on the transmission lines in the two zones has been presented in the table below:

Transmission lines (In Rs. Millions)	FY 2017-18	FY 2018-19	FY 2019-20
Panchkula Zone	216.0	926.5	754.4
Hisar Zone	621.4	1351.2	1238.3
Total	837.4	2277.7	1992.7

The main purposes for the expenditures on transmission line is to deport bulk amount of power near to load centers with focus on creating redundancy by means of improvement/strengthening, supporting the load growth and facilitating the evacuation of power from the newly Commissioned generating plants.

INFORMATION TECHNOLOGY

HVPNL has submitted that the expenditure on information technology is planned with the intention of equipping the personnel with tools to monitor and handle the transmission system efficiently and to access real time data for online system monitoring.

Information Technology (In Rs. Millions)	FY 2017-18	FY 2018-19	FY 2019-20
Panchkula	55.4	6.9	6.3
Hisar	55.4	6.9	6.3
Total	110.8	13.7	12.5

LAND

HVPNL has submitted that the Land acquisition and RoW settlements occupies major proportion of total capital investment plan. The yearly expenditure is presented in the table below.

Land (In Rs. Millions)	FY 2017-18	FY 2018-19	FY 2019-20
Panchkula	2.9	3.0	3.1
Hisar	73.9	76.5	.01
Total	76.9	79.5	3.2

MISCELLANEOUS ITEMS

HVPNL has submitted that miscellaneous works include civil works, one-time procurement of testing and T&P equipment, replacement of conventional insulator with polymer / Anti Fog insulator, damage of tower etc. due to wind storm and any unseen storm expenditure / Augmentation etc.

Miscellaneous (In Rs. Millions)	FY 2017-18	FY 2018-19	FY 2019-20
Total	200	200	200

1.3.3 REVISED CAPITAL INVESTMENT PLAN FOR THE FY 2017-18 AND THE FY 2018-19 TO FY 2022-23

It has been submitted that HVPNL, being the State Transmission utility of Haryana, has to manage a large transmission system which is expected to increase rapidly in the coming years. To facilitate easy monitoring of the transmission system, the administration/ management of the transmission system of HVPNL has been divided into two zones i.e. Hisar and Panchkula, with each zone comprising of three circles. The Hisar Zone comprises of Hisar, Gurgaon and Faridabad Circles, while the Panchkula Zone is divided in Panchkula, Karnal and Rohtak circles. The circles are further divided into divisions, as per the details provided in the table below:-

HVPNL						
Zone	Hisar			Panchkula		
Circle	Hisar	Faridabad	Gurgaon	Panchkula	Karnal	Rohtak
Division	Hisar Bhiwani Sirsa Jind	Faridabad Palwal	Gurgaon Manesar Rewari	Ambala Madanpur Yamunanagar	Karnal Kaithal Kurukshetra	Rohtak Panipat

HVPNL had prepared the capex plan after taking into consideration all the factors which would affect the operations of the company. The capex plan includes the details of various capital expenditure schemes in the above identified areas and their estimates for the year FY 2017-18 and FY 2018-19 TO FY 2022-23.

The capital investments of HVPNL can largely be categorized as under:-

- 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 fresh investments.

Sources of Funding:-

HVPNL has sought to utilize debt that is available at a low cost to ensure that the burden on the beneficiaries can be minimized. HVPNL has negotiated with the financing institutions and ensured that the cost of capital is low and the terms of debt are favorable to the Company. A number of financing institutions have tied up with the Company to provide the necessary funding for the capital works.

The main sources of loan for the expenditure are REC and World Bank. Other works are being funded by financial sources like Power Finance Corporation, Rural Electrification Corporation, National Bank for Agricultural and Rural Development etc. and the Japan International Cooperation Agency. Some schemes are in the process of attaining funding as they have been proposed to the financing institutions and approval for the requisite loans is awaited. A few schemes have been approved by HVPNL and are in the process of being proposed for loans.

A number of schemes have also been undertaken from the grants and deposits provided by HSIIDC; therefore no investment is being made by HVPNL for such projects. The average interest rate for the World Bank loans is about 0.53%, but an additional 9.47% is considered to recover the cost of hedging the risk of foreign exchange rate variation

1.3.4 OPERATION & MAINTENANCE EXPENDITURE

The Petitioner has submitted that the Commission, in its Order dated 31st March 2017, had approved various components of O&M expense i.e. employees' cost, R&M expenses and A&G expenses based on the actual expenses incurred in the FY 2015-16 after considering inflationary factor of 2.63%. Since the FY 2016-17 is over and the audited accounts of the FY 2016-17, as well as Consumer Price Index (CPI), and the Wholesale Price Index (WPI) for the year are now available, HVPN has, accordingly, proposed revision of O&M components for the FY 2017-18. Further, the petitioner in line with amended MYT regulations has proposed that the O&M expenses for the extended year of the control period i.e. for FY2018-19 considering FY 2016-17 as the baseline for the purpose of projections.

1.3.5 EMPLOYEES' COST

For employees' cost, the Petitioner has considered actual employees' cost as per audited accounts of the FY 2016-17 of Rs. 3250.53 Millions after excluding capitalization and SLDC employees' cost as per audited accounts has been considered. The inflation factor growth has been considered as per methodology approved by the Commission in line with the MYT Regulations, 2012 and only the necessary addition in manpower has been considered. Additionally, HVPNL has submitted that the terminal benefits estimate for the MYT Control Period is based on the actuarial valuation report. Further, the impact of new employees added during FY 2017-18 and the Control Period and Retirees have also been considered while computing the Employee Cost. The details provided by HVPNL are as under:-

Particulars (Rs. Millions)	2017-18 Revised	2018-19 Revised
Employee cost (excluding Terminal benefits)	3,366.28	3,933.34
Inflation	4.29%	4.32%

Particulars (Rs. Millions)	2017-18 Revised	2018-19 Revised
Terminal Benefits	4,335.45	2,993.72
Revised Employee Cost	7,701.73	6,927.06
Approved Employee Cost (As per 31st March 2017 Order)	7,293.65	

Additionally, The Petitioner has submitted that the impact of addition and retirement of employees during the Control Period has been considered on the basis of per employee cost of FY 2016-17 for the Regular employees of HVPNL. The per employee cost (Regular Employees) of FY 2016-17 works out to 0.667 Million for FY 2016-17 excluding the contractual employee cost, based on the actual accounts duly audited by statutory auditor.

The Net additional employee cost on account of Addition and Retirement during the Control Period is shown in the Table below:

Net Employees Cost	(Rs. Millions)
Net Employee Cost to be added in FY 2017-18	(47.29)
Net Employee Cost to be added in FY 2018-19	890.50
Net Employee Cost to be added in FY 2019-20	51.29
Net Employee Cost to be added in FY 2020-21	(63.27)
Net Employee Cost to be added in FY 2021-22	(48.62)
Net Employee Cost to be added in FY 2022-23	(37.30)

The impact of above Employee Cost for each year has been considered 50% in the first year and remaining 50% in the next year. Thus, the additional employee cost added each year for the Control Period is shown in the Table below:

Transmission Business(Rs. Millions)	FY 18	FY 19	FY 20	FY 21	FY 22	FY 23
Net Employees Cost Added	(23.64)	421.60	470.89	(5.99)	(55.95)	(42.96)

Further, the Petitioner has prayed that the Commission may allow the revised employee cost for the FY 2017-18 and projected employee cost for the MYT Control period as per above table.

1.3.6 R&M EXPENSE

It has been submitted that the MYT Regulations, 2012 provides that the R&M expenses shall be computed as a percentage of the Gross Fixed Assets (GFA) with constant 'K' factor being 0.5% for the entire Control Period. The R&M expenses for FY 2017-18 have been revised considering the revised opening GFA for FY 2017-18. Further, the R&M for Control Period from FY 2018-19 to FY 2022-23 has been projected based on the GFA projected for the Control Period as per the Capital Expenditure Plan.

The R&M expenses have been revised considering the revised opening GFA for the FY 2017-18 as under:-

Particulars (Rs. Millions)	2017-18	2018-19
Revised GFA (Average)*	82,176.35	92,265.42
Revised R&M Expense	443.20	556.76
Approved R&M Cost (As per 31st March 2017 Order)	435.72	-

*Note : The allocated SLDC assets have been reduced from the HVPN GFA for the FY 2017-18 while determining the R&M Expense.

1.3.7 A&G EXPENSE

As per the MYT Regulations 2012, the FY 2016-17 A&G cost has to be the baseline for projection of A&G expenses, accordingly the Petitioner has projected the A&G expenses for the Control Period. The Petitioner has submitted that the proposed A&G expenses may be allowed by the Commission, as these reflect the A&G expenses likely to be incurred by them. The details are as under:-

Particulars (Rs. Millions)	2017-18	2018-19
Revised A&G Cost	215.12	224.41
Approved A&G Cost as per 31st March 2017 Order	166.31	

Further, the Petitioner has prayed that the Commission may approve the revised O&M expenses for the FY 2017-18 and the Control Period from FY 2018-19 to FY 2022-23 as proposed by them.

1.3.8 DEPRECIATION

The Petitioner has proposed the depreciation for FY 2017-18 and Control Period from FY2018-19 to FY 2022-23 separately proposed depreciation for the existing assets and assets likely to be added in the Control Period, considering the revised capital expenditure schedule, as under:-

Existing Assets (Rs. Millions)	2017-18	2018-19
Depreciation during the year	3,523.49	3,523.49
Less: Depreciation on assets through consumer contribution	201.35	201.35
Less: Depreciation on SLDC Assets	8.23	8.23
Total depreciation on existing assets	3,313.91	3,313.91

The Depreciation on existing assets have been considered the same for each year of the Control period based on the actual depreciation for FY 2016-17. As shown in the Tables below:

Particulars (Rs. Millions)	Actual FY 2016-17
Opening	75,659.87
Additions	3,043.34
Retirements	175.88
Closing	78,527.33
Depreciation	3,523.49
Less: Depreciation on SLDC assets	8.23
Less: Depreciation on Assets financed through consumer contribution	201.35

Depreciation for True up	3,314
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The computation of depreciation on new assets by HVPNL is provided below:-

New Assets (Rs. Millions)	2017-18	2018-19
Opening GFA	-	7,296.85
Additions	7,296.85	12,881.29
Closing GFA	7,296.85	20,178.14
Rate of Depreciation	5.36%	5.40%
Depreciation during the year	193.66	734.96

The CWIP and GFA addition during FY 2017-18 and each year of the Control Period is shown in the Table below:-

CWIP and GFA(Rs. Millions)	FY 17-18 Revised	18-19 Proposed	19-20 Proposed	20-21 Proposed	21-22 Proposed	22-23 Proposed
Opening	7,363.62	6,091.84	4,526.31	3,659.77	2,697.43	1,809.70
Capex during year + IDC	6,025.06	11,315.76	9,149.43	6,743.57	4,524.26	3,064.80
Transferred to GFA	7,296.85	12,881.29	10,015.96	7,705.91	5,411.98	3,648.58
Closing	6,091.84	4,526.31	3,659.77	2,697.43	1,809.70	1,225.92

The Petitioner has submitted that while estimating depreciation for new assets, they have considered the weighted average rate of depreciation as derived from the proportion of different category of assets being added.

1.3.9 INTEREST AND FINANCE CHARGES

The interest and finance charges, as proposed by HVPNL, on the existing borrowings likely to be incurred by them are presented below:-

Loan Schedule (Existing Borrowings, Rs. Millions)	2017-18	2018-19
Opening	35,223.42	28,986.31
Addition	-	-
Repayments	6,337.12	5,337.12
Closing	28,986.31	23,649.19
Total Interest	3,215	2,632
Interest Capitalized	186.72	152.83
Interest Charged to P&L	3,028.76	2,478.95

It has been submitted that besides the above loans, the Petitioner has plans for significant capital expenditure during the Control Period. Hence, most of the additional loans which are required to be drawn have been already tied-up with funding agencies. The interest cost has been estimated based on the loans proposed to be drawn during FY 17-18 and the Control Period from FY 2018-19 to FY 2022-23, based on the funding requirements, while the interest capitalized has been based on audited accounts of last year's interest capitalized. Therefore, HVPNL has prayed that the Commission may allow interest cost for the Control Period as proposed by them as per the table below:-

Loan Schedule (New Borrowings, Rs. Millions)	2017-18	2018-19
Opening	-	5,780
Addition	5,039.66	9,067.09

Repayments	-	503.97
Closing	5,039.66	13,602.79
Interest Rate	9.86%	9.85%
Interest Capitalized	14.43	53.33
Interest charged to P&L	234.00	865.11

HVPNL has further submitted that the PF Bonds and Pension Bonds have been taken over by the Government and UDAY bonds of Rs 855 Crores have been issued @ 8.18% per annum interest rate has been issued in its place. Interests on UDAY bonds issued for have been accordingly considered as per actual. The petitioner has computed the Interest on UDAY Bonds for FY 2017-18 and the Control Period from FY 2018-19 as shown below:

UDAY Bonds, Rs. Millions	2017-18	2018-19
Interest on UDAY Bonds	279.76	139.88

It has been further submitted that the above interest on UDAY Bonds are to be incurred by the Petitioner which must be allowed to be recovered, as it is a financial burden on the Petitioner.

1.3.10 INTEREST ON WORKING CAPITAL (IOWC)

The IOWC, based on the principles set out in the MYT Regulations, 2012, revised for the Control Period by HVPNL, is as under:-

Working Capital (Rs. Millions)	2017-18	2018-19
O&M	696.67	642.35
Maintenance spares	1254.01	1156.23
Receivables	1564.17	1549.12
Total	3514.85	3347.71
Interest Rate	12.60%	12.45%
Interest on Working Capital	442.87	416.79

The petitioner has further submitted that the base rate prevailing based on the SBI's website during the 1st April 2017 was 9.1% and adding a margin of 350 bps, the interest rate on working capital for FY 2017-18 has been worked as 12.6%. However, base rate have been revised to 8.95% effective from October 1, 2017 thus adding a margin of 350 bps, the interest rate on working capital is estimated to be 12.45% for each year of the Control Period starting from FY 2018-19 to FY 2022-23. It is requested that the same may be considered by the Commission while approving the revised ARR for FY 2017-18 and projected ARR for the Control Period.

1.3.11 RETURN ON EQUITY (ROE)

The revised RoE has been estimated by HVPNL based on the expected equity contribution on the new capex proposed to be incurred by the Petitioner. The rate of return

considered for the return on equity is 14% in line with the MYT Regulations, 2012. The details are as under:-

Particulars (Rs. Millions)	2017-18 Revised	2018-19 Revised
Paid up equity in beginning	21,836.34	23,361.28
Add: share application money pending allotment	2,639.50	0.00
Equity to be considered for Transmission business	24,475.84	23,361.28
Less: Equity related to transmission works not yet commissioned (opening CWIP)	2,209.09	1,827.55
Add: 50% of Equity portion of GFA	1,094.53	1,932.19
Closing equity for RoE	23,361.28	23,465.92
Rate of Return	14%	14%
RoE - Proposed	3,270.58	3,285.23

HVPNL has submitted that the equity base considered for revised proposal of RoE has been adjusted for the CWIP, as Commission has established in its approach for approval of ARR that such returns shall not be provided on the equity invested in the capital works in progress.

It has been further submitted that the rate of return on equity is taken to be 14% on the applicable equity portion for the control period considering high performance targets are set. The technical performance of HVPNL has been efficient with system availability above 99% along with low transmission losses in the past years.

HVPNL has submitted that the 20% of UDAY bonds shall be converted into equity during each year till FY 2019-20. This equity portion has been added in the equity added in other equity in the financial statements. However, no return has been claimed over this equity arising from UDAY Bonds. Therefore, it has been prayed that the above RoE may be allowed in the revised ARR for MYT Control Period.

1.3.12 NON-TARIFF INCOME

The non-tariff income has been proposed by HVPNL in line with the actual non-tariff income during the FY 2016-17 i.e. Rs.354 million for FY 2017-18 and for each year of the control period from FY 2018-19 to FY 2022-23.

1.3.13 AGGREGATE REVENUE REQUIREMENT (ARR)

As per the submissions in the preceding paragraphs, HVPNL has revised the ARR for the FY 2017-18 and projected for the FY 2018-19 as per table below:-

Financial Year	2017-18 (Rs Million)		2018-19 (Rs. Million)
Particulars	HERC approved vide Order dated 31.03.2017	HVPNL (Revised Proposal)	HVPNL Proposed
O&M Cost	7,895.68	7,895.68	8,360.05

HERC ORDER ON TRANSMISSION TARIFF AND SLDC CHARGES FOR FY 2018-19, ANNUAL PERFORMANCE REVIEW FOR THE FY 2017-18 & TRUE-UP FOR THE FY 2016-17

Financial Year	2017-18 (Rs Million)		2018-19 (Rs. Million)
Particulars	HERC approved vide Order dated 31.03.2017	HVPNL (Revised Proposal)	HVPNL Proposed
Interest on Loan	2,111.23	2,111.23	3,262.76
Interest on UDAY Bonds	0.00	0.00	279.76
Depreciation	3,475.97	3,475.97	3,507.57
Interest on Working Capital	308.31	308.31	442.87
Return on Equity	1,859.33	1,859.33	3,270.58
Share of SLDC Charges	0.00	0.00	5.44
Less:- Non-Tariff Income	(232)	(232)	(354)
Total ARR	15,418.52	15,418.52	18,775.46

The Petitioner has prayed that the Commission may approve the revised ARR for the FY 2017-18 and projected ARR for the FY 2018-19 as proposed above and allow recovery of the variation in the transmission charges for the FY 2016-17 in the ARR for the FY 2018-19.

1.4 REVENUE GAP AND CARRYING COST

In view of the true-up of the FY 2016-17 and revised ARR for the FY 2017-18, the revenue gaps computed by the Petitioner for the respective years are provided in table below:-

HVPNL Proposed Revenue Gap (Rs. Millions)

Financial Year	2016-17	2017-18
Approved ARR	13683.47	15418.52
Proposed Revised ARR	16263.43	18775.46
Revenue Surplus /(Gap)	(2,580)	(3,357)

The Petitioner has prayed that the Commission may allow recovery of the revenue gap of FY 2016-17 as well as the revenue gap on account of revision in the APR of the FY 2017-18 in the Transmission tariff charge to be approved by the Commission for the FY 2018-19 and also allow carrying cost on the under-recovered amount in line with the MYT Regulations, 2012. The carrying cost computed by the Petitioner pertaining to the revenue gap for the FY 2016-17 and the FY 2017-18, after considering the applicable SBI base rate and appropriate margin, is as under:-

Particulars (Rs Million)	FY 2016-17	FY 2017-18	Total
Opening Revenue Gap (including carrying cost)	0.00	2662.52	
Addition	2579.96	3356.94	6,019.46
Closing Revenue Gap	2579.96	6019.46	
Interest Rate	12.80%	12.60%	
Carrying Cost	82.56	546.97	629.52

HVPNL has prayed that the Commission may include the carrying cost of Rs 629.52 million in the ARR of the FY 2018-19 for recovery through Transmission tariff and charges. It

has been further submitted that while calculating carrying cost HVPNL has assumed that full cost will be recovered in the beginning of the FY 2018-19.

1.5 UNITARY CHARGES (JHAJJAR KT TRANSCO PRIVATE LTD)

The Petitioner has submitted that the Commission has granted Transmission license to M/s Jhajjar KT Transco Private Ltd (JKTPL) on 26th October, 2010. The Licensee is under commercial operation w.e.f 12th March 2012.

As per Transmission Service Agreement (TSA) approved by the Commission (clause 26.8.2); the applicable monthly Unitary Charges is being paid by HVPNL to JKTPL. The base Unitary Charge for the accounting year, in which COD was declared i.e. 2011-12, was Rs. 4,50,00,000/-, and the same, as per the TSA, is subject to adjustment annually by decreasing the Base Unitary Charges for the immediately preceding Accounting Year by 3% and also on account of 40% of the variation in the Whole Sale Price Index.

It has been further submitted that the calculation of monthly Unitary Charges for current financial year (2017-18) is as under:

Sr. no	Description	Amount in Rs.
1	Monthly Base Unitary Charge as per Clause 26.2.1 of TA for 2011-12	45,000,000
2	Yearly reduction (%)	3.0%
3	Monthly Base Unitary Charge for 2017-18	37483739
4	WPI for Jan 2010 (Base Accounting Year)	135.2 (published by the Ministry of Industry, GOI)
5	WPI for Jan., 2017 preceding the Accounting Year	185.1 (published by the Ministry of Industry, GOI)
6	Increase in WPI (%)	36.91%
7	WPI Index (40 % of WPI increase) (%)	14.76%
8	Increase in Base Unitary Charge linked with WPI	5533837
9	Indexed Unitary Charge (Rs) (Sl.No.3+8)	43,017,576
10	System Availability (%)	100% (Assuming)
11	Normative Availability (%)	98
12	Incentive due to System Availability	877910
13	Incentive due to less Transmission Losses	176814
14	Unitary Charge + Incentives (Sl.No.9+12+13)	44,072,300
15	Monthly Unitary Charges (In Millions)	44.072

The expected Unitary Charges for the next FY 2018-19 is about Rs 44.1 Million per month (approx.) keeping in view the expected increase in WPI and yearly reduction of Base Unitary Charge by 3%.

The Petitioner has prayed that the Commission may consider the above proposed unitary charges as part of annual Transmission charges to be approved for the FY 2018-19.

1.6 YEARLY TRANSMISSION CHARGES (YTC) FOR TRANSMISSION LINES OPERATING AS INTER-STATE TRANSMISSION SYSTEM (ISTS)

HVPNL has submitted that in compliance of the Central Electricity Regulatory Commission's Order dated 17.09.2015, the petitioner has also calculated and included YTC for the FY 2018-19 based on tentative line lengths (ckm.) to be added in the corresponding year. Further, in line with the approach adopted by the HERC in its Order dated 31.03.2016, the petitioner has proposed to adjust the YTC charges against the ARR for the FY 2018-19.

Name of Lines	Length (ckt kms.)	YTC 2018-19 (Rs Million)
220 kV S/C Bhiwadi-Rewari line Rajasthan-Haryana)	23.76	28.04
220 kV D/C Madanpur Panchkula)-Kunihar (HP) line with LILO one Ckt. At 220 kV S/S Baddi (HP) [Haryana Portion 40.5 Km=81 Ckt. km]	65.00	59.95
Total		87.99

Accordingly, the Petitioner has prayed that the Commission may allow the YTC for intra-State lines operating as ISTS and its adjustments thereto as proposed.

1.7 SLDC ARR

The Petitioner has proposed to revise the capital expenditure envisaged during the remaining MYT Control Period. The table below provides the details of proposed capital expenditure for the SLDC for the FY 2017-18 and the FY 2018-19:-

Year	FY16-17 (Revised)	FY17-18 (Proposed)
Capital Expenditure (Rs Million)	100	50

Based on the above revised capital expenditure plan for FY 17-18, projected capital expenditure for the MYT Control Period and actual expenses for FY 16-17, the revised annual revenue requirement for FY 2017-18 and projected ARR for the MYT Control Period i.e. from FY 2018-19 for the SLDC has been estimated as presented in the table below:

Particulars (Rs Million)	FY 2017-18 (Proposed)	FY 2018-19 (Proposed)
O&M Cost	56.04	53.11
Interest on Loan	24.73	3.25
Depreciation	43.48	10.18
Interest on Working Capital	3.00	2.28
Non-Tariff Income	(1.00)	(0.76)
Less:- Interest Cost on true-up for FY 2015-16	(18.98)	
Annual Revenue Requirement	107.27	68.06

The Petitioner has prayed that the Commission may approve the ARR of the SLDC for the FY 17-18 and for the Control period from FY 2018-19.

1.8 ANNUAL TRANSMISSION CHARGES FOR THE FY 2018-19

HVPN has submitted that the annual transmission charges are to be determined as per the provision of Regulation 50 of the MYT Regulations, 2012 as under:-

“Transmission Licensee shall recover the transmission charges at the normative annual transmission system availability factor specified for it by the Commission”.

The details of the annual transmission charges proposed by the HVPNL are summarized in the table below:-

HVPNL'S PROPOSED TRANSMISSION TARIFF FOR THE FY 2018-19

Particulars	Amount (Rs. Million)
Aggregate Revenue Requirement for FY 2018-19	18,595.7828
Gap on account of True-up for FY 2016-17	2,579.9635
Gap on account of Review of FY 2017-18	3,356.9401
Carrying Cost on Gap for FY 2016-17 & FY 2017-18	629.5239
Adjusted ARR	25,162.2102
Unitary Charges for JKTPL	529.2000
Less YTC for Lines Operating As ISTS Lines FY 18-19	87.9895
Total Transmission Charges	25,603.4207
Monthly Transmission Tariff	2,133.6184
Ratio Of Average Transformation Capacity	
UHBVNL	45.6237%
DHBVNL	53.5369%
TPTCL	0.6205%
NTPC Ltd	0.0250%
CRPCPL	0.0037%
Northern Railways	0.1902%
Monthly Transmission Tariff - UHBVN (based on ratio of Transmission capacity)	973.4354
Monthly Transmission Tariff - DHBVN (based on ratio of Transmission capacity)	1,142.2731
Monthly Transmission Tariff - TPTCL (based on ratio of Transmission capacity)	13.2397
Monthly Transmission Tariff - NTPC (based on ratio of Transmission capacity)	0.5339
Monthly Transmission Tariff - CRPCPL (based on ratio of Transmission capacity)	0.0790
Monthly Transmission Tariff - Northern Railways (based on ratio of Transmission capacity)	4.0573

It has been submitted that in case any addition of new beneficiary, the transmission charges would be charged in proportion of the allotted capacity.

1.9 SLDC CHARGES

As per the amended Regulation 52 of the HERC MYT Regulations 2012 “The annual charges of SLDC determined as per regulations 6 and 16, shall be recovered as a single composite charge from the beneficiaries as under:-

Intra – State Transmission Licensee	8% of the Annual SLDC Charges
Generating Stations and Sellers	46% of the Annual SLDC Charges
Distribution Licensees and Buyers	46% of the Annual SLDC Charges

It has been submitted that in line with the above and HERC MYT Regulation 2012 (1st Amendment), Regulation 2016, petitioner has apportioned the SLDC Charges for FY 2018-19 among the different beneficiaries as per the table below:

Beneficiaries	Installed Capacity / Capacity (in MW)	Amount (in Rs Million)	Total (Rs. Millions) FY 18-19
HVPN @ 8%	-	Amount	6.3022
Generating Companies & Sellers @ 46%	-	Amount	36.2376
HPGCL	2,782.400	Sub-Amount	21.9869
Faridabad Gas Power Plant	432.000	Sub-Amount	3.4137
Mahatma Gandhi Super Thermal Power Station	1,320.000	Sub-Amount	10.4308
Gemco Biomass	8.000	Sub-Amount	0.0632
Star Wire India Ltd	9.900	Sub-Amount	0.0782
Sri Jyoti	9.500	Sub-Amount	0.0751
Shahbad Co-operative Sugar Mills	24.000	Sub-Amount	0.1897
Distribution Licensees and Buyers @ 46%	Transformation Ratio (in %)	Amount	36.2376
UHBVN	45.6237%	Sub-Amount	16.5329
DHBVN	53.5369%	Sub-Amount	19.4005
TPTCL	0.6205%	Sub-Amount	0.2249
NTPC	0.0250%	Sub-Amount	0.0091
CRPCPL	0.0037%	Sub-Amount	0.0013
Northern Railways	0.1902%	Sub-Amount	0.0689
Total (HVPN + Gencos + Discoms)			78.7774

The petitioner has prayed that the Commission may approve the apportionment of SLDC Charges for FY 2018-19 amongst the different beneficiaries as stated above.

1.10 SHORT TERM OPEN ACCESS CHARGES (STOAC)

It has been submitted that the MYT Regulation, 2012 provides 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. Accordingly, HVPNL has prayed that the Commission may decide the Transmission Charges to be

recovered from prospective Short Term Open Access Consumers. The calculation of STOAC submitted by the Petitioner is as per the table below.

HVPNL - PROPOSED STOAC (FY 2018-19)

Particulars	FY 2018-19
Transmission Cost for FY 2018-19(Rs. Million)	18,596
Unitary Charges (Rs. Million)	529.2
Projected Sales for the FY 2018-19 for the distribution Licensee(MU)(based on the submissions made by the UHBVNL & DHBVNL in their APR Petition for FY 17-18)	37,115
Proposed Transmission Charge (Rs./kWh) from STOA Consumer	0.515

It has been submitted that the projected sales for the FY 2018-19 for distribution licensee is based on the submissions made by the Distribution companies of Haryana (UHBVNL & DHBVNL) in their Annual Performance Review (APR) Petition for the FY 2017-18.

1.11 RECOVERY OF SLDC CHARGES FROM SHORT TERM OPEN ACCESS CONSUMERS

It has been submitted that the Short Term Open Access Consumers are required to pay composite SLDC charges as provided in the HERC (Terms and Conditions for grant of connectivity and Open Access for intra-State Transmission and Distribution System), Regulations, 2012 as amended from time to time. As such, HVPNL has prayed that the Commission may decide the SLDC Charges to be recovered from prospective Short Term Open Access Consumers.

1.12 REACTIVE ENERGY CHARGES

Regulation 48 of MYT Regulations, 2012 provides that the reactive energy charges are payable by the Distribution Licensee to the Transmission Licensee as per Regulation 5.5.1 of the Haryana Grid Code (HGC) as amended from time to time. The reactive energy charges paid by the Distribution Licensee, however, shall not be recovered through ARR.

That a generating station shall inject/absorb the reactive energy into the grid as per the directions of State Load Dispatch Centre. Such injection/absorption may be undertaken on the basis of machine capability and in accordance with the directions issued by SLDC as per the provisions of Haryana Grid Code as amended from time to time.

That the reactive energy charges from embedded Open Access Consumers shall be recovered by the Distribution Licensee. 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;

That the DISCOMs, Generators /Long Term Open Access Customers are expected to provide adequate reactive compensation in order to ensure that they do not draw / inject VARs during low in line with the criteria laid under Clause 6.6 of Indian Electricity Grid Code.

That the beneficiaries are expected to provide local VAR compensation such that they do not draw VAR from EHV grid, particularly under low voltage conditions. Accordingly the Grid Code provides VAR exchanges as under:-

The beneficiary pays for VAR drawl when voltage at metering point is below 97%.

The beneficiary gets paid for VAR return when voltage is below 97%.

The beneficiary gets paid for VAR drawn when voltage is above 103%.

The beneficiary pays for VAR return when voltage is above 103%.

As per Clause-6.6 (2) of Indian Electricity Grid Code the VARh shall be @ 10 paise per KVARh w.e.f. 1.4.2010 to be escalated at the rate of 0.5 paise per KVARh per annum thereafter.

HVPN has submitted that they are raising reactive energy bills on the Discoms at rates determined by the CERC and for the FY 2017-18; HVPNL has proposed to charge UHBVN & DHBVN at a rate of 13.5 paise /KVARh w.e.f 1.4.2017 on the basis of the SEMs installed at the interface.

CHAPTER 2

2.1 PROCEDURAL ASPECTS OF THE ARR FILING

The Petitioner, Haryana Vidyut Prasaran Nigam Ltd. (HVPNL), is a State Government owned company and is registered under the Indian Companies Act, 1956. 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 Electricity Act, 2003. Through another notification No. 1/11/2003-1 Power dated 9.12.2003, the State Government 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. HVPNL also holds ownership interest in the shared 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 Government of Haryana notification dated 11.4.2008 and further extended by notification dated 07.02.2014. It has been submitted that BBMB being inter-state generation projects, the power to fix generation tariff for these projects do not fall under the jurisdiction of the State Commission.

2.2 MODIFICATION IN THE TRANSMISSION LICENCE

HVPNL was initially granted Transmission and Bulk Supply Licence [Licence No. 1 of 1999] by the Commission under Section 15 of the Haryana Electricity Reforms 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 and bulk supply of electricity or trading of electricity from HVPNL to HVPNL and subsequently to the Distribution Licensees. Accordingly, in compliance to the provisions of Regulation 22.2 of Form-1 in HERC (Conditions for Transmission Licence) Regulations, 2008 notified by the Commission on 31st October, 2008, HVPNL had submitted application for the modifications in its existing licence. 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) Regulations, 2004 and Section 18 of the Electricity Act, 2003 granted the amended Transmission Licence 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 Licence i.e. Licence No. 1 of 1999, 1st Amendment dated 11.01.2013.

It has been submitted that 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. Hence, HVPNL has filed the

present Petition for true-up of FY 2015-16, Annual (Mid-year) performance review for the FY 2016-17 and determination of ARR for Transmission business & SLDC and for fixation of transmission tariff & SLDC charges for the FY 2017-18 under Section 62 read with Section 64 (3) (a) and Section 64 (6) of the Electricity Act, 2003.

2.3 PUBLIC PROCEEDINGS

In accordance with the provisions of Section 64 (2) of the Electricity Act, 2003, HVPNL published highlights of its petition in abridged form for inviting comments / objections from the stakeholders / general public. The Public Notice was issued by the HVPNL in The Tribune (English) dated 04.02.2018 and Dainik Bhaskar (Hindi) dated 04.02.2018, inviting objections/ suggestions/ comments from the stakeholders and general public. Additionally, the Commission also issued Public Notice in The Hindustan Times (English) and Dainik Bhaskar (Hindi) on 17.08.2018 inviting comments / objections from the stakeholders/general public. The objections raised by the interveners, additional information sought by the Commission and HVPNL's reply thereto is presented below:-

2.4 CHANDERPUR RENEWAL POWER COMPANY PRIVATE LIMITED.

- **True-up of ARR for FY 2016-17 approved by Hon'ble Commission vide order dated 31.03.2016:**

Hon'ble State Commission, vide its order dated 31.03.2016, approved ARR of HVPNL for FY 2016-17 with an aggregate amount of Rs.13606.19 Million and corresponding Monthly Transmission Charges of Rs.1141.37 Million/month and Wheeling Charges of 33 Ps/unit for Short-Term Open Access consumers. Thereafter, Hon'ble Commission revised the above ARR from Rs.13606.19 Million to Rs.13690.19 Million vide order dated 08.11.16 and corresponding revised monthly Transmission Charges to Rs.1148.37 Million but the Transmission Wheeling Charges for Short-Term Open Access consumers was kept the same as already approved. The Licensee has come up with a proposal seeking true-up of the above ARR to Rs.16,263 Million with a revenue gap of Rs.2,579.96 Million which is proposed to be carried forward to FY 2018-19. This amounts to a **resultant additional increase of nearly 19% over the revised approved ARR**. Main increase has been sought for on account of O&M expenses, Employees expenses & Terminal Benefits, Interest & Financing costs, Return on Equity, etc. which are all categorized as "Controllable" factors. The MYT Regulations, HERC/26/2012 specifically differentiate between "Controllable" and "Uncontrollable" factors influencing the ARR of licensees. The relevant provisions under these Regulations are as follows,

8.3 Controllable and Uncontrollable items of ARR

- (a) *For the purpose of this regulation, the items of ARR shall be identified as 'controllable' or 'uncontrollable'. The variation on account of uncontrollable items shall be treated as a pass-through subject to prudence check/validation and approval by the Commission;*

Provided that the Commission may allow variations in controllable items on account of Force Majeure events and also those attributable to uncontrollable factors as pass-through in the ARR for the ensuing year based on actual values submitted by the generating company and licensees and subsequent validation and approval by the Commission during true-up.

While dealing with True-up procedures this issue has been addressed again under Regulation 13 which reads as follows;

13.2 Truing-up of uncontrollable items shall be carried out at the end of each year of the control period through tariff resetting for the ensuing year and for controllable items shall be done only on account of force majeure conditions and for variations attributable to uncontrollable factors.

The Licensee has not been able to establish through this True-up filing any force majeure conditions which led to increase in the "Controllable" factors. Therefore, we would request Hon'ble Commission to disallow all such increase in "controllable" factors, so that unnecessary burden is not passed on to other stake-holders.

HVPNL Reply: HVPNL submits that the Employee cost for FY 2016-17 was approved by the Hon'ble Commission vide its Order dated 31.03.2016 after considering an inflation of 2.47% on the actual employee cost of FY 2014-15, whereas the same should be the combination of CPI and WPI. CPI for FY 2015-16 over base year FY 2012-13 is 5.82% and WPI is 3.22% and considering the weightage of 55% and 45% for CPI and WPI respectively. The actual inflation should be considered as 4.65% instead of 2.47% as considered in the Tariff order. It is pertinent to note that Hon'ble Commission has considered inflation factor 4.65% for FY 14-15 over FY 13-14. Considering the revision in DA and other inflationary parameters, the inflation factor cannot be lower than 4.65%. The employee cost was further revised by the HVPNL to Rs. 2807.70 Million (excluding Terminal Benefits) vide its True up Petition for FY 2015-16 which was not considered by the Hon'ble Commission at the time of APR.

It is further submitted that the increase in actual cost as against the approved employee cost is mainly due to revision in salaries on account of implementation of 7th Pay Commission which is purely beyond the control of the Petitioner. Also, there has been increase in the employee cost due to increase in contractual employees of HVPN. The Petitioner has only followed the directions of the Hon'ble Commission to increase the contractual employees, thus limiting the financial burden.

HVPN further submits that, it had revised the Return on Equity to Rs. 1968.66 Million for FY 2016-17 as per the methodology of Hon'ble Commission vide its Petition for True up of FY 2015-16 which was not considered by the Hon'ble Commission in the ARR Order. In case of Interest and Finance Charges, PF Bonds and Pension Bonds have been taken over by the Government and UDAY bonds of Rs 855 Crores have been issued @ 8.18% per annum interest rate has been **issued** in its place. Interests on UDAY bonds issued for have been accordingly considered as per actuals. Thus, HVPNL requests the Hon'ble commission that, the argument pertaining to above points are base-less and mis-leading and needs to be dismissed.

- **Revised Proposal for FY 2017-18 and Proposal for FY 2018-19:-**

Hon'ble Commission approved HVPN ARR for FY 2017-18 as Rs.15,418.52 Million vide order dated 30.05.2017. The consequential transmission charges were determined as Rs.1,399.87 Million per Month and for Short-Term Open Access consumers as 38 Ps/unit against the previous year figures of Rs.1,148.37 million and 33 Ps/unit respectively. This was a quantum jump of around 22% over the previous year for the beneficiaries. The Licensee has proposed a revised ARR for FY 2017-18 of Rs.18,775.46 Million which means an increase of nearly 22%. Major increase sought for is again in the "Controllable" factors without establishing the force majeure conditions leading to such abrupt increase.

It is worth appreciating that the ARR proposed for the next Control Period has a strange trend, as if FY 2017-18 is an extra ordinary year. Some of the highlights are;

The O&M cost is highest in FY 2017-18 with a tapering trend thereafter;

Interest on loan have been sharply increased by nearly 50% without any special reason;

There is steep hike in depreciation provisions over the years;

Return on Equity has been almost doubled in FY 2017-18;

A net revenue gap of Rs.3,357 Million has been proposed to be carried forward for FY 2017-18 in addition to Rs. 2,580 Million for FY 2016-17. As already submitted above while commenting on the True-up application for FY 2016-17 above, Hon'ble Commission may kindly disallow all such proposed increases in "controllable" factors, so that un-necessary burden is not passed on to other stake-holders.

We would request for close examination of the Capital Expenditure projected by the Licensee over the years. There does not seem to be any realistic professional approach in planning of works. Against the approved CAPEX of Rs.7182 Million for FY 2016-17, the

Licensee has scaled it down to Rs.6,579 Million and similarly for FY 2017-18 it is brought down from Rs.9,300 Million to Rs.6,025 Million. However, for FY 2018-19 proposed figure is Rs.11,316 Million, which is almost double than their past achievement.

As the CAPEX has a direct impact on the Interest & Financing Costs, the Licensee may be permitted capital expenditure looking at the past performance/capability and such investment may kindly be related with the improvement likely to be achieved in performance.

To the above HVPNL has submitted that the increase in ARR for FY 2017-18 as per audited accounts from the Tariff Order for the respective year is mainly attributable to the O&M Costs, Interest on UDAY Bonds and Interest on Loans. However, as submitted with the responses to the Data Gaps to the Hon'ble Commission dated 09.08.2018. The comparison between the approved and revised (revised with data gaps) estimates are provided below.

Particulars	FY 18	FY-18
(Rs. Million)	Approved	Revised
O&M Cost	7,895.68	10,208.02
Interest on Loan	2,111.23	2,122.41
Interest on UDAY Bonds	0.00	349.70
Depreciation	3,475.97	3,317.60
Interest on Working Capital	308.31	444.04
Return on Equity	1,859.33	2,910.97
Share of SLDC Charges	0.00	0.00
Less: Non-Tariff Income	(232)	(2,688.80)
Total ARR	15,418.52	16,769.17

As seen in the above table, O&M Costs, Return on Equity, Interest and Finance Charges and Interest on Uday Bonds were not considered appropriately by the Hon'ble Commission in the Tariff order. The difference is also contributed by the Terminal benefits (under O&M Expenses) which is "uncontrollable" in nature.

HVPNL also submits that, the difference in Return on Equity is attributable to the consideration of rate of return as 14% as per the MYT Regulations instead of 10% as per the official memo no Ch 65/SE/RAU/F122/Volume II dated 04/12/2014. The difference in Interest and Finance Charges and (with emphasis on) Interest on Uday Bonds is attributable to consideration of the interest rates as 0% in the order instead of 8.18% as mentioned in the Petition. The difference in Interest on Working Capital (Interest on Working capital is computed based on norms on based on actual O&M expenses and Receivables) attributable to the consideration of Interest rate as 12.6% as per the MYT Regulations applicable for the year

instead of 9.6% as considered in the ARR Order. The increase in depreciation over the years is due to additional capitalization of assets over the years as mentioned in Table 3.4 of petition. HVPNL has sought the ARR as per the provisions of Tariff Regulations and same is required to sustain the Transmission Utility commercially and to provide services as intended in the Electricity Act 2003.

HVPNL further submits that, the capital expenditure for FY 2016-17 and FY 2017-18 couldn't be made because of Demonetization and enactment of GST law, which made the procurement process difficult as the contractors faced difficulties in executing the works citing cash flow issues and change in law. The same forced HVPNL to cancel some of the tenders floated and the works awarded during the GST implementation and re-tender the same. HVPNL submits that this was an aberration and same situation may not be seen in future. The situation has improved at present and HVPNL is confident of making capital expenditure as envisaged. HVPNL also submits that out of Rs.11366 Million estimated for capital works for FY 2018-19, Rs. 2800 Million (approx.) is already spent for the works as on September 30th 2018. HVPNL submit that the capital investment estimates for the control period is intact and on track. Therefore, HVPNL requests the Hon'ble Commission to approve the capital expenditure as proposed.

Thus, HVPNL requests the Hon'ble commission that, the arguments pertaining to above points are base-less and mis-leading and needs to be dismissed.

- **Proposed ARR for FY 2018-19:**

The Utility has proposed ARR for FY 2018-19 of Rs.18,595.78 Million i.e. an increase of over 20% over the approved ARR for FY 2017-18. The corresponding Monthly Transmission Charges have been proposed as Rs.2113.6184 Million i.e. an increase of 51% in the Monthly Transmission Charges as approved by Hon'ble Commission for FY 2017-18. Similarly, the prospective short-term open access charges have been worked out as 51.5 Ps/unit against the approved charges of 38 Ps/unit for FY 2017-18 or an increase of nearly 30%.

Such abnormal increase in expenses is bound to have serious impact on the beneficiaries, specially the smaller ones who cannot pass on this expenditure to any other entity and have to bear it by itself.

HVPNL, in response to the above has submitted that, the reasons for difference in the approved ARR for FY 2017-18 and actual ARR for FY 2017-18 is submitted earlier as the response to Point No. 2 above and the Tariff Regulations provide for the Revenue required for

the corresponding year should be recovered by means of Tariff to sustain the Transmission Utility commercially and to provide services as intended in the Electricity Act 2003 by the Utility.

Methodology used to apportion the Transmission & SLDC Charges amongst beneficiaries - Resultant impact on small RE Project of Chandrapur Renewal Power Company Pvt. Ltd.:

Hon'ble Commission has been using different method for apportioning the monthly transmission charges and SLDC charges amongst the identified beneficiaries and for the short-term open access consumers. While the basis for apportionment of transmission charges and SLDC charges amongst the identified beneficiaries has been based on the transformation capacity of the beneficiaries, for short-term open access consumers it has been based on the quantum of energy drawn by the Discoms in the previous year. This brings in large disparity amongst the determined charges paid by the two categories. When we look at the impact on the Small RE Project of Chandrapur Renewal Power Company Pvt. Ltd., which has a negligible open access of 740 kW and monthly injection of less than 50,000 kWh, the transmission & SLDC charges being paid on date are Rs.57,000/month. As such the transmission charges incidence on this RE generator is of the order of Rs.1.18/unit. Compared to this the short-term open access consumers have to pay only 36 Ps/unit. Hence the charges being paid by the RE generator is more than 3 times that of the open access consumers. Hon'ble Commission may kindly consider fixing an upper limit on the transmission charges as that of the charges paid by the short-term open access consumers. In the ARR submitted by the licensee a monthly transmission charge of Rs.2133.6184 Million has been estimated against the corresponding approved figure of Rs.1399.87 Million for FY 2017-18 i.e. an increase of 52.42%, which is far more exaggerated than realistic.

Any increase in the transmission charges and SLDC charges will make the RE generator totally unviable and the Company will have no other option than to close the RE Plant. Therefore, there is urgent need to look into the present method of apportionment of the transmission charges especially with reference to the small generators compared to other beneficiaries. The charges to be levied on these generators should not be more than the charges being recovered from short-term open access consumers.

HVPNL Response: It has been submitted that the methodology of computation and apportion of Transmission charges between Stake holders is done as per the prevalent Tariff Regulations and any change in methodology is beyond the purview of the present proceedings.

- **Double recovery of transmission charges from CRPCL:**

It may also be appreciated that CRPCL is using this power for captive use and being counted towards the overall power consumed by its manufacturing units in and around Yamuna Nagar/Jagadhari. There are 3 connections i.e.

1. Chanderpur Renewal Power Limited, Mullana (160 kVA)
2. Chanderpur Works Limited, Jorian (275 kVA)
3. Chanderpur Industries Pvt. Ltd., Radaur (240 kVA)

The petitioner is also paying the Fixed Demand charges of Rs.1,15,646.56 for these connections. So in fact the generator is paying additional charges towards infrastructure usage by way of fixed charges in addition to the transmission charges. The incidence of fixed charges alone is Rs.2.38/unit. A statement showing the charges being paid and the overall incidence of the charges is enclosed for the current financial year 2017-18 for ready reference. (Annex – A). This amounts to double payment for the same facility of using the licensee's system.

In reply HVPNL has submitted that, the Petitioner charges transmission charges to the Beneficiaries as per the directions in the Tariff Orders issued by Hon'ble Commission from time to time. The same is beyond the control of the Petitioner and completely rests in the jurisdiction of the Commission. The query and objection raised on the demand charges does not qualify to be discussed under this petition.

- **Non-inclusion of other Generators connected to the system using open access facility:**

It would be recalled that during the hearing on ARR for FY 2017-18, we had raised the issue of non-inclusion of certain RE generators who were also pumping their power into the grid. The argument was countered by the Licensee on the ground that all such generators are selling their entire power to the distribution licensees and as such it is included in the overall transformation capacity of the Discoms. We would like to point out that apart from the generators considered for apportionment of transmission charges; there are other generators who are availing open access and the facility of the grid without paying the corresponding transmission charges. We may quote a few, like

- Piccadily Sugar Mills (25 MW)
- Maruti Suzuki Ltd. (60 MW)
- DLF Utilities (60 MW)
- Caparo Power Limited, Bawal (26 MW)

All the above generators come under the category of deemed open access consumers. However, they are not included in the list of beneficiaries. We would request that all such generators who are using the grid for dispersal of their power should also be included in the list of beneficiaries. There may be other generators who have not been listed above, which should also be included in the list of beneficiaries for apportioning the transmission and SLDC charges.

Hon'ble Commission may kindly consider these issues while finalizing the present ARR of HVPNL for FY 2018-19. We would request for giving us an opportunity to be heard during the Public Hearing for explaining the above views.

Response: HVPNL has submitted that the above companies/ energy drawing consumers of DISCOMs haven't applied for Open Access permission from HVPNL. Thus the same cannot be considered as the direct Beneficiaries of HVPNL.

Observations of UHBVNL on MYT Petition and Business Plan of HVPNL for Proposed Control Period of FY 2018-19 to FY 2022-23 and HVPNL's response thereto.

Response to Observation 1: HVPNL submits that the capital expenditure for FY 2016-17 and FY 2017-18 couldn't be made because of Demonetization and enactment of GST law, which made the procurement process difficult as the contractors faced difficulties in executing the works citing cash flow issues and change in law. The same forced HVPNL to cancel some of the tenders floated and the works awarded during the GST implementation and re-tender the same. HVPNL submits that this was an aberration and same situation may not be seen in future. The situation has improved at present and HVPNL is confident of making capital expenditure as envisaged. HVPNL also submits that out of Rs.11366 Million estimated for capital works for FY 2018-19, Rs. 2800 Million (approx.) is already spent for the works as on September 30th, 2018. HVPNL submit that the capital investment estimates for the control period is intact and on track. Therefore, HVPNL requests the Hon'ble Commission to approve the capital expenditure as proposed.

Response to Observation 2: HVPNL submits that that in continuation to the above response, since the capital investment plan is intact and on track, the corresponding debt-equity ratio also shall be intact and corresponding projected Interest on Loan shall be intact. Hence, HVPNL requests the Hon'ble Commission to approve the capital expenditure as proposed with corresponding impact on the interest on loan and return on equity.

Response to Observation 3: HVPNL submits that in continuation to the above response to observation 1, since the capital investment plant is intact and on track, the

corresponding debt-equity ratio shall be intact and corresponding projected Return on Equity shall also be intact.

With respect to other observations of the stakeholder, HVPNL has already submitted the revised computation of RoE after reducing Rs. 1259.33 Million viz. the equity capital invested in distribution companies.

With respect to other observations of the stakeholder, HVPNL submits that, HVPNL is a company registered under Companies Act 2013 and works on commercial principles. However, in the interest of the consumers, the return on equity claimed by HVPNL is only 14% in comparison to other state utilities and transmission licensees whose RoE is up-to 15.5%. The details of other state utilities and transmission licensee w.r.t to RoE is as below:

S. No	State	Utility	Regulations	Proposed	Approved
1	Maharashtra	R Infra T	15.50%	15.50%	15.50%
2	Maharashtra	Tata T	15.50%	15.50%	15.50%
3	Maharashtra	Other Pvt Players	15.50%	15.50%	15.50%
4	Gujarat	GETCO	14%	14%	14%
5	Madhya Pradesh	MP TRANSCO	15.50%	15.50%	15.50%
6	Andhra Pradesh	AP TRANSCO	14%	14%	14%
7	Telangana	TS TRANSCO	14%	14%	14%
8	Karnataka	KA TRANSCO	15.50%	15.50%	15.50%
9	Tamil Nadu	TN TRANSCO	14%	14%	14%
10	Punjab	PSPTCL	15.50%	15.50%	15.50%
11	Bihar	BSPTCL	15.50%	15.50%	15.50%
12	Jharkhand	JUSNL	15.50%	15.50%	15.50%
13	Odisha	GRIDCO	15.50%	15.50%	15.50%

It is also added that, the suggestion on reduction of ROE by HVPNL is hypocritical in nature as it also claims 14% ROE and the same is also borne by consumers directly.

Response to Observation 4: HVPNL submits that the inflation factor growth has been considered as per methodology, approved by the Hon'ble Commission in the MYT regulations. The detailed computation is shown as below.

		FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17		
CPI (Historical Data)	Source: Labour Bureau	224	239	250.83	265.00	275.92	4.12%	
WPI (Historical Data)	Source: Economic Advisor	106.9	112.5	113.90	109.70	111.60	0.02	3.045%
CPI	Source: Labour Bureau	275.92	290.68	306.23	322.61	339.87	358.05	377.20
WPI	Source: Economic Advisor	111.60	112.81	114.03	115.26	116.51	117.77	119.04
Composite Index			210.64	219.74				
CPI Inflation	5.35%	4.12%						
WPI Inflation	1.08%							
CPI Weightage	55%							

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		FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17		
WPI Weightage	45%							
Composite Inflation Rate			4.29%	4.32%				

Response to Observation 5: HVPNL submits that the rebates are availed from BBMB on advanced payment of bills, which affect the cash flow of HVPNL and the rebate is considered as the set-off for working capital management. It is pertinent to note that HVPNL gets normative interest on working capital only. Hence, it is requested to the Hon'ble Commission to dismiss the claim of the stake holder in this respective observation.

Response to Observation 6: It is submitted to the Hon'ble Commission that, the difference in the figures of Audited Accounts of FY 2015-16 and reconciled statement are because of change in Accounting principles from GAAP to Ind AS with effective from FY 2016-17. However, the amount claimed for FY 2015-16 are per the Statutory audited accounts and the same doesn't merit to be re-visited.

It is further submitted that, as per the direction of the Hon'ble Commission in the Tariff Order for FY 2017-18, the benefit from the income from SLDC and STOA amounting to Rs. 623.84 Million is already passed on to the Beneficiaries during 06/2017 in the same ratio as billed during FY 2015-16. It is misleading on the part of UHBVNL to raise the point even after the benefit is received by them.

Response to Observation 7: HVPNL submits that the details of Reactive Energy Charges of NRLDC, Discoms and PSPCL along with Account details are as below:

Name of Bank: YES Bank Limited
Branch Address: SCO-412 (Ground Floor and Basement), Sec-8, Panchkula
Savings Account No.: 062694600000903
Date of Opening of Account: August 2017
IFSC Code: YESB0000626
Amount Receipt Details:
Amount Received from NRLDC: Rs. 58754894
Amount Received from Discoms: Rs. 225020793
Amount Received from PSPCL: Rs. 692115
Bank Interest on Savings Account (upto 30.06.2018): Rs. 6478612.40
Balance in Bank as on 30.06.2016: Rs. 29,09,46,414.40
Amount under Fixed Deposits: Nil

The above information is already submitted to the Hon'ble Commission as the part of responses given against the Memo 937/ HERC dated 03/07/2018. Further, it is submitted that,

the copy of Bank Statement in respect of State Reactive Energy Pool Account is provided as **Annexure B**.

It is also submitted, the Reactive Energy Pool Account is opened only in August 2017 on the directions of the Hon'ble Commission and observations made by the stake holder on the decision of maintaining Reactive Energy pool Account or not is not under the purview of HVPNL.

Response to Observation 8: The details of the revenue received from PGCIL is already submitted to the Hon'ble Commission vide memo no. Ch-89/SE/RAU/F-161 dated 09.08.2018. The same are reproduced as below:

S. No	Particular	Units	FY 2016-17#	FY 2017-18*
1	Yearly Transmission Charges received from PGCIL	Rs.	345,645,507	108,010,000
#	Actual received as per the Note 39 of the Audited Accounts for FY 2016-17			

* Approved by the Hon'ble Commission for FY 2017-18 in Tariff Order dated 30.05.2017

Response to Observation 9: HVPNL submits that that the charges on OA consumers (long term and short term) are based on the prevailing HERC Regulations and tariff Orders. Since, the Hon'ble Commission is empowered to remove the difficulties in applicability of Regulations and Tariff Orders, the Hon'ble Commission may clarify the applicability of charges. However, it is requested to the Hon'ble Commission that changes, if any, may be made applicable prospectively.

Response to Observation 10: HVPNL submits that, the observation is a prayer by the stake holder to consider its prayers and HVPNL further submits that the prayers made by the stakeholders are general in nature and may be considered only after giving due consideration to the above submissions made by HVPNL .

Observations of UHBVNL on MYT Petition and Business Plan of HVPNL for Proposed Control Period of FY 2018-19 to FY 2022-23

UHBVN, the distribution licensee and a beneficiary of the transmission system, vide Memo No. Ch-02 / SE / RA / N / F-25 / Vol. (71) dated 21.08.2018, filed a detailed observations / objections on the present filed by HVPNL. The same is presented below:-

Capital Expenditure:

That after reviewing HVPNL Business Plan and Capital Expenditure Plan for control period FY 2018-19 to FY 2022-23, it is observed that the capital expenditure proposed by the

petitioner for each financial year is on quite higher side. It can be reckoned from the profile of actual capital expenditure incurred by HVPNL against the approved capital investment plan during the past three financial years. The average rate of capital expenditure actually incurred vis-à-vis approved capital expenditure over the span of three years is of 58.91%. The details regarding the actual capital expenditure of HVPNL with respect to the capital expenditure approved by the Hon'ble Commission for the period FY 2009-10 to FY 2016-17 are given as under:-

Details of Capital Expenditure proposed, approved and actual Capex.

Financial Year	HVPNL Projected Capex (Rs. millions)	HERC Approved Capex (Rs. millions)	HVPNL Actual Capex (Rs. millions)	Percentage Capital Expenditure (Approved v/s Actual)
2009-10	24,009.75	19,000.00	10,818.80	56.94%
2010-11	23,605.60	17,000.00	10,927.00	64.28%
2011-12	14,057.51	10,158.00	7,061.90	69.52%
2012-13	9,100.89	6,878.00	6,202.10	90.17%
2013-14	11,274.48	7,368.00	6,379.00	86.58%
2014-15	12,963.00	8,337.00	6,297.83	75.54%
2015-16	11,110.00	9,805.00	4,687.80	47.81%
2016-17	9,558.00	7,182.00	3,933.99	54.78%

It can be observed, from above representation, that the Petitioner has consistently under performed by a significant amount from the capital expenditure proposed by the Petitioner and as well as the capital expenditure approved by the Commission in corresponding tariff orders. There is a very large variation in proposed and actual capital expenditure incurred by the Petitioner and if the capital expenditure as proposed is allowed to Petitioner then the same may lead to avoidable increase in overall aggregate revenue requirement of the HVPNL/transmission tariff.

Therefore, in view of the above submission, it is requested that the Hon'ble Commission may kindly carry out prudent check of the works proposed under various funding schemes and their respective Commercial operation Dates (CoD) in accordance with the DPRs of schemes and the capital expenditure plan for Control Period FY 2018-19 to FY 2022-23 may kindly be approved keeping in view the capacity of HVPNL to execute the Plan and its performance in the past in this regards.

Commission's View

The Commission has taken note of the underperformance of the petitioner while undertaking Capex as proposed by them and approved by the Commission. The Commission, while approving the Capex in the present Order, shall take a considered view on the same.

Interest and Finance Charges on Capex Loan:

In the light of the above, appropriate adjustment may kindly be made to the year wise capital expenditure of HVPNL and the interest and finance charges towards capex loans may be allowed to the Petitioner for each financial year of the proposed control period accordingly. Further, considering normative debt and equity ratio, average rate of capital expenditure (as specify in above point), average interest rate on long-term loans and average depreciation rate proposed by HVPNL, it has been observed that Petitioner has overstated the interest and finance cost by an amount of Rs. 529.96 Crores in the total ARR of MYT Period. A detailed calculation pertaining to over assessment of interest and finance charges is provided as under:

Assessment of Interest and Finance Charges for the Proposed Control Period

Financial Year	HVPNL Projected Capex (Rs. Crores)	HVPNL Actual Capex (Rs. Crores)	Debt (@80% of Capex) (Rs Crores)	Repayment on long term loan as per Depreciation Rate 5.40% (Rs Crores)	Interest (@9.85%) (Rs Crores)	Interest Capitalised Capitalisation Rate (70%) (Rs Crores)	HVPNL Proposed Interest Cost on New Loans (Rs Crores)	Differential Amount (Rs Crores)
2018-19	1131.6	666.63	533.30	52.00	73.34	41.07	86.51	54.24
2019-20	914.9	538.97	431.17	76.53	114.51	64.13	152.30	101.92
2020-21	674.4	397.29	317.83	101.34	142.64	79.88	191.08	128.31
2021-22	452.4	266.51	213.21	121.71	157.81	88.37	206.20	136.76
2022-23	306.5	180.56	144.45	135.91	162.74	91.13	180.34	108.74
Total	3,479.80	2,049.95	1,639.96	487.49	651.05	364.59	816.43	529.96

In the view of above, it is requested that appropriate expenditure in respect of Interest and Finance Charges may be allowed to the Petitioner in the Aggregate Revenue Requirement of each financial year of the proposed Control Period FY 2018-19 to FY 2022-23. Further the starting point for allowing interest on capex loans for FY 2016-17 (for true-up) and FY 2018-19 onwards should be closing balance of borrowings for capital expenditure as on 31.03.2016 as arrived at by the Hon'ble Commission at Rs 32190.01 million (which will become the opening balance for FY 2016-17) based on audited accounts of FY 2015-16 while truing up FY 2015-16 in its ARR/Tariff Order dated 30.05.2015 for FY 2017-18 for HVPNL. Hon'ble Commission would appreciate that overbooking of expenditure towards interest and finance charges because of inflated Capex Plan will unduly burden the Discoms and extra cost will ultimately get passed on to the consumers.

Commission's View

The Commission has taken note of the above observations and shall consider the same while approving Capex and Interest & financing cost theretro.

Return on Equity:

It is requested to the Hon'ble commission that in consideration of the above submissions, appropriate adjustment as required may please also be made while working out equity component of Petitioner admissible for allowing RoE for each financial year of Control Period. It is further observed that while working RoE for FY 2016-17 in Para 2.3 of the Petition, while equity capital for generation (Rs 1595.42 Million) and SLDC (Rs 56 Million) has been subtracted from the paid up equity in the beginning of the year plus application money pending allotment but equity capital invested in distribution companies (Rs 1259.33 Million) has not been subtracted. This may kindly be taken care of while allowing RoE for FY 2016-17 and for subsequent years of the control period.

In the context of RoE, it would be pertinent to submit that in the audited balance sheet for FY 2016-17, HVPNL have shown a profit of Rs 381.22 Cr after meeting all their expenses. After accounting for current tax of Rs 81.36 Cr, net profit has been indicated as Rs 299.86 Cr. The Hon'ble Commission in the ARR/Tariff Order dated 31.03.2016 had allowed RoE at Rs 170.46 Cr (@10%) to HVPNL for FY 2016-17. It may be observed that even if Hon'ble Commission had not allowed RoE to HVPNL, still it would have ended the FY 2016-17 with profit. As ultimate objective of the Hon'ble Commission is to facilitate providing electricity to all the consumers of the State at affordable prices, the Hon'ble Commission may consider reducing the rate of RoE from 10% to 5% or even lower in the interest of the consumers of the State.

Commission's View

The above observations have been taken note of. It is added that only equity realatble to the transmission / SLDC qualifies for return within the four corners of the regulations in vogue.

Indexation of Employee and Administration Cost:

The Petitioner has considered higher inflation rates for indexing employee and administration cost for APR and ARR years. Petitioner has considered inflation rate of 4.29% and 4.32% for FY 2017-18 and FY 2018-19 respectively, which are not in line with the methodology of working out inflation rates as specified in HERC MYT Regulations, 2012. On the basis of WPI and CPI data of past three financial years, the inflation rates for APR and ARR year's work out to be 3.52% and 3.06% respectively. Therefore, in view of the above, while working out Employee cost and A&G cost for true-up of FY 2016-17 and for ARR years, inflation factor as per HERC MYT Regulations may kindly be taken.

Commission's View:

Indexing on account of price indices shall be considered as per the relevant regulations only. Hence, the estimates of the petitioner shall be scrutinized for correctness vis-à-vis the provisions of the MYT Regulations.

BBMB Charges:

It submitted that the HVPNL is taking rebate on the BBMB payments, whereas Discoms are making full and timely payment to HVPNL as per their submitted bills. Thus, it is submitted that the rebate allowed by BBMB for timely payments should be passed on by the HVPNL to the Discoms.

Commission's View

The Commission has taken note of the above and is of the view that the Discoms may take up the matter with HVPNL as well as the State Government to arrive at a mutually agreed position.

True-up of FY 2015-16:

From the audited accounts of FY 2016-17 enclosed with the ARR Petition (Annexure-I), it is observed that Statement of Profit and Loss for FY 2015-16 has also been reconciled. There are variations in the figures for certain expenses and revenue viz-à-viz those taken by Hon'ble Commission while trueing up FY 2015-16. For example, income from SLDC and STS charges for FY 2015-16 had been taken by the Hon'ble Commission as Rs 623.84 Million in the true-up whereas the corresponding figure as per the reconciled statement is Rs 814.38 Million. Similarly, in the true-up of employee expenses, the 'other allowances' had been taken as Rs 349.75 Million whereas in the reconciled statement, the 'other allowances' have been given as Rs 237.199 Million. There may be differences in other figures as well. It is, therefore, requested that, as the audited account of FY 2015-16 has been revised by the Petitioner, the true-up of FY 2015-16 may kindly be carried out afresh by the Hon'ble Commission and any increase/decrease in the true-up amount of FY 2015-16 earlier worked out may kindly be adjusted in the true-up amount of FY 2016-17.

Further, in the ARR/Tariff Order of FY 2017-18, the Commission had directed HVPNL to pass on the benefit of the income from SLDC and STOA charges amounting to Rs 623.84 Million directly to Discoms. The income from SLDC and STOA charges and application money collected from STOA consumers as per the Reconciled Statement works out to Rs 831.788 million ($\text{Rs } 8141.38 + 176.50 = 8317.88 \text{ lacs}$). Accordingly, HVPNL should be directed to pass on the benefit of 75% of Rs 831.78 million directly to Discoms.

Commission's View:

The above objection has been taken note of and the true-up shall be carried out as per the provisions of the MYT Regulations.

Reactive Energy Charges:

The Hon'ble Commission in its ARR/Tariff Order dated 30.05.2018 for FY 2017-18 vide para 3.3.10 of the Order had advised the HVPNL that the reactive energy charges are to be met through the State Reactive Energy Pool. HVPNL was also directed to pay an amount of Rs 44.187 Million, out of Rs 75.40 Million received from PGCIL/ NRLDC, to Discoms and balance to be kept in the State Reactive Energy Pool account. Further, HVPNL was directed to submit complete details of Reactive Energy Pool account including the amount received from NRLDC within 45 days of the date of Order. It seems that HVPNL has not complied with the directive of the Hon'ble Commission so far. However, if any such report/details have been submitted by the HVPNL, the same may kindly be shared with the Discoms.

In the FY 2016-17, HVPNL has again recovered reactive energy charges amounting to Rs 19.70 Cr from the Discoms. In case HVPNL had requisite funds in the Reactive Energy Pool account, there was no need of recovering these charges. HVPNL, therefore, should be directed to refund this amount of Rs 19.70 Cr back to Discoms. Further HVPNL should be again directed to furnish complete details of the State Reactive Energy Pool account as also details of Reactive Energy charges paid/received to/from NRLDC and Discoms w.e.f. FY 2015-16 onwards.

It is, however, submitted that as long as intra State ABT is not implemented in the State, there is no need for HVPNL to have State Reactive Energy Pool account. Whatever Reactive Energy charges are to be paid to NRLDC, the same should be paid by Discoms and similarly, whatever Reactive Energy charges are received from NRLDC, the same should go to Discoms. Both Payments/ receipts should be appropriately shared between the two Discoms. HVPNL has no business to recover any Reactive Energy charges from the Discoms. In the neighbouring State of Punjab, PSTCL, the transmission company is not recovering any Reactive Energy charges from PSPCL.

Commission's View:

The above objection has been taken note of and the same shall be reckoned with as per the provisions of the MYT Regulations.

Revenue from PGCIL:

As per the audited account, HVPNL has received an amount of Rs 34.56 Cr from PGCIL for the inter-state transmission lines of HVPNL in the FY 2016-17. In the proposed true-up of FY 2016-17 in the Petition, (para 2.9), the revenue from PGCIL has not been accounted for. The needful may kindly be done by the Hon'ble Commission while truing-up FY 2016-17.

Commission's View:

The above objection has been taken note of and the true-up shall be carried out as per the provisions of the MYT Regulations.

Levy of intrastate transmission and SLDC charges by HVPNL on short term power purchase/sale by HPPC through open access:

Another important issue which the Discoms would like to flag for kind consideration of the Hon'ble Commission is regarding levy of intrastate transmission and SLDC charges by HVPNL on short term power purchase/sale by HPPC through open access. It is submitted that HVPNL is charging intrastate transmission charges and SLDC charges on short term power purchase/sale by HPPC through open access @ 36 Paise/ kWh and Rs 1000 per day respectively. It is felt that intrastate transmission charges and SLDC charges are not leviable on short term power purchase/sale by HPPC through open access in view of the Regulations in vogue as explained in the following paragraphs.

The levy of transmission charges for use of intrastate transmission system by open access consumers is regulated by regulation 19(2) of HERC Open Access Regulations which is reproduced below:

"19 (2) Open access consumer using intra-State transmission system shall pay transmission charges to the STU or the transmission licensee other than STU for usage of their system as determined by the Commission for the relevant financial year as per the provisions of 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 ,or its statutory re-enactments, as amended from time to time.

The annual transmission charges (or total transmission cost in case of multiple transmission licensees) as determined by the Commission for the relevant financial year shall be shared by all the beneficiaries i.e. distribution licensees, long-term

open access consumers and medium-term open access consumers in the ratio of their allocated transformation capacity or contracted capacity, whichever applicable, and shall be payable on monthly basis. (emphasis added) The monthly transmission charges payable by each of the beneficiaries shall be computed as per the following formula:-

$$\text{Monthly Transmission Charges} = (\text{ATC}/12) \times (\text{CA}/\text{CS})$$

Where

ATC = Annual Transmission charges payable by all the beneficiaries (ATC shall be equal to the annual transmission cost determined by the Commission in the tariff order for transmission business for the relevant year)

CA = Transformation Capacity (MVA) allocated to each beneficiary.

CS = Sum of Transformation Capacity (MVA) allocated to all the 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 charges 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 further that where a dedicated transmission system has been constructed for exclusive use of or being used exclusively by an open access consumer at the cost of the licensee, the transmission charges for such dedicated system shall be worked out by transmission licensee and got approved by the Commission and shall be borne entirely by such open access consumer till such time the surplus capacity is allotted and used for by other open access consumers or purposes, after which these transmission charges for such dedicated system shall be shared in the ratio of loads allotted to the various users.

Provided also that the transmission charges shall be payable by the short- term open access consumers on Rs./ kWh basis, as determined by the Commission for the

relevant financial year, for the scheduled quantum of energy in MWh cleared by the concerned Load Despatch Centre.”

As per the above Regulation, the annual transmission charges as determined by the Commission in the Tariff Order of HVPNL for the relevant year are to be shared between the beneficiaries of intra State transmission system i.e. distribution licensees and long term and medium term open access consumers (ST OA consumers are not treated as beneficiaries of interstate transmission system) in the ratio of their allocated transformation capacity and are payable in twelve equal monthly instalments. Apart from the distribution licensees UHBVNL and DHBVNL, there are three other beneficiaries namely TPTCL, NTPC limited and CRPCPL who are long term open access consumer. These three long term open access consumers together share only about 0.7% of the annual transmission charges of HVPNL. Accordingly, entire annual transmission cost (ARR of HVPNL) as determined by the Commission for a financial year, except about 0.7% borne by above three long term OA consumers, is borne by the two DISCOMs in the ratio of transformation capacity of HVPNL shared by each. The annual transmission charges are payable by the DISCOMs irrespective of the quantum of energy drawn during the year.

The transmission charges payable by short term OA (STOA) consumers are governed by third proviso to Regulation 19 (2) referred to above. This proviso is only meant for STOA consumers and does not apply to distribution licensees

For the financial year 2017-18, the total annual transmission charges (including unitary charges of JKTPL) were approved by the Commission at Rs 1679.85Cr. Of the total approved transmission charges for 2017-18, HVPNL have recovered 45.66% from UHBVNL and 53.66% from DHBVNL in the ratio of their transformation capacities i.e. HVPNL has recovered 99.336% of the total approved transmission charges from the DISCOMs. Only 0.674% have been borne by three long term Open Access Consumers i.e. TPTCL, NTPC limited and CRPCPL. Table 3.22 of the Tariff Order of HVPNL for FY 2017-18 , giving the approved transmission tariff, is reproduced below:-

Table 3.22 Transmission Tariff for the FY 2017-18 (Rs. Millions)		
Particulars	HVPNL Proposal	HERC Approved
	Amount (Rs Million)	Amount (Rs Million)
Aggregate Revenue Requirement for FY 2017-18	18,591.00	15418.52
Gap on account of True-up for FY 2015-16	2,654.00	839.90
Gap on account of Review of FY 2016-17	2,799.00	0.00
Carrying Cost on Gap for FY 2015-16 & FY 2016-17	689.00	123.46
Share of SLDC Charges		8.58
Adjusted ARR	24,732.00	16390.46
Unitary Charges for JKTPL	534.00	516.0

HERC ORDER ON TRANSMISSION TARIFF AND SLDC CHARGES FOR FY 2018-19, ANNUAL PERFORMANCE REVIEW FOR THE FY 2017-18 & TRUE-UP FOR THE FY 2016-17

Table 3.22 Transmission Tariff for the FY 2017-18 (Rs. Millions)		
Particulars	HVPNL Proposal	HERC Approved
	Amount (Rs Million)	Amount (Rs Million)
Less YTC for Lines Operating As ISTS Lines FY 2017-18	108.07	108.01
Total Transmission Charges	25,158.00	16798.45
Monthly Transmission Tariff	2,096.53	1399.87
Ratio Of Average Transformation Capacity		
UHBVNL	45.66%	45.66%
DHBVNL	53.67%	53.67%
TPTCL	0.64%	0.64%
NTPC Ltd	0.03%	0.03%
CRPCPL	0.004%	0.004%
Monthly Transmission Tariff – UHBVN (based on ratio of transmission capacity)	957.1955	639.18
Monthly Transmission Tariff – DHBVN (based on ratio of transmission capacity)	1,125.23	751.25
Monthly Transmission Tariff – TPTCL (based on ratio of transmission capacity)	13.447	8.96
Monthly Transmission Tariff – NTPC Ltd (based on ratio of transmission capacity)	0.5434	0.42
Monthly Transmission Tariff – CRPCL (based on ratio of transmission capacity)	0.0804	0.06

For the STOA consumers, the transmission tariff for FY 2017-18 was determined at 36 Paise per kWh vide table 3.24 of the HVPN tariff order which is also reproduced below:-

Table 3.24 Transmission Cost for Short Term Open Access consumers for FY 2017-18 (Rs. Millions)		
Transmission Charges from STOA consumers	(Rs Millions)	
	HVPNL Proposal	HERC Approval
Aggregate Revenue Requirement for FY 2017-18 including FY 2015-16 true-up	18591	16273.87
Transmission Share of SLDC charges (8% of 107.28 million)		8.58
Unitary Charges for JKTPPL	534	516.0
Total Transmission Charges	19125	16798.45
Transmission Tariff for short term open access customers based on energy drawn by the Discoms in the FY 2015-16 of 46591 MUs (Rs / kWh)	0.536	

Now it may kindly be seen, in the light of the details given above, that once the entire annual transmission cost (ARR) of HVPNL is recovered from the Discoms, there is no justification for levying the interstate transmission charges of 36 paise per unit on the energy procured /sold by Discoms through open access under short term power purchase /sale through the exchange or otherwise. The transmission tariff of 36 paise per unit is applicable to STOA consumers for the energy scheduled by them through open access. STOA consumers are required to pay the transmission charges in terms of Rs per unit of the energy scheduled through open access as a charge for use of intrastate transmission system as they are not sharing the annual transmission charges the way distribution licensees, long /medium term open access consumers do. In this context it may be noted that, for use of interstate

transmission system, whereas the distribution licensees and long term/medium term open access consumers, as per the Regulations, pay their share in the annual transmission charges in the ratio of their respective MVA /MW capacities, the STOA consumers pay transmission charges on Rs/ kWh basis, as determined by the commission for the relevant financial year, for the quantum of energy in MWh cleared by the concerned load dispatch centre as provided in the third proviso to Regulation 19 (2) of HERC Open Access Regulations. As per clause 47(b) of the HERC MYT Regulations, 25% of the transmission charges collected from STOA consumers are retained by the transmission licensee and the remaining 75% are considered non-tariff income and adjusted towards reduction of annual transmission charges payable by long term and medium term users. The relevant clause is reproduced below:-

“47 (b) 25% of the charges collected from the short term open access consumers on account of application money and transmission charges shall be retained by the transmission licensee and the balance 75% shall be considered as non-tariff income and adjusted towards reduction in the transmission service charges payable by the long term and medium term users.”

The distribution licensees are long term users of the intra state transmission system and cannot be equated with STOA consumers for short term power purchase/sale through open access from the power exchange or under bilateral transactions. The UHBVNL and DHBVNL are making Short term power purchase/sale through open access not as STOA consumers but by virtue of being distribution licensees who are permitted to do so in terms of conditions of their license as also as per the Regulations. As such the transmission charges in terms of Rs/kWh applicable to STOA consumers for the energy schedule through open access are not applicable to distribution licensees for their short term power purchase/sale.

In this context kind attention of Hon'ble Commission is also drawn to regulation 9(1) of HERC Open Access Regulations wherein special provision has been made for the distribution licensees to continue availing open access to intrastate transmission system as per the existing arrangement subject to payment of transmission charges as determined by the Commission. The said regulation is reproduced below:

“9. Special provision for distribution licensees, generating companies and existing consumers. – (1) For distribution licensees: (i) The distribution licensees using intra-State transmission and or distribution system in the State on the date of coming into force of these regulations under an existing arrangement shall be entitled to continue to avail open access to such transmission and / or distribution system on the same terms and conditions for the term of existing agreement or arrangement on payment of transmission and wheeling charges and other applicable charges as may be determined by the Commission.”

Thus distribution licensees do not have to seek approval of any agency for open access as far as intrastate system is concerned. They have the open access to intrastate transmission

system by virtue of being distribution licensees subject to payment of transmission charges as determined by the Commission. The transmission charges required to be paid by distribution licensees, for use of intrastate transmission system, as determined by the Commission, say for FY 2017-18 are:-

45.66% of total annual transmission cost of HVPNL for UHBVNL,

53.66% of total annual transmission cost of HVPNL for DHBVNL

Apart from above charges nothing is payable by Discoms for use of intrastate transmission system.

In view of position given above, the transmission charges in terms of Rs/kWh (36 Paise/kWh for FY 2017-18) are not recoverable from Discoms on their short term power purchase/sale.

Similarly HVPNL/SLDC are recovering SLDC charges @ Rs 1000/day on short term power purchase/sale by Discoms which again is not correct. As per Regulation 52 of HERC MYT Regulations as amended vide Amendment No. 1 dated 17.11.2016, the annual SLDC charges as determined by the Commission shall be recovered as a single composite charge from the beneficiaries as under:-

Intrastate transmission licensee	8% of the Annual SLDC Charges
Generating Stations and Sellers	46% of the Annual SLDC Charges
Distribution Licensees and buyers	46% of the Annual SLDC Charges

As may be observed, of the 46% Annual SLDC Charges payable by Distribution licensees and buyers, 99.326% are together borne by Discoms while only 0.674% is borne by other long/medium term buyers.

Here again when the composite charge towards use of SLDC as mandated by the Regulations, and as determined by the Commission for the relevant year, are recovered from the Discoms, there is no justification for additionally recovering Rs1000 per day for short term power purchase/sale by Discoms. The SLDC charges of Rs1000 per day are meant to be recovered from STOA consumers who are not paying any composite charge for use of SLDC and, therefore, are not meant to be recovered from distribution licensees for their short term power purchase/sale.

In view of above, the Hon'ble Commission is requested to clarify in the ARR/Tariff Order that transmission charges in terms of Rs/kWh and SLDC charges meant for STOA consumers are not leviable on short term power purchase/sale by Discoms (HPPC) through power exchange or otherwise and issue directions to HVPNL to stop levying intra-state transmission

charges, presently being levied @36 paisa per unit, as also SLDC charges being levied @ Rs 1000 per day on short term power purchase/sales by Discoms. HVPNL should also refund the charges recovered/retained in the past on this account.

10 It is requested that the Hon'ble Commission may kindly take into consideration the various submissions made above while determining the Aggregate Revenue Requirement/transmission tariff for the Petitioner for the control period and while trueing up FY2016-17.

Commission's View:

The above objection has been taken note of; HVPNL is directed to submit its comments on the same for the consideration of the Commission.

HVPNL's RESPONSES TO THE MEMO NO. 1699/HERC DATED 17/09/2018 ISSUED BY HERC ON DATA GAPS ON PETITION HERC/PRO-8 of 2018

It is observed that there are changes in certain items of expenditure as presented by the petitioner as part of public hearing when compared with the ARR petition. The licensee may, therefore, file a revised calculation of the true up of the FY 2016-17, revised ARR for the FY 2017-18 and the proposed ARR for FY 2018-19, wherever required, for consideration of the Commission.

Response: HVPNL submits that the changes with respect to the True-up of FY 2016-17, revised ARR for FY 2017-18 and proposed ARR for FY 2018-19 are based on the Order against the review petition no. HERC/RA-3 of 2017 dated 15/03/2018 and responses against the discrepancies identified by the Hon'ble Commission vide memo no. 937/HERC dated 03/07/2018 and new observation/performance between the period of filing the petition in January, 2018 and the public hearing. The revised calculations for True-up for FY 2016-17, revised ARR for FY 2017-18 and proposed ARR for FY 2018-19 are as below:

Table: Revised Calculations of True up for FY 2016-17 (Rs. Million)

Sr. no.	Particulars	Approved in ARR Order dated	Actual Transmissio n FY 2016- 17	Difference Surplus/ (Deficit)
1	O&M expenses	5165.85	6875.09	(1,709.24)
1.1	R&M Expenses	414.56	232.56	182.00
1.2	Employee Expenses	2506.49	3250.53	(744.04)
1.3	Terminal Benefits	2093.11	3185.72	(1,092.61)
1.4	A&G Expenses	151.69	206.27	(54.58)

HERC ORDER ON TRANSMISSION TARIFF AND SLDC CHARGES FOR FY 2018-19, ANNUAL PERFORMANCE REVIEW FOR THE FY 2017-18 & TRUE-UP FOR THE FY 2016-17

Sr. no.	Particulars	Approved in ARR Order dated	Actual Transmissio n FY 2016- 17	Difference Surplus/ (Deficit)
2	Depreciation	3285.91	3,313.91	(28.00)
3	Interest on Loans	2655.75	2,499.06	156.69
4	Interest on Uday Bonds		332.21	(332.21)
5	Interest on Pension/PF Bonds	6.72	170.21	(163.49)
6	Interest on working Capital	253.80	212.01	41.79
7	Other Finance Charges		42.66	(42.66)
8	Share of SLDC Charges			-
9	Total Expenditure	11361.31	13445.14	(2,083.83)
10	Return on Equity	1704.60	1926.77	(222.17)
11	Less Non-Tariff Income	(314.38)	(353.57)	39.19
12	Total ARR	12,751.53	15,018.34	(2,266.81)
13	Less SLDC expenses forming part of O&M expenses	(69.00)		(69.00)
14	True-up for FY 2014-15 for Transmission	902.97	902.97	-
15	Carrying cost on true-up for FY 2014-15	97.97	97.97	-
16	Add: Loss Due to Foreign Exchange Rate Variation		131.14	(131.14)
17.1	Differential Amount of True Up on ARR for 2013-14 to be recovered in the FY 2015-16*		381.00	
17.2	Carrying on Differential amount for FY 2015-16 for FY 2016-17		48.77	
17.3	Carrying on Differential amount for FY 2015-16 for FY 2017-18		54.15	
17.4	Carrying on Differential amount for FY 2015-16 for FY 2018-19 (H1)		30.12	
17	Add: Total Differential Amount along with Carrying cost		514.04	
18	Total ARR	13683.47	16,664.46	(2,980.99)
19	Add: Incentive based on Transmission Availability passed on to beneficiary		12.92	(12.92)
20	Add: Reduction in Penalty for Transmission Availability for FY 2015-16*		1.96	
21	Aggregate Revenue Requirement	13683.47	16,679.34	(2,995.87)

* As per review order dated 15.03.2018

Table: Revised Calculations of Revised ARR for FY 2017-18 and Proposed ARR for FY 2018-19 (Rs. Million)

Particulars of Aggregate Revenue Requirement	FY 2017-18 Approved by HERC	Revised FY 2017-18	FY 2017-18 Difference Surplus/ (Deficit)	Proposed ARR for FY 2018-19
O&M Cost	7895.68	8360.05	(464.37)	7708.23
Employee Expense	3232.85	3366.28	(133.43)	3933.34
Terminal Benefits	4060.8	4335.45	(274.65)	2993.72
A&G Expense	166.31	215.12	(48.81)	224.41
R&M Expense	435.72	443.20	(7.48)	556.76
Interest on Loan	2111.23	3262.76	(1,151.53)	3344.05
Interest on UDAY Bonds	0.00	279.76	(279.76)	139.88

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Particulars of Aggregate Revenue Requirement	FY 2017-18 Approved by HERC	Revised FY 2017-18	FY 2017-18 Difference Surplus/ (Deficit)	Proposed ARR for FY 2018-19
Depreciation	3475.97	3507.57	(31.60)	4048.87
Interest on Working Capital	308.31	439.11	(130.80)	413.09
Return on Equity	1859.33	2910.97	(1,051.64)	2925.62
Share of SLDC Charges		5.44	(5.44)	6.30
Non-Tariff Income	(232)	(354)	121.57	(354)
Total ARR	15418.52	18412.09	(2,993.57)	18232.47

Note: The figure of Rs. 15418.52 million does not include the amount of Rs. 96.34 crores on account of True-up gap for FY 2015-16 & carrying cost thereon.

- The commission had reconciled the borrowings admitted for the transmission, generation and SLDC business as per audited accounts for the purpose of allowing interest cost as per its order dated 18/08/2015. These borrowings are required to be increased by additional borrowings towards funding of capital expenditure for transmission business, the generation business and the SLDC during the FY 2015-16, FY 2016-17 and FY 2017-18 keeping in view the availability of funds from equity, consumer contribution and internal accruals and decreased by the repayment of borrowings for respective business. The licensee may provide the calculations of interest, loans and equity accordingly.

Response: The details of funding for Transmission Business and Generation Business for FY 2016-17 and FY 2017-18 are provided herewith. However, for FY 2015-16, the true-up is concluded and have submitted all the information with earlier petition.

STATEMENT SHOWING THE MAPPING OF CAPEX INCURRED IN FY 2016-17 and 2017-18

Sr.No.	Particulars	2016-17		2017-18	
		Transmission	Generation	Transmission	Generation
1	Capex Incurred	452.75	9.41	354.24	9.77
	Means of Funding				
2	Equity	260.46	3.49	97.43	5.97
3	Consumer Contribution	19.56		14.70	
4	TOTAL - A (2+3)	280.02	3.49	112.13	5.97
5	Long term Loans				
6	REC	185.33	5.92	135.08	3.80
7	PFC	0.94		-	
8	NABARD	11.45		0.49	
9	World Bank	130.13	-	127.21	-
10	TOTAL - B(6+7+8+9)	327.85	5.92	262.78	3.80
	Grand Total (A+B)	607.87	9.41	374.91	9.77
	Funds utilised for Capex	452.75	9.41	354.24	9.77
	Advance Equity for future year capex	155.12	-	20.67	-
Note: Capex projected for the FY 2018-19 is Rs. 1136.60 Crores against this equity budgeted for the FY 2018-19 is Rs. 120.53 Crores. Shortfall of capex funding to the FY 2018-19 will be meet out of the advance equity available from the FY 2016-17 and FY 2017-18.					

- 2. Details and justification of incurring expenditure in excess of that projected by the licensee as the part of its ARR filings or even revised filings for the FY 2016-17. As the commission had revised the terminal benefits for the FY 2016-17 as proposed by the license from Rs. 111.392 crores to Rs. 209.311 crores (all based on actuarial valuation); the licensee may also explain the reasons for its ability to estimate the terminal benefits for FY 2016-17 which are now estimated at Rs. 985 Crores. O&M expenses, incurred on account of extraordinary situations may be submitted separately, giving justification.**

Response: HVPNL submits that The terminal benefit liability for the FY 2016-17 was got assessed from the actuary which was worked out to Rs. 9556.5 Million by taking the increase in revision of pay & pension on account of implementation of 7th Pay commission w.e.f 01.01.2016.

To avoid heavy burden of increase in tariff on consumer in a single year the HVPNL decided terminal benefit liability of Rs. 9556.5 Million be spread over period of three years starting from FY Rs. 2016-17 to FY 2018-19 on equal basis. HVPNL in financial statement for FY 2016-17 has recognized the amount of Rs. 3185.80 Million i.e. $\frac{1}{3}^{\text{rd}}$ of total terminal benefit liability of Rs. 9556.50 Million as an expense, which is further fragmented for Rs. 253.70 Million Recognized in the "Normal P&L Account" and Rs. 2931.82 Million recognized under "Other Comprehensive Income (OCI)".

The nature of Terminal Benefit recognized for Rs. 2931.82 Million are actuary Gain or Losses-due to change in Financial Assumptions / experience variance and other element etc. is integral part of Actuary report has been presented under the head other comprehensive income (OCI) in profit and loss statement in compliance of provisions of Ind AS- 19.

HVPNL further submits that the utility hasn't considered the impact of 7th Pay Commission as it is not clear if the same would be implemented in the respective year.

Regarding O&M expenses incurred on account of extraordinary situations, it is submitted to the Hon'ble Commission that, Around Rs. 36 Crore increase in Employee cost is because of the 7th Pay commission coming into force and with respect to R&M expenses, the actual expenses are lesser than the approved R&M expenses. The overall increase in A&G expenses is also to the tune of 5.48 Crore only.

- 3. For various items of the proposed ARR for the FY 2018-19, where the licensee has not provided supporting calculations e.g, interest on loans, transfer to GFA, employee cost etc. the basis for calculations may be provided.**

Response: HVPNL submits that the computations on transfer to GFA is as below:

Table: Computation of transfer to GFA for FY 2017-18 and FY 2018-19 (Rs. Million)

GFA	FY 2017-18	FY 2018-19
Average	82,176.35	92,265.42
GFA - Opening	78,527.93	85,824.78
GFA - Closing	85,824.78	98,706.07
Addition	7,296.85	12,881.29
Retired		
Consumer Contribution & Grants	3,401.67	3,401.67
Incremental CC & Grants	-	-
Existing assets depreciation		
Depreciation for the year	3,523.49	3,523.49
Less: Depreciation from CC & Grants	201.35	201.35
Less: Depreciation on SLDC Assets	8.23	8.23
Depreciation for the year	3,313.91	3,313.91
Depreciation Rate	4.77%	4.77%
New Assets Depreciation		
Opening	-	7,296.85
Additions - Assets capitalized	7,296.85	12,881.29
Closing Assets	7,296.85	20,178.14
Depreciation for the year	193.66	928.63
Rate	5.36%	5.40%
CWIP	FY 2017-18	FY 2018-19
Opening	7,363.62	6,091.84
Cap-ex during year + IDC	6,025.06	11,315.76
Transferred to GFA	7,296.85	12,881.29
Closing	6,091.84	4,526.31

HVPNL submits that the computation of Interest on Loan (as per Actuals) is as below:

Table: Computation of Interest on Loan for FY 2017-18 and FY 2018-19 (Rs. Million)

Existing Loans/Bond Schedule	FY 2017-18	FY 2018-19
Opening	54,667.3	50,703.7
Repayments	6,631.1	5,337.0
Closing	48,036.3	45,366.7
Interest Rate	NA	0.1
Net Interest	4,329.9	4,803.5
New Loans/Bonds	FY 2017-18	FY 2018-19
Opening	-	-
Addition/ Disbursement	2,667.4	9,067.0
Closing	2,667.4	9,067.0
Net Interest	-	453.4
Total Interest Charged	4,329.9	5,256.9

HVPNL submits that the Employee cost for FY 2018-19 is computed as actual employee cost of FY 2017-18 of Rs. 3366.28 Million exclusive of capitalization and SLDC employee cost on actuals has been considered. The inflation factor for growth has been considered as per methodology prescribed by the Hon'ble Commission in the MYT Regulations and only the necessary addition in manpower has been considered. The terminal benefits estimate for the MYT Control Period is based on the actuarial valuation report, Annexed with the Petition. Further, the impact of new employee added during FY 2017-18 and the Control Period and Retirees have also been considered while computing the Employee Cost. The computation is as below:

Table: Computation of Employee Cost

Particulars	Index	Amount
Employee Cost for FY 2017-18	i	3366.28
Composite Index for FY 2017-18	ii	210.64
Composite Index for FY 2018-19	iii	219.74
Resultant Inflation Index	iv=ii/iii	1.04
Employee cost for existing employee in the beginning of FY 2018-19	v	3512.74
Net Employee addition for FY 2018-19	vi	1520-183=1337
Employee cost for New Employee Additional	vii	421.60
Employee cost for FY 2018-19 (Rs. Million)	viii	3933.34

4. **Based on the past data of actual capital expenditure as compared to the proposed; the license may again examine the planned capital expenditure and capitalization for the FY 2018-19 and resubmit the same.**

Response: HVPNL submits that the capital expenditure for FY 2016-17 and FY 2017-18 couldn't be made because of Demonetization and enactment of GST law, which made the procurement process difficult as the contractors faced difficulties in executing the works citing cash flow issues and change in law. The same forced HVPNL to cancel some of the tenders floated and the works awarded during the GST implementation and re-tender the same. HVPNL submits that this was an aberration and same situation may not be seen in future. The situation has improved at present and HVPNL is confident of making capital expenditure as envisaged. HVPNL also submits that out of Rs.11366 Million estimated for capital works for FY 2018-19, Rs. 2800 Million (approx.) is already spent for the works as on September 30th, 2018. HVPNL submit that the capital investment estimates for the control period is intact and on track. Therefore, HVPNL requests the Hon'ble Commission to approve the capital expenditure as proposed.

5. **Revised ACR Performa of Officers of utility may be submitted after inserting columns recording their performance w.r.t the benchmark prescribed including by not limited to transmission losses, breakdowns, transmission system availability etc.**

Response: HVPNL submits that the, the HVPNL has already introduced the Performance Monitoring system by incorporating Key Performance Indicators in the ACR form of engineering officers posted in TS Wing (O&M) vide the office memo No. Ch-54/ GS-1129 dated 18.10.2016 and the revised ACR performa of the Engineering officers posted in TS Wing (O&M) is also available on HVPNL website and the same is provided here with for ready reference as **Annexure A**.

6. A time frame up to which the copies of contracts exceeding Rs. One Crore and Inventory held in various stores shall be available on their website.

Response: HVPNL submits that the status of inventory held in various stores is already made available on the website. The same can be accessed through following link: <http://164.100.137.178/wps/wcm/connect/3acf2b7a-c074-40c8-9183-295830d4e725/All+Store+Stock+Position+30.09.2018.xls?MOD=AJPERES> .

It is further submitted that the details of work order exceeding Rs. 1 Crore along with name of contractor will be uploaded on HVPNL website from November, 2018 onwards w.e.f. January, 2018 onwards.

- 8. Further, you are informed that the following comments have been received from Stake holders/ DISCOMs for which reply is to be submitted by the licensee:-**
- a. Sh. RK Jain, Advisor/Legal & Power**
 - b. UHBVNL**

Response: The responses to the comments of the above are attached herewith.

2.5 PUBLIC HEARING

The Commission, in order to afford an opportunity to the stakeholder/ interested person to present their case in person, held public hearing on the petition filed by HVPNL after intimating the date of public hearing in the newspapers. The date of public hearing was also posted on the website of the Commission under the heading 'Schedule of Hearing'.

The public hearing was held on 15.03.2017 in the Conference Hall of the Commission. The Petitioner made a presentation in the hearing and also responded to various queries / clarifications sought by the Commission.

2.6 STATE ADVISORY COMMITTEE (SAC)

The Commission, in order to have the benefit of the views of the SAC Members, convened a meeting of the State Advisory Committee, constituted under Section 87 of the Electricity Act, 2003, on 30.10.2018. No comments/suggestions specific to the Transmission ARR/Tariff and charges were offered by the SAC Members and they mostly confined their comments/suggestions to the Distribution ARR/Tariff. The Commission has, however, taken note of the fact that HVPNL has set up GIS Sub-stations at Gurgaon and Faridabad and also carrying out technical up-gradation of the Transmission System at various locations. This will certainly go a long way in improving the efficiency of the transmission grid including reining in of intra-State transmission losses. Hon'ble Chairman suggested that HVPNL should also promote smart meters & smart grid in their organisation.

CHAPTER 3

COMMISSION'S ANALYSIS OF THE PETITION & ORDER ON TRANSMISSION CHARGES

3.1 TRUE UP OF THE FY 2016-17, ANNUAL PERFORMANCE (MID-YEAR) REVIEW FOR THE FY 2017-18 AND THE DETERMINATION OF TRANSMISSION TARIFF AND SLDC CHARGES FOR THE FY 2018-19

3.1.1 CAPITAL EXPENDITURE AND CAPITALIZATION FOR FY 2017-18 AND CONTROL PERIOD, I.E. FY 2018-19 TO FY 2022-23

It has been submitted that the Capex schemes have been integral part of the transmission planning and are core to the business of the utility. Keeping this in mind, utilities aim to invest in the right schemes, which have higher returns.

The petitioner has submitted that they have invested capital each year with focus to improve the existing system through addition of additional load capacity along with augmentation, maintenance and strengthening to improve the existing system. In line with the Capital expenditure requirements the petitioner had submitted a Capital Expenditure plan for the control period FY 2014-15 to FY 2016-17 in March 2014. The Capital Expenditure Requirement for the period FY 2017-18 was also submitted for the kind consideration of the Commission in Jan, 2017. The Commission had approved the same vide its Order dated 30.05.2017. Now the revised Capital Expenditure of the FY 2017-18 and estimated Capital Expenditure Requirement for the MYT Control Period from FY 2018-19 to FY 2022-23 is being submitted for the kind consideration of the Commission.

3.1.2 REVISED CAPITAL INVESTMENT PLAN FOR FY 2017-18 AND CIP FOR FY 2018-19 TO FY 2022-23

It has been submitted that HVPN being the State transmission utility of Haryana, has to manage a large transmission system which is expected to increase rapidly in the years that follow. To ease the monitoring of the system, the administration and management of the transmission system of HVPNL has been divided into two zones, namely Hisar and Panchkula, with each zone comprising of three circles. The Hisar Zone comprises of Hisar, Gurgaon and Faridabad Circles, while the Panchkula Zone is divided in Panchkula, Karnal and Rohtak circles. The circles are further divided into divisions, detailed in the table below:

That HVPNL has prepared the capex plan taking into consideration all the factors which would affect the operations of the company. The capex plan includes the details of various

capital expenditure schemes in the above identified areas and their respective estimates for FY 2017-18 and each year of the control period from FY 2018-19 to FY 2022-23.

That the capital investments of HVPNL can largely be categorized in following areas –

- a) Investments in New Transmission Infrastructure to support the demand requirements or power evacuation from generation projects.
- b) System augmentation and strengthening including renovation and modernization to maintain the performance of the existing system and to deter investments.

That the planning department of HVPN receives inputs from field officers and the Distribution Companies on investment requirement for organic growth on annual basis which formulate core of the capital expenditure plan. The capacity addition requirements for in-organic growth are incorporated by planning wing of HVPN in the capital investment plan. The transmission planning wing of HVPN consistently monitors loading of transformers and transmission lines so as to promptly address any constraints. Further load flow analysis is also being carried out to derive scientific evidences to strengthen capital investment plan proposals.

That in order to address the requirement of consumers, the petitioner intends to revise the Capex plan approved for FY 17-18 based upon the latest available data from the field and system operations. the petitioner hereby requests the hon'ble commission to review the Capex for the Control Period from FY 2018-19 to FY 2022-23 and approve revised capex plan for FY 17-18. The petitioner also requests the Hon'ble Commission to approve the Capital expenditure plan for the Control Period from FY 2018-19 to FY 2022-23 as submitted in the Business cum Capital Expenditure Plan for the period.

The petitioner has submitted that capital investment plan for the transmission business has been divided in the following key areas viz. transmission lines, sub- station, information technology initiatives and land & right of way expenses, Miscellaneous works including civil works, procurement of thermo-vision cameras, testing equipment, contingency capital works.

The following table provides the work wise expenditure for the control period. It also includes the expenditure planned for the current year FY 2017-18. It also includes the expenditure planned for the current year FY 2017-18. The details of the works are provided as part of the Annexure to this Petition.

Works (Rs. Millions)	FY 18	FY 19	FY 20	FY 21	FY 22	FY 23
Substation	4,800	8,745	6,941	3,583	2,038	2,321
Lines	837	2278	1993	2921	2245	544
Information Technology	111	14	13	37	38	0
Land	77	79	3	3	3	0

Works (Rs. Millions)	FY 18	FY 19	FY 20	FY 21	FY 22	FY 23
Miscellaneous	200	200	200	200	200	200
Total	6025	11316	9149	6744	4524	3065

That the Licensee is committed towards making quality power supply available and further improving the reliability by augmenting or strengthening of the existing transmission system.

That new substations have been planned along with the requisite lines, while older inefficient equipments at the existing sub-stations has been considered for replacement with modern and efficient equipment. New transmission lines are planned for power evacuation, meeting the load demand, and the current lines will be strengthened and renovated as required. It is planned that the capital expenditure will be focused mainly on meeting the increasing demand and after meeting the demand, the focus will shift towards the maintenance and upkeep of the network for uninterrupted transmission of power. Further meticulous planning has been put in to ensure effective modernization of the system through IT implementation and negotiate problems and delays faced on account of Land and Right of Way issues.

In the following sub-sections, the details of the capital expenditure in the five broad categories, discussed above, are presented with key objectives.

The capital expenditure proposed above is likely to be incurred not only towards strengthening the existing substation infrastructure but also to create new substation capacities. The zone wise proposed expenditure for sub-stations is as under:

Substations (In Rs. Millions)	FY 18	FY 19	FY 20	FY 21	FY 22	FY 23
Panchkula Zone	1503.3	2671.8	2039.6	1182.3	646.3	842.8
Hisar Zone	3296.7	6073.0	4901.4	2400.5	1391.5	1478.5
Total	4800.0	8744.8	6941.0	3582.8	2037.8	2321.3

3.1.3 TRANSMISSION LINES

The petitioner has submitted that a number of new transmission lines have been proposed together with repair and maintenance activities for the existing lines. The year-wise expenditure planned on the transmission lines in the two zones has been presented in the table below:

Transmission Lines (In Rs. Million)	FY 18	FY 19	FY 20	FY 21	FY 22	FY 23
Panchkula Zone	216.0	926.5	754.4	915.1	442.3	115.0
Hisar Zone	621.4	1351.2	1238.3	2006.0	1803.0	428.5

Transmission Lines (In Rs. Million)	FY 18	FY 19	FY 20	FY 21	FY 22	FY 23
Total	837.4	2277.7	1992.7	2921.1	2245.2	543.5

3.1.4 INFORMATION TECHNOLOGY

The expenditure on information technology is planned with the intention of equipping the personnel with tools to monitor and handle the transmission system efficiently and to access real time data for online system monitoring.

Information Technology (In Rs. Million)	FY 18	FY 19	FY 20	FY 21	FY 22	FY 23
Hisar	55.4	6.9	6.3	18.3	19.0	19.0
Panchkula	55.4	6.9	6.3	18.3	19.0	19.0
Total	110.8	13.7	12.5	36.5	38.0	38.0

3.1.5 LAND

Land acquisition and RoW settlements occupies major proportion of total capital investment plan. The yearly expenditure is presented in the table below.

Land (In Rs. Million)	FY 18	FY 19	FY 20	FY 21	FY 22	FY 23
Hisar	73.9	76.5	0.1	0.0	0.0	0.0
Panchkula	2.9	3.0	3.1	3.2	3.3	0.0
Total	76.9	79.5	3.2	3.2	3.3	0.0

3.1.6 MISCELLANEOUS ITEMS

Miscellaneous works include civil works, one-time procurement of testing and T&P equipment, replacement of conventional insulator with polymer / Anti Fog insulator, damage of tower etc. due to wind storm and any unseen storm expenditure / Augmentation etc.

Miscellaneous (In Rs. Million)	FY 18	FY 19	FY 20	FY 21	FY 22	FY 23
Total	200	200	200	200	200	200

It has been submitted that a number of schemes had been / to be commissioned in the previous / upcoming years, but minor expenditures are likely to be undertaken during FY 2017-18 and during the Control Period, i.e. FY 2018-19 to FY 2022-23 as shown in the table below:

Year of Commissioning / Proposed year of Commissioning of schemes	Capital Expenditure in Financial Year (In Rs. Million)					
	FY 18	FY 19	FY 20	FY 21	FY 22	FY 23
2012-13	43.8	0.0	0.0	0.0	0.0	0.0
2013-14	0.0	0.0	0.0	0.0	0.0	0.0
2014-15	101.6	0.0	0.0	0.0	0.0	0.0
2015-16	341.6	166.7	11.0	0.0	0.0	0.0
2016-17	69.0	26.9	0.0	0.0	0.0	0.0

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Year of Commissioning / Proposed year of Commissioning of schemes	Capital Expenditure in Financial Year (In Rs. Million)					
2017-18	2875.3	1410.4	419.3	0.0	0.0	0.0
2018-19	1952.9	7662.8	3851.3	73.6	0.0	0.0
2019-20	55.2	1028.6	3428.0	1149.1	0.0	0.0
2020-21	0.0	1.0	831.5	3586.2	1325.5	66.8
2021-22	0.0	0.0	41.0	965.0	1701.5	405.0
2022-23	3.8	63.3	57.1	229.5	1150.0	2334.0
Total	5443.2	10359.8	8639.2	6003.4	4177.0	2805.8

3.1.7 SOURCES OF FUNDING

HVPN has sought to utilize debt that is available at low cost to ensure that the burden on the beneficiaries can be minimized. HVPNL has negotiated with the financing institutions and ensured that the cost of capital is low and the terms of debt are favourable to the Company. A number of financing institutions have tied up with the Company to provide the necessary funding for the capital works.

Financial Institution	FY18	FY19	FY20	FY21	FY22	FY23	Debt Ratio (%)	Interest Rate (%)
Schemes with tied up financing								
NABARD	123.7	22.1	1.0	-	-	-	80	9.45
PFC	71.9	83.5	54.0	2.5	-	-	80	9.85
REC	3,045.8	4,959.9	2,871.1	340.5	56.0	5.0	90	9.85
World Bank	793.5	591.7	406.9	110.0	-	-	80	10.00
JICA	101.5	119.5	5.8	-	-	-	100	10.75
Total	4,136.4	5,776.7	3,338.8	453.0	56.0	5.0		
Loans pending Approval								
NABARD (Posed)	384.7	512.4	386	80.8	41.5	-	70	9.45
Total	384.7	512.4	386.0	80.8	41.5			
Capex Schemes awaiting Loan (Proposal)								
Yet to be posed	891.3	4,547.6	4,920.9	5,862.6	4,185.5	2,859.8	70	9.85
Grand Total	5,412.4	10,836.7	8,645.7	6,396.4	4,283.0	2,864.8		
Debt Ratio for the year	83.64	80.13	77.20	71.24	70.26	70.03		
Wt. Avg Interest Rate (%)	9.86%	9.85%	9.85%	9.85%	9.85%	9.85%		

The main sources of loan for the expenditure are REC and World Bank. Other works are being funded by financial sources like Power Finance Corporation, Rural Electrification

Corporation, National Bank for Agricultural and Rural Development etc. and the Japan International Cooperation Agency. Some schemes are in the process of attaining funding as they have been proposed to the financing institutions and approval for the requisite loans is awaited. A few schemes have been approved by HVPNL and are in the process of being proposed for loans.

A number of schemes have also been undertaken from the grants and deposits provided by HSIIDC; therefore no investment is being made by HVPNL for such projects.

The average interest rate for the World Bank loans is about 0.53%, but an additional 9.47% is considered to recover the cost of hedging the risk of foreign exchange rate variation

Capital expenditure projected by HVPNL, approved by HERC & actual

FY	Projected Expenditure by HVPNL (Rs. million)	Expenditure approved by HERC (Rs. million)	Actual Expenditure (Rs. million)	% of actual w.r.t. projected expenditure (Rs. million)	% of actual w.r.t. approved expenditure (Rs. million)
2012-13	9261.68/ 9100.89 rev	6878	6202.1	68.14	90.17
2013-14	11274.48 11810.88 rev.	7368	8722 6379 (Rev.)	54%	86.57%
2014-15	12963 (9694 as per APR) 30.12.2014 7480 (rev.) 12.02.2015	8337	6297.83	48.37%	75.53%
2015-16	11110 (15017 as per APR) 30.12.2014 11058 rev. 12.02.2015 7991 envisaged 26.11.2015	7744 9805 rev. 31.03.2015	4687.80	42%	48%
2016-17	9558 (10362 as per APR) 9814 (rev.) 12.02.2015 9965 envisaged 26.11.2015 6579 (Envisaged 30.01.2017)	7182 rev. approved 31.03.2015	4622		64%
2017-18	9299 6025 (rev.)	7332			
2018-19	11315.76				

It is observed that HVPNL has incurred expenditure of Rs.4688 million on Capital works against Rs.9805 million approved by the commission for FY 2015-16 which is about 48% of the approved amount. The Commission observes that the licensee in his Capital investment plan submitted for MYT Control period FY 2014-15 to FY 2016-17, had projected an expenditure of Rs.9558 million for FY 2016-17. HVPNL had requested for its revision to Rs.9814 on 12.02.2015 and again sought its revision for Rs.9965 million in its petition dated 26.11.2015 for ARR FY

2016-17. However, the Commission did not consider it appropriate to change the capital expenditure of Rs.7182 million for FY2016-17 approved in its order dated 31.03.2015 and retained the same. Further, the Commission, in view of the past performance of HVPN, approved Rs.7332 million Capex for the FY 2017-18.

HVPN in its tariff filing dated 30.01.2016 had projected the Capital Expenditure of Rs. 6579 million for FY 2016-17 and proposed Rs. 9299 million for FY 2017-18. However, from the detail of works in the capital investment plan, it was observed that there were 346 works with estimated cost of Rs.598 Cr. were targeted to be completed in FY 2016-17 and FY 2017-18, the funding of these works was yet to be posed. Out of these works about 80 works were shown to be completed in FY 2016-17 with an estimated cost of Rs. 72.96 Cr. Similarly, for the works targeted to be completed in FY 2017-18, there were 266 works with an estimated cost of Rs. 525 cr. approximately which required funding as per details supplied by the licensee. The Commission expressed its concern as to how these works were being executed without finalizing the funding for these works.

The licensee, in the Public hearing On 15th March, 2016, in response to Commission's query about the achievement of capital expenditure in FY 2016-17, had conveyed that HVPN was likely to achieve the Capital Expenditure to the tune of Rs.500 Cr. Thus HVPN was asked to revise its Capital Investment Plan for FY 2016-17 and FY 2017-18. Pursuant to above direction, the licensee submitted its revised capital expenditure for FY 2016-17 and FY 2017-18 as Rs.5308 million and 9775 million respectively and had further informed the progress of capital expenditure for the period April 2016 to Jan. 2017 as Rs.3919 million.

HVPN, vide its True up Petition, has submitted that the capex during the FY 2016-17 is Rs. 4621.60 million which comes around 64% of the Capital expenditure approved by the Commission. The Petitioner had projected Capex of Rs. 9299 million for the FY 2017-18 in its filing dated 30.01.2017 for ARR and Tariff Petition for FY 2017-18 but the Commission after due diligence and in view of the past performance, approved a sum of Rs. 7332 million. However, vide its instant petition, HVPN has indicated that they envisaged an expenditure of Rs. 6025 million on capital works during FY 2017-18 and has proposed Rs.11315.76 million Capex for the FY 2018-19.

HVPN has informed that the reason for not achieving the targeted capex during the FY 2015-16 and the FY 2016-17 are mainly because some contracts landed in disputes and further contracts could not be awarded because of higher rates. It is further added that in case of loose supply, some items/equipments specifically Power transformer in some of the cases could not

be made available due to failure of short circuit test. The Commission observes that all such factors should be kept in view while awarding contracts for its capital works.

The Commission further observes that the Petitioner has little control on implementation of its Capital investment Plan. It has been observed that the licensee could not stick to its Plan and has been seeking revision in the approved Capex due to one reason or the other. HVPN needs to establish proper and effective mechanism for implementation of capital works/schemes and monitoring thereof. Hence, **considering past performance with regard to execution of Capex, the Commission approves an amount of Rs. 7921 million for transmission business, which includes funds for upgradation of the system to make it smart by installing smart grid / meter and further, Rs. 50 million is approved for SLDC for the FY 2018-19.**

HVPN is directed to take requisite steps to improve its management of implementation of capital works/schemes covered under the approved capital investment Plan and to ensure that proper funding arrangement is made before the commencement of any work/scheme, so that the benefit of the Capex flows to this electricity Consumers timely. Also the physical and financial progress of the major capital works having estimated cost more than 20 Crore each be placed on its website for information of the stake holders.

ABT & Deviation Settlement Mechanism / SAMAST: The relevant reference to the SAMAST report has been forwarded to HVPNL. HVPNL is directed to examine the same and submit its comments to the Commission within one month including its readiness for implementation of intrastate ABT wherein SLDC has significant role.

3.1.8 INTRA-STATE TRANSMISSION LOSSES

The Petitioner has submitted that as per the relevant Regulations, 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 proceeding 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. (c) If the actual annual transmission losses (%) exceed the benchmark value (%) approved by the Commission, the licensee(s) shall be penalized.

In accordance with the above Regulations, the Commission had fixed the intra-state transmission losses for FY 2014-15 at 2.5% with the road map for reduction of these losses further by .02% p.a. during the control period subject to penalty clause in line with HERC MYT Regulations 2012 which is as under:-

Sr. 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

The petitioner further submitted that reductions in transmission losses are an important objective under section 26(2)(b) and (c) of the Act and tariff determinations will need to take account of such reductions. The plans for reducing losses, together with relevant load flow studies and details of the investment required to achieve the planned reductions should be presented & shall substantiate by relevant analysis as to achievability and the cost.

It has been further added that during 11th Five Year Plan (2007-12) capital expenditure of Rs.4111.7 Cr. has been incurred by the HVPNL for the system strengthening, hence the average transmission losses are on decrease as indicated below:-

Table: Transmission losses

Period	Target fixed by Hon'ble HERC in %	Intra-state Transmission Losses (%)	Energy Handled in LU
2007-08	2.6	2.44	
2008-09	2.1	2.57	284310
2009-10	2.1	2.68	312740
2010-11	2.1	2.63	344020
2011-12	2.1	2.76	363631
2012-13	2.5	2.494	380431
2013-14	2.5	2.737	428485
2014-15	2.5	2.615	464758
2015-16	2.48	2.698	478718
2016-17	2.46	2.311	492195
2017-18 (up to oct.2017)		2.16*	329469

* based on provisional energy account of October, 2017

It has been submitted that the HVPNL has been able to limit Transmission Losses in FY 2017-18 as well as trying to reduce losses further. The commission in the past had been restricting the Transmission losses and is not allowing the actual losses though the loss figure achieved by the HVPNL is very less as compared with other best performing utilities which are as under.

The losses of various states are submitted as under:-

State	Year	Transmission Losses	State	Year	Transmission Losses
Andhra Pradesh	2016-17	2.92%	Chhattisgarh	2015-16	4.20%
Rajasthan	2016-17	3.89%	Madhya Pradesh	2016-17	2.87%
Karnataka	2015-16	3.54%	Gujarat	2016-17	3.87%

The Petitioner has submitted that the losses of DTL and Power Transmission Corporation of Uttaranchal which are in the range of 0.96% and less than 2% respectively, cannot be compared with HVPN being vast difference in infrastructure, w.r.t. installed capacity and energy handled.

It has been submitted that the losses in HVPN system is less than 3%. HVPN system comprises of 440 kV, 220 kV and 132 kV transmission lines as well as the sub-stations. The percentage losses increases with increase in line length and the no. of transformers, also the percentage losses are higher at lower voltage levels. HVPN has submitted that best efforts are being made to achieve low Transmission Loss level.

It has been further submitted that the State transmission losses are purely technical losses and are due to energy dissipated in the conductors and equipment used for transmission, transformation, sub-transmission. These technical losses are inherent in a system and cannot be reduced beyond an optimum level. The losses can be further sub grouped depending upon the stage of power transformation & transmission system as Transmission losses (400kV/220kV/132kV/66kV).

The Inter-State transmission losses over a given transmission system keep varying over time depending upon power flows, voltage profile, reactive flows, pattern of energy use, load demand, load density and capability & configuration of transmission system etc. The transmission system owner has little control over these, except that outage of transmission element increases power flow on parallel path which affects losses. The Central Electricity Regulatory Commission is also of the similar view and has categorically indicated in the proposed approach for sharing of charges and losses in interstate transmission system that transmission losses is the phenomenon of physics and are unavoidable.

Also according, to a study carried out by Electric Power Research Institute (EPRI) of the USA some time back, (referred in 17th Power Survey report of CEA) the losses in various elements of the Transmission system usually are of the order as indicated below:-

System element	Power Losses (%)	
	Minimum	Maximum
Step up transformers & EHV transmission system	0.5	1.0
Transformation to intermediate voltage level, transmission system & step down to sub- transmission voltage level	1.5	3.0

Sub transmission system & step down to distribution voltage level	2.0	4.5
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Further, the Nigam BOD is also monitoring the Transmission Losses for which a memorandum is being put up regularly in BOD meeting. The system has been able to handle the energy of the order of 492195 LU during the year 2016-17 as compared to the 478718 LU in the year 2015-16. The Transmission loss in HVPNL is 2.311% for FY2016-17. The losses from April to October, 2017 are 2.165%.

It has been submitted that the Transmission Losses are purely technical losses, and the only measure in the hands of the Petitioner is to invest in augmentation of Transmission Network, to the extent allowed by the Cost Benefit Analysis. The Transmission Plan for period FY 2018-19 to FY 2022-23 require an investment as per CWIP submitted to accommodate additional power expected to be handled in the Intra-State Transmission System, and keep losses at present loss level. The target of Transmission Losses prescribed for the control period are too ambitious, and are much lower than the targets fixed if any in other similar States.

The Haryana is particularly a State of area catering loads by small Transmission Lines but large number of interface points & substations to cater the load & maintain voltage profile as per Norms fixed. In order to achieve further appreciable reduction in Losses, the Petitioner is required to invest huge additional capital, which may not fulfil the criteria of Cost Benefit Analysis, and required lenders and long time to get the additional Plan completed, which does not appear practical. The Petitioner is having view that the Transmission Losses varies with the load and Generation variation from different sources, which is not in control of the Transmission Licensee beyond the certain level.

Petitioner has requested the Commission to allow the actual Transmission losses. The month wise transmission losses of HVPNL transmission system is as under:-

	2016-17			2017-18		
Month	Total Drawl by Discom	Intra State Transmission Losses in LU	Intra State Transmission on losses in %(21)	Total Drawl by Discom)	Intra State Transmission losses	Intra State Transmission losses in %
April	35408.07375	665.97125	1.846	35593.35504	788.85618	2.168
May	41636.88021	967.61470	2.271	45867.05014	1057.57702	2.254
June	47367.04256	1152.73417	2.376	44757.27468	985.39427	2.154
July	51754.00443	1120.32664	2.119	55206.31049	1331.36166	2.355
Aug	48687.35751	1117.01573	2.243	53232.25746	1157.15025	2.128
Sept	49517.26333	1148.72582	2.267	45559.27959	1007.11557	2.163
Oct	40989.16105	905.84511	2.162	42122.53077	804.03796	1.873
Nov	31380.49756	695.82450	2.169			
Dec	34633.04752	1088.06943	3.046			
Jan	33051.09004	1008.32580	2.960			
Feb	31702.78866	665.5733	2.058			
March	34693.61571	838.7231	2.360			

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	2016-17			2017-18		
Month	Total Drawl by Discom	Intra State Transmission Losses in LU	Intra State Transmission losses in %(21)	Total Drawl by Discom)	Intra State Transmission losses	Intra State Transmission losses in %
Total losses up to March, 2017	480820.82233	11374.74962	2.311	322338.05817 (ending up to October, 2017)	7131.49291	2.165

*Tentative

The licensee has submitted that the transmission losses in FY 2017-18 (up to Oct.2017) is 2.16%.

The Commission observes that with constant review and proper monitoring of its metering and energy accounting and various other measures taken, the petitioner has shown appreciable progress in reign in its transmission losses to 2.311% during 2016-17 but to perform on sustainable basis the efforts made on this front needs to be continued in future also.

The Commission has been emphasizing the need to examine the consistent variation in the month wise transmission losses and asked HVPN to supply the information w.r.t fully loaded and over loaded lines and submit the report. The HVPN has provided the circle wise overloaded/fully loaded transmission lines in its system as under:-

Sr. No.	Name of Circles	Fully Loaded/overloaded lines
1	TS Circle Panchkula	4
2	TS Circle Karnal	6
3	TS Circle Rohtak	7
4	TS Circle Gurgaon	8
5	TS Circle Faridabad	11
6	TS Circle Hisar	2

It has been observed that there are significant number of transmission lines which are running on full load or in some of the cases in overloaded condition which result in to the increased number of tripping and the higher line losses. The licensee was asked to pay special attention on these lines to take immediate steps for appropriate loading of these lines. The list of such works if included in the Capital Investment Plan be supplied to the Commission. HVPN has submitted that necessary instructions are being issued regularly to field offices for proper metering of all interface points in line with CEA (Installation and operation of meters), Regulations, 2006 and its subsequent amendments.

The intra state transmission losses for FY 2016-17 are 2.311% and that of FY 2017-18 (up to Oct-17) have further declined to 2.16% due to constant pursuance with field offices. Further, there is no constraint or aberrations in the readings of the meters at the interface of

HVPNL and the Discoms. The constraints in respect of overloading of Transmission lines are deliberated during integrated Planning & suitable measures like creation of new Transmission lines/ Augmentation with HTLS have been taken. Forty two transmission lines have been identified which are fully loaded or over loaded, action has been taken for appropriate loading by augmentation of conductor, providing 2nd source and load regulation etc.

The Commission observes that target fixed for transmission losses in the MYT Regulations 2012 as amended from time to time are quite realistic and achievable. Thus the Commission is restrained to allow the transmission losses for FY 2016-17 and FY2017-18 as per actual as requested by the licensee Thus the target fixed by the Commission in its order be adhered to.

3.2 TRANSMISSION SYSTEM AVAILABILITY

HVPNL has submitted that the Transmission System Availability serve as guidelines to operate the State Transmission System for providing an efficient, reliable, coordinated and economical system for transmission of electricity supply and it expand the reliability index at the transmission and substation equipment sub component level. These standards set the levels of operational security and quality of supply. The Normative annual transmission system availability Factor as per the regulations is given here under:

Normative annual transmission system availability Factor (NATAF)

Norms	MYT Period			
	2013-2014 (%)	2014-2015 (%)	2015-2016 (%)	2016-2017 (%)
AC System	98.5	98.8	99	99.2

The above mentioned target availability will be subject to an incentive and penalty mechanism once the conditions specified in regulation 12 are satisfied.

HVPNL has adopted the methodology for calculating the Transmission System Availability (Certified Deemed Availability) on the basis of CERC regulations dated 19.01.2009 with effect from October 2009 and the Transmission System Availability for the period FY2007 to FY2018 (ending Oct.) is as under:

Availability in %	
Cumulative for the year 2006-07	99.62
Cumulative for the year 2007-08	99.57
Cumulative for the year 2008-09	99.57
Cumulative for the year 2009-10 (April to September)	99.56

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Cumulative for the year 2009-10 (October 2009 to March 2010)	99.39
Cumulative for the year 2010-11	99.59
Cumulative for the year 2011-12	99.56
Cumulative for the year 2012-13	99.67
Cumulative for the year 2013-14	99.69
Cumulative for the year 2014-15	99.13
Cumulative for the year 2015-16	98.30
Cumulative for the year 2016-17	99.04
Cumulative for the year 2017-18 (up to Oct, 2017)	98.80

The Commission in its Order dated 29.05.2014 on the ARR for the MYT control period filed by the HVPN, had fixed the targets for normative annual transmission availability as 98.8%, 99% 99.2% for FY 2014-15, FY 2015-16 and FY 2016-17 respectively. It is observed that the transmission system availability is showing declining trend despite continuous infusion of capital for strengthening of transmission system as well.

The transmission system availability for the year 2015-16 has been 98.30% which is below the target of 99%, for FY 2016-17, the availability is 99.042% but again in FY 2017-18 (ending Oct. 2017 the availability has been 98.80%.

The licensee was asked to analyze the reasons for the fall in the Transmission System availability for FY 2015-16 and submit a report to the Commission within 45 day. The licensee was directed to provide the month-wise number of tripping and break downs at various voltage levels in the System for the FY 2013-14, FY 2014-15, and FY 2015-16 with detailed analysis report giving the reasons for such break downs in the transmission system leading to decline in the transmission system availability. Further, Licensee has supplied the abstract of outages due to tripping/ breakdowns in the EHT lines as given below:

3.2.1 ABSTRACT OF OUTAGES DUE TO TRIPPING IN EHT LINES

S.No	Particulars	Previous Year April-2016 to March-2017				Current Year April-2017 to Oct-2017				Corrective Measures Proposed in the Ensuing Year to Avoid Trippings
	Feeder & S/S Details	Time Of Outage				Time Of Outage				
		Numbers	Hrs	Mins	Total Mins	Numbers	Hrs	Mins	Total Mins	
1	400 kV Lines Details	53	4725	13	283513	42	6935	36	416136	
2	220 kV Lines Details	777	38367	2	2302022	498	5805	1018	349318	
3	132 kV Lines Details	381	3285	1	197101	245	10218	5	613085	
4	66 kV Lines Details	192	24106	43	1446403	144	10825	9	649509	
Power Transformers										
1	400 kV Transformers	37	2027	54	121674	28	3332	8	199928	

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S.No	Particulars	Previous Year April-2016 to March-2017				Current Year April-2017 to Oct-2017				Corrective Measures Proposed in the Ensuing Year to Avoid Trippings
	Feeder & S/S Details	Time Of Outage				Time Of Outage				
		Numbers	Hrs	Mins	Total Mins	Numbers	Hrs	Mins	Total Mins	
	Details									
2	220 kV Transformers Details	236	2726	42	163602	180	2806	45	168405	
3	132 kV Transformers Details	306	29612	47	1776767	202	11563	37	693817	
4	66 kV Transformers Details	167	4134	11	248051	98	2215	8	132908	

The Commission observes that lines at 400 KV level experienced 42 nos. outages in FY 2017-18 (end Oct.2017) for total time loss of 6935 hours. Similarly the 132 KV lines in the system encountered 245 nos. of outages resulting into time loss of 10825 hours during this period. It is further observed that there is large no. of outages of power transformers in the system and the down time is on increase in case of 400 KV and 220 KV Power Transformers. Which show that more focus is required on preventing maintenance of the transmission lines and the power transformers in HVPN .

It is further observed that 31 nos. Towers of 12 nos. Lines of various voltages collapsed in FY2016-17 (end Oct.2016) and six nos. Towers of 400 Kv Dhanonda-CLP line collapsed in FY 2017-18 (end Oct.2017) along with 400Kv,315 MVA Transformer at Kirori. The investigation into the cause of the damage of the transformer be carried out and the action taken report be submitted to the Commission.

In view of the fact that the licensee has taken more time for replacement of damage transformer of 400 KV due to non availability of spare transformer, it was advised to explore an arrangement with power grid/ other transmission licensee to have pooled spare 400 kV transformer which may be utilized in case of emergent need arising due to failure of such power transformer in their transmission system.

It has been intimated that the option to have pooled spare 400kV transformer which may be utilized in case of emergent need arising due to failure of such power transformer in their transmission system is being explored by HVPNL. Accordingly, the matter has been taken up by HVPNL with other Power Utilities viz-a-viz PGCIL and BBMB.

The licensee is directed to provide the month-wise number of tripping and break downs more than half an hour circle wise in the HVPN system for FY 2016-17 and FY2017-18 along with detailed reasons for these trappings/break downs.

3.2.2 POWER TRANSFORMERS FAILURE

The licensee has supplied the voltage-wise damage rate of power transformers vis-à-vis the population of power transformers for the year 2016-17 (end Oct.) which is as under:- There are 1082 Power Transformers installed in HVPNL as on 31.10.2017. During the period 1.04.17 to 31.10.17, 11 nos. of power transformers have been damaged.

Power Transformers Damaged

1.04.2015 to 31.03.2016	01.04.2016 to 31.03.2017	01.04.2017 to 31.10.2017
30	18	11

The rating wise detail of Transformer damage from 01.04.2017 to 31.10.2017 is as under:-

Sr. No.	Voltage rating	Total no. of transformer	Damaged transformer	% of damage
1	400 kV	13	1	7.7
2	220 kV	168	1	0.59
3	132 kV	562	8	1.42
4	66 kV	339	1	0.3

The Commission in its Order dated 29th May, 2014 for ARR and tariff proposal of HVPNL transmission business had advised to strictly enforce the preventive maintenance schedules, ensure healthiness of the protection system, prevent over loading of the transformers and implement the findings of the enquiry reports of the Maintenance and Protection wing of the HVPNL to aim for zero damage rate for Power Transformers.

The following table provides the status of damage of power transformers during the last 5 years.

Sr. No.	Period	Total no. of Power Transformers	No. of Transformers damaged	
			Nos.	% age
1.	2015-16	1030	30	2.91
2	2016-17	1066	18	1.69
3.	2017-18(up-to Oct. 2017)	1082	11	1.02

The Commission observes that the damage rate of Power transformers continues to be high which should not be more than one percentage of its population as compared to the best performing utilities. During FY 2016-17, out of 1066 nos. Power Transformers in HVPN system,

18 nos. transformers have damaged and out of 1082 Power Transformers installed in HVPN 11 no. Power Transformers have failed till 31st October, 2017 which is a matter of concern.

The Licensee was 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. The HVPN has provided data in respect of circle-wise, voltage-wise power transformer damage.

Circle-wise Transformer damage

Name of circle	Voltage	2015-16			2016-17			FY 2017-18		
		No. of T/F	T/F Damage	%	No. of T/F	T/F Damage	%	No. of T/F	T/F Damage	%(Oct .2017)
Panchkula	220/66KV 220/33KV	161	00	00	171	00	00	171	10	5.880
	132/66KV 132/11KV	31	00	00	31	00	00	31	00	00
	66 /11KV 66/33KV	1372	40	2.920	1413	10	0.710	1423	11	.7033
	33/11 KV	1	0	0	1	0	0	1	0	0
Karnal	220 KV	25	0	0	27	0	0	27	0	0
	132 KV	160	5	3.12	161	3	1.86	160	0	0
Rohtak	220 KV	21	0	0	23	0	0	24	0	0
	132 KV	117	3	2.56	136	5	3.68	137	3	2.19
Faridabad	400 KV	2	1	50	2	0	0	2	0	0
	220 KV	16	0	0	16	0	0	17	0	0
	66 KV	98	3	3.13	99	1	1.01	102	0	0
Gurgaon	400 KV	6	0	0	6	0	0	6	0	0
	220 KV	34	1	2.90	34	2	5.80	41	0	0

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Name of circle	Voltage	2015-16			2016-17			FY 2017-18		
		No. of T/F	T/F Damage	%	No. of T/F	T/F Damage	%	No. of T/F	T/F Damage	%(Oct .2017)
	132 KV	51	1	1.96	53	0	0	54	1	1.05
	66 KV	89	1	1.18	91	0	0	91	1	1.11
	33KV	1	0	0	1	0	0	1	0	0
Hisar	400 KV	5	0	0	5	0	0	5	0	0
	220 KV	40	0	0	43	0	0	43	0	0
	132 KV	199	12	6.03	206	7	3.40	210	4	1.90
	33 KV	12	0	0	16	0	0	16	0	0

It is observed that there has been improvement in the reduction of damage rate of the power transformers in the FY 2017-18 . However, in some of the circles the damage rate is still very high. One no. 400 KV transformer damaged in FY 2017-18 out of 13 nos. transformers installed in the system,. Also, 8 no,132 KV power transformers damaged out of 562 transformer installed in the HVPNL transmission system which is very high. It has been observed that 315 ICT -2 at 400KV sub- station Kirori, (Hisar) damaged on 30.06.2017 and restored on 17.10.2017 after about three and a half months. The cause of damage, action taken and the preventive action to be taken to avoid recurrence of such faults be intimated to the Commission.

The Commission in its' order dated 31.05.2017 had directed the licensee to take immediate steps for attending to the pending observations of sick power transformers within three month and report compliance. The licensee in response, has submitted that

There is no sick transformer in HVPNL system. However, the damaged transformers are either got replaced or repaired as per HVPNL guidelines issued by Deputy Secretary/Operation, HVPNL, Panchkula vide memo no. Ch-14/DSO-11/L-I (2013) dated 05.12.2013 and simultaneously all the surveyed off transformers are being E-auctioned regularly.

Further, the Commission had directed the licensee to implement the Protection Audit Norms for its substation and lines to ensure the healthiness of the protection system and submit the action taken report in this regard.

In response to the above observation, the licensee has submitted that the Protection Audit of the substation is being done once in three year and has provided the circle wise details as under:-

	Nos. of S/Stn.	No of Observations	Observation attended	Observation pending
Faridabad	47	220	159	61
Gurugram	61	370	242	128
Hisar	190	1559	811	749
Panchkula	70	536	0	536
Karnal	61	448	274	174
Rohtak	54	442	0	442
	487	3575	1486	2089

The Commission observes that as per the protection audit carried out by the licensee during April to November, 2016 for its substations across the State, 3575 observations were recorded by the protection audit team. Out of which only 1486 observation have been attended as per the details provided by the licensee. More than 58% observations are pending which is the matter of concern.

The licensee ought to take immediate steps for removing the bottle necks for facilitating the field officers to attend these observations expeditiously and not later than three months from the date of this order.

3.2.3 PROVISION OF POLYMER INSULATORS

In order to avoid the problem of tripping of power transmission lines due to dense foggy conditions in winter season, HVPN was advised to provide anti fog/polymer insulators in the transmission network.

HVPNL in its status of compliance of directions has submitted that the work of replacement of insulators has been completed in December, 2016.

All such safety measures undertaken by the Nigam have resulted into reasonable reduction in accidents.

3.2.4 FATAL AND NON-FATAL ACCIDENTS

HVPNL has provided data for fatal and Non-Fatal accidents to human beings in respect of HVPN for the year 2015-16, 2016-17 and 2017-18 (up to 30.09.2017) are tabulated below:

Category	2015-16	2016-17	2017-18 (up to 30.09.2017)
(A) Fatal			
Human beings	1	3	0
Non-human beings	0	0	0
(B) Non-Fatal			
Human beings	10	3	04
Non-human beings	0	0	0

Further the table below provides the data in respect of fatal / non-fatal accidents occurred in HVPNL during the last 6 years.

Fatal/Non-Fatal Accidents

Sr. No.	Period	Human Beings		
		Fatal	Non fatal	Total
1	2010-11	1	3	4
2	2011-12	2	5	7
3	2012-13	2	11	13
4	2013-14	3	4	7
5	2014-15	-	4	4
6	2015-16	1	10	11
7	2016-17	3	3	6
	2017-18 (upto 30.09.2017)	-	4	4

It has been observed that though, the licensee has claimed that all possible safety measures are being taken to avoid of accidents, 6 no. Accidents have occurred to human beings which include 3 fatal accidents during FY 2016-17 and 4 Nos.non fatal accidents have occurred to human being in FY 2017-18 till Sept. 2017.

The licensee has been directed from time to time to raise awareness about Safety Regulations and safety measures to be taken while working on electrical equipments and lines.

The Commission observed that the license was directed to investigate the causes of these accidents and circulate these cases in the field advising the appropriate preventive actions to avoid recurrence of such incidents in future. The circulation of investigation report in the field along with the preventive action to be taken by the field staff be ensured under intimation to the Commission.

In response HVPNL has submitted that the Nigam has a set of well-framed safety rules, which are intended to avoid accidents in the system.

All possible safety measures are presently being taken to avoid occurrence of accidents. The supervisory staffs, subordinate staff and the workers are regularly advised to take safety measures while performing their duties. The following measures have been taken to avoid accident.

The licensee was directed to investigate the causes of these accidents and circulate these cases in the field advising the appropriate preventive actions to avoid recurrence of such incidents in future. Further asked HVPN to circulate the investigation reports in the field along with the preventive action to be taken by the field staff under intimation to the Commission. In

response the Licensee has submitted that the following preventive actions have been taken to avoid recurrence of accidents. Safety Manual has been issued in English as well as Hindi, regular trainings are being imparted in view of complying safety standards time to time. Further safety kits have been procured and issued to staff as per requirement.

Workshops on safety are being organized in the field to increase awareness about safety regulation & safety measures to be adhered to while working on electrical equipment & electric lines.

Proper Tools and Plants (T&P) have been provided to the field technical staff;

Fencing/ guarding is being provided wherever necessary;

All electrical equipment and structures are properly earthed;

All safety instructions of Grid Code are being implemented.

Literature on safety regulations, safety measures has been prepared and circulated amongst the officers / staff posted in the field to increase the level of awareness

3.2.5 PLANS FOR IMPROVING THE SYSTEM POWER FACTOR

As per requirement of the Haryana Grid code the transmission licensee has submitted as under:-

*The reactive power planning exercise would be carried out by STU in consultation with NRLDC/NRPC and DISCOMs, as per the Commission's directives and programme for installation of active compensation equipment by STU and distribution licensee;

*STU shall carry out planning studies for reactive power compensation of State transmission system including reactive power compensation at the intra-state generating station's switchyard

*The agency engaged in sub-transmission and distribution shall not depend upon the state transmission system for reactive support when connected. The agency shall estimate and provide the required reactive compensation in its transmission and distribution network to meet its full reactive power requirement, unless specifically agreed to with STU/transmission licensee.

*Reactive power compensation and/or other facilities should be provided by transmission licensee and distribution licensees as far as possible in the low voltage Systems close to the load points thereby avoiding the need for exchange of reactive power to/from state transmission system and to maintain transmission system voltage within the specified range.

*SLDC shall continuously monitor voltage at starategic substation & in coordination with NRLDC regulate voltage levels so that there is minimal reactive power from regional transmission system

*Reactive power compensation should ideally be provided locally, by generating reactive power as close to the reactive power consumption as possible. The beneficiaries are therefore expected to provide local VAr compensation/ generation such that they do not draw VARs from the grid, particularly under low-voltage condition

It has been submitted that HVPNL has already installed **4001.009 MVAR** capacitors (as on 30.09.2017) on 220kV, 132kV and 66kV network to improve the power factor in the HVPN System. During current year 2017-18 HT Capacitors of **54.288 MVAR** Capacity have been added in the Transmission system upto September-2017. However, the system power factor is mainly driven by the power factor of the load and is affected primarily by the consumers of the Distribution and Retail Supply Licensees.

Capacitor installed in HVPNL System is as under:-

Sr. no.	Name of Circle	Total capacitors in MVAR installed as on 31.03.17	Total capacitors in MVAR installed as on 30.09.17
1.	TS Zone HVPNL, Panchkula	2183.427	2194.227
2.	TS Zone HVPNL, Hisar	1763.294	1806.782
Total of HVPNL		3946.721	4001.009

3.2.6 INSTALLATION OF CAPACITOR BANKS

HVPN was directed to chalk out a plan to rehabilitate all the capacitors banks which are defective within six months and submit details to the Commission. The licensee in response to the directives issued by the Commission, has submitted that the tenders for procurement of Capacitor cells for rehabilitation of existing capacitor banks is in the advanced stage and shall be awarded shortly. The supply will be received up to March, 2018 and the defective Capacitor Banks will be replaced thereafter.

The licensee is directed to expedite the rehabilitation of defective capacitor banks in its substations and ensure the healthiness of the capacitor banks installed in the system. The

progress of bringing back in service the capacitor bank along with the name of substation be provided.

3.2.7 ENERGY ACCOUNTING

The HVPNL has submitted that the information on energy receipt at interface points of HVPNL with CTU and energy supplied to DISCOMs at LV side of the transformers in the HVPNL Sub Stations is being accounted. Regarding metering of interface points with DISCOMs. There are 1085 interface locations between HVPNL and the DISCOMs (UHBVNL & DHBVNL) and Railways. At all 1085 locations Special Energy Meters (SEMs) have been installed. The Monthly Energy Account is prepared by HVPNL after considering the energy measured and recorded by the energy meters installed at the interface locations of the DISCOMs at 11KV or 33 KV side of the each Power Transformer feeding the distribution area. In addition the energy fed directly from the Sub Stations of HVPNL at higher voltage to the consumers of DISCOMs as per the list given below is accounted for in the monthly energy accounts.

HVPNL has further decided to install SEMs at new interface points as under:

Interface between HVPNL and DISCOMs:-

Only one SEM be installed to serve as main meter on 11 KV & 33 KV feeders emanating from sub-station under the control of HVPNL. The standby SEM be installed by DISCOM. Further SEM will be installed with 11kV incomer panel having provision of 0.2S accuracy class metering CT/PT instead of 11kV combined CT/PT unit.

Interface points with HPGCL:-

The standby meter will be installed on HV side of generator transformer and station auxiliary transformer by HPGCL. Main and check SEMs on all outgoing feeders be installed by HVPNL.

List of interface locations of HVPNL feeding consumers directly as on 31.10.2017:

Sr. No.	Name of the Location	Sr. No.	Name of the Location
1	132 kV NFL Ckt-I, Panipat	21	66 kV MUL,Ckt-I Gurgaon
2	132 kV NFL Ckt-II, Panipat	22	66 kV MUL,Ckt-II Gurgaon
3	132 kV IOC TDLTPS, Panipat	23	132 kV Grasim Textile Bhiwani
4	132kV Allied Strips, Bahadurgarh	24	66 kV Honda scooters, Gurgaon
5	132 KV HNG Bahadurgarh	25	66 kV RICO, Gurgaon

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Sr. No.	Name of the Location	Sr. No.	Name of the Location
6	66 kV Railway workshop, Jagadhari	26	66kV Bharti realty
7	66 kV MES, Ambala Cantt.	27	66 kV Ambience Mall feeder, Gurugram
8	66 kV Air Force, Ambala	28	220 kV Railway Traction Ckt-1 from 400kV, Abdulapur, PGCIL
9	66 kV IOC, Ambala	29	220 kV Railway Traction Ckt-II from 400kV, Abdulapur, PGCIL
10	66 kV Munjal Kiri, Manesar	30	132 kV Railways-Diwana Ckt-I, Panipat
11	66 kV Sunbeam, Gurgaon	31	132 kV Railways-Diwana Ckt-II, Panipat
12	132 kV Asahi India, Narnaul	32	132kV Railway Asaudha Ckt-I,
13	220 kV Jindal Strips, Hisar	33	132kV Railway Asaudha Ckt-II,
14	66 kV BSL Casting Faridabad	34	66 kV Railways Ckt-I, Faridabad
15	66 KV Escort Line Faridabad	35.	66 kV Railways Ckt-II, Faridabad
16	66 KV JCB Feeder Faridabad	36.	66 kV Laser Shaving Blade, Faridabad
17	66 kV DMRC, Ckt-1 Faridabad	37.	66 kV Star Wire, Faridabad
18	66 kV DMRC, Ckt-2 Faridabad	38.	66 kV Star Wire, Chhainsa
19	66 kV DMRC, Ckt-1, Gurgaon	39.	66 KV Punjab General industries Faridabad
20	66kV Rapid Metro, sec-28, Gurgaon	40	66 kV DMRC, Ckt-2 Gurgaon

3.2.8 INADEQUATE OR DEFECTIVE METERS

It has been submitted that under the Transmission License, HVPNL has to install and maintain the interface meters for recording the flow of power from HVPNL to distribution licensees i.e UHBVNL, DHBVNL & Railways. There are 1085 interface metering points between HVPNL & DISCOMS/Railway. Status of Special Energy Meters (SEMs) and Conventional meters installed at various interface with DISCOMS/Railway, as on 31.10.2017 is as under:-

Description	DHBVNL	UHBVNL	Railways	Total
Total no. of interface points between licensees i.e UHBVNL, DHBVNL & Railways	545	532	8	1085
No. of interface points between licensees i.e UHBVNL, DHBVNL & Railways where SEMs are commissioned	545	532	8	1085

The interface point w.r.t. state generator and HVPNL is as under:-

Name of Generating Plant	PTPS	WYC	DCRTPP	RGTPP	FGPS	MGSTPP
Total No. of Interface Points	8	3	8	4	4	4
No. of interface points where SEMs are commissioned	8	3	8	2	4	4
No. of Metering Points where SEM have not been installed and ECMS are installed	0	0	0	2	0	0

Name of Renewable Energy Generating Plant	Shahabad Sugar Mill	Star wire	Gemco	Sri Jyoti
Total No. of Interface Points	1	1	1	1
No of interface points where SEMs are commissioned	1	1	1	1
No. of Metering Points where SEM have not been installed and ECMS are installed	0	0	0	0

As far as the inter-State metering is concerned these meters are installed and maintained by the Central Transmission Utility (Power Grid Corporation of India Ltd.) Adequate back-up systems also exist to avoid metering inadequacies in the system.

As per the CEA (Installation and Operation of Meters) Regulation, 2006 dated 17.03.2006, SEMs has to be installed at all the interface points. The latest status as on 31.10.2017, SEMs has been installed at all the interface points with distribution licensees i.e UHBVNL, DHBVNL, Railways & Generating points except at 2 interface point with RGTPP, Khedar, HPGCL. HVPN to take appropriate action and ensured that SEMs are provided at the balance to interface point at RGTPP where presently the ECMs are provided.

The license is directed to ensure that in future no transmission element forming interface point with any utility is energized without installation and commissioning of SEMs as per CEA Regulations.

3.2.9 INCENTIVES AND PENALTY: SYSTEM AVAILABILITY

HERC (Terms and Conditions for Determination of Tariff for Generation, Transmission, Wheeling and Distribution & Retail Supply under Multi Year Tariff Framework) Regulations, 2012 section 12 (INCENTIVE AND PENALTY FRAMEWORK) provides as follows:-

12.1 “Various elements of the ARR of the generating company and the licensee will be subject to incentive and penalty framework as per the terms specified in this regulation. The overall aim is to incentivize better performance and penalize poor performance, with the base level as per the norms / benchmarks specified by the Commission.”

12.2 “The elements of ARR of generating company and licensees to which incentive and penalty framework shall apply are as follows:

(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:

$$I = ATC \times (AA - TA) / TA$$

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."

3.2.10 BRIEF DESCRIPTION OF METHODOLOGY USED FOR CALCULATION OF SYSTEM AVAILABILITY

HVPNL has submitted that the availability has been calculated circle wise for all circles month wise and then the average has been taken to arrive at the system availability for the year. The month wise availability of each circle is calculated with the help of the formula prescribed in MYT Regulations.

S.No	Month	Total of Lines & transformers capacity during month (C*D)	Numerator (H*C*D)	Availability during Month {100-100*(S/R*U)}	Hours in the Month	Denominator (R*U)
P	Q	R	S	T	U	V
1	Apr-16	106873.172	1166855.793	98.483592	720	76948683.8400
2	May-16	107424.6542	967605.5162	98.789342	744	79923942.7248
3	Jun-16	108416.2086	984679.1059	98.738556	720	78059670.1920
4	Jul-16	108922.2599	807490.8496	99.003567	744	81038161.3656
5	Aug-16	109464.4324	423098.0719	99.480489	744	81441537.7056
6	Sep-16	109898.0969	333636.5695	99.578351	720	79126629.7680
7	Oct-16	110356.5631	380657.8096	99.536378	744	82105282.9464
8	Nov-16	110514.8681	991396.0719	98.754069	720	79570705.0320
9	Dec-16	110713.7847	795246.0367	99.034556	744	82371055.8168
10	Jan-17	110803.532	857384.3432	98.959962	744	82437827.8080
11	Feb-17	110992.1424	546586.8635	99.267179	672	74586719.6928
12	Mar-17	111052.7462	946056.2585	98.854976	744	82623243.1728

S.No	Month	Total of Lines & transformers capacity during month (C*D)	Numerator (H*C*D)	Availability during Month {100-100*(S/R*U)}	Hours in the Month	Denominator (R*U)
	Total		9200693.289		8784	960233460.0648
	Annual TSA for the year 2016-17			99.0425		
Legend						
C = length of line in ckt. KM/MVA Rating of T/F						
D = No of Sub-conductors per phase /constant factor =2.5 for T/F						
H = Total Outage hours (Planned Outage + Forced Outage)						
Annual TSA for the year 206-17 as per HERC Formula is						
=100 – 100*{Total Numerator H*C*D/Total Denominator R*U}						
100 -100* {9200693.289/960233460.0648}						
99.0425						

Annual Transmission Charges (ATC)	16,276.35
Annual Availability Achieved (Actual) (AA)	99.0425
Normative Target Availability (TA)	99.200
(AA-TA)/TA	(0.0015877)
Incentive (I) (Rs. Million)	(25.842)

The Petitioner admits that the system availability has been lower than the normative availability during FY 16-17, for which the penalty is to be levied. The penalty of Rs. 12.921 million for FY 2016-17 based upon system availability has been estimated above and the Petitioner proposes to pass on the impact of such penalty levied on ARR of HVPNL to the consumers by reduction of its ARR. The remaining 50% share of Rs 12.921 million shall be passed on to the beneficiaries.

The Commission observed that as per section 12.5.2 of the MYT Regulation, 2012, the item-wise losses on account of controllable factors in case of generating company / transmission licensee unless otherwise specifically provided by the Commission, shall be borne by the generating company/transmission licensee as the case may be.

In view of above, the loss of Rs. 25.842 million shall be borne by the Petitioner only.

3.3 UNITARY CHARGES

The Commission has granted project specific transmission license to M/s Jhajjar KT Transco Private Limited on 26th October, 2010. The transmission works under public private partnership mode stands completed and has achieved Commercial Operation Date on 12th March 2012.

As per Transmission Agreement (clause 26.8.2); the applicable monthly Unitary Charges is being paid by HVPNL to M/s Jhajjar KT Transco Private Limited. The base Unitary Charge for the accounting year, in which COD occurred i.e. 2011-12, was Rs. 4,50,00,000/-, and the same is being revised annually by decreasing the base unitary charge for the immediately preceding accounting year by 3% thereof and to reflect 40% of the variation in WPI in accordance with the provisions of Transmission Service Agreement (TSA).

Accordingly, the calculation of monthly Unitary Charges for current financial year 2017-18 submitted by HVPNL is as under:-

1	Monthly Base Unitary Charge as per Clause 26.2.1 of TA for 2011-12	45,000,000
2	Yearly reduction (%)	3%
3	Monthly Base Unitary Charge for FY 2017-18	37483739
4	WPI for Jan 2010 (Base Accounting Year)	135.2 (published by the Ministry of Industry, GOI)
5	WPI for Jan 2017 preceding the Accounting Year	185.1 (published by the Ministry of Industry, GOI)
6	Increase in WPI (%)	36.91%
7	WPI Index (40 % of WPI increase) (%)	14.76%
8	Increase in Base Unitary Charge linked with WPI	5533837
9	Indexed Unitary Charge (Rs) (Sl.No.5+10)	43017576
10	System Availability (%)	100% (Assuming)
11	Normative Availability (%)	98
12	Incentive due to System Availability	877910
13	Incentive due to less Transmission Losses	176814
14	Unitary Charge + Incentives (Sl.No.11+14+15)	44072300
15	Total Unitary charges for the month	Rs. 44072300
16	Monthly Unitary Charges (In Millions)	44.072

The licensee has submitted that the expected Unitary Charges for the next Financial Year (2018-19) is likely to remain around Rs 44.1 Million per month (approx.) keeping in view the expected increase in WPI and yearly reduction of Base Unitary Charge by 3%.

The Commission has examined the proposal of the licensee and observes that the proposed Unitary charges are in accordance with the methodology prescribed by the Commission in this regard. Accordingly, the monthly Unitary Charges of Rs. 43.017 Million for the FY 2017-18 as proposed are approved after excluding the incentive for system availability and transmission losses. The incentive on account of availability of transmission system and transmission losses shall be separately billed by HVPNL to the beneficiaries only after ensuring the conditions and provisions in the Transmission Service Agreement.

1	Monthly Base Unitary Charge as per Clause 26.2.1 of TA for 2011-12	45,000,000
2	Yearly reduction (%)	3%
3	Monthly Base Unitary Charge for FY 2017-18	37483739

4	WPI for Jan 2010 (Base Accounting Year) (published by the Ministry of Industry, GOI)	135.2
5	WPI for Jan 2017 preceding the Accounting Year (published by the Ministry of Industry, GOI)	185.1
6	Increase in WPI (%)	36.91%
7	WPI Index (40 % of WPI increase) (%)	14.76%
8	Increase in Base Unitary Charge linked with WPI	5533837
9	Indexed Unitary Charge (Rs) (Sl.No.5+10)	Rs. 43017576
10	Monthly Unitary charges Rs. Million	Rs. 43.017

Further, the Commission, in its earlier Order, had directed HVPNL that incentive on account of availability of the transmission system and the transmission losses shall be subject to ensuring fulfillment of the terms and the conditions and other provisions in the transmission service agreement regarding the same. The licensee has confirmed that the same is being ensured. The Commission takes the declaration on record as complied with.

3.4 TRUE-UP OF ARR FOR THE FY 2016-17

The Commission has examined the true-up petition of HVPNL's expenditures in line with the MYT Regulations, 2012 and amendments thereto, with reference to the Order of the Commission for the FY 2016-17 and the actual expenditure incurred by the Licensee as per the audited accounts submitted by the Licensee. The True-up amount admitted by the Commission for individual components of the ARR is discussed in the following paragraphs:-

3.4.1 EMPLOYEES' COST

The Commission has examined each component of the employee cost with reference to the previous year's in order to arrive at the reason behind the 17.55% increase in the said cost especially when the inflation indexation factor has been calculated at 3.52% only for the FY 2016-17 over the FY 2015-16. A comparison of item wise annual increase in each component of employees' cost is presented below:-

Particulars (In Rs Lakhs)	Actual 2015-16	Actual 2016-17	% increase over previous year
Basic	8632.45	12093.5	40.09%
DA	10020.3	10256.57	2.36%
Other allowances	3589.3	3629.85	1.13%
Contract employees	5216.18	6331.27	21.38%
Contribution to new pension scheme (NPS)	487.17	537.36	10.30%
Total Employee Cost	27,945.40	32,848.55	17.55%

The MYT Regulations, 2012 provides that the employees' cost, as part of O&M expenses, is to be considered as controllable cost. The licensee has submitted that the increase in actual cost as against the approved employee cost is mainly due to revision in salaries on account of implementation of 7th Pay Commission which is purely beyond the control of the Petitioner. Also, there has been increase in the employee cost due to increase in

contractual employees of HVPN. Additionally, it has been submitted that in accordance with the directive of the Commission, the Petitioner has not undertaken any new recruitment of employees in the FY 2016-17. The increase in employees' cost as against that approved by the Commission is purely on account of factors beyond their control. The Petitioner has relied completely on the directions of the Commission to increase the number of contractual employees, thus limiting the financial burden. However, during the course of interaction, the licensee submitted that out of the total proposed true up, an amount of Rs. 362.62 million has not been paid in the FY 2016-17 but in subsequent period.

HVPNL has prayed that the Commission may consider the actual employees' cost of the FY 2016-17 as per the audited accounts and the same may also be considered as a base for the projection of employees' cost for the MYT Control Period. In view of above submissions of the licensee, the Commission approves the actual cost incurred during FY 2015-16 as part of true up. However, in view of the fact that Rs. 362.62 million is only a provision and not an actual payment during the FY 2016-17, the carrying cost shall exclude the amount which has been paid in a subsequent year.

The details of employees' cost, excluding terminal benefits, after true-up as approved by the Commission is given in table 3.8 as under:-

Table: Employees' cost for FY 2016-17

	HERC Approval	HVPNL Audited	Difference
Employees' cost (excluding terminal benefits)	2506.49	3250.53	(744)

The Commission, in line with the MYT Regulations, now allows the difference amounting to Rs. 744 million to be true-d – up.

Vigilance system for Haryana Power Utilities should be made more stringent and effective so as to rein all sorts of theft and unauthorized use of electricity including connivance of the utility personnel. The system prevalent in other States may be examined in this regard.

3.4.2 TERMINAL BENEFITS

On the basis of the audited accounts for the FY 2016-17, the petitioner has sought true-up of Rs.1093 million as under:-

Particulars (Rs. Millions)	HERC Approved	HVPNL Audited	Difference
Terminal Liability	2093.11	3185.72	1093

The Commission had allowed Rs. 1113.92 million towards terminal benefits for the FY 2016-17 as proposed by the Licensee as part of the first MYT order dated 29.05.2014. As per

the MYT Regulation 8.3 (b) the terminal benefits are classified as 'uncontrollable' is on account of changes in pay scales or dearness allowance due to inflation. The Commission is also committed to providing for the liability as per actuarial valuation. However, the licensee had revised its projections to Rs. 2093.11 million while submitting the petition for revised ARR for the FY 2016-17, based on the actuarial valuation and the same was accepted by the Commission. Revised pay fixation on account of 7th pay Commission report and a fall in interest rates was the justification provided for an almost 100 % increase in the valuation supported by the certified actuary. The Commission is astonished to observe that the incremental deficit worked out by the actuary now is almost 1000% i.e 10 times the original additional support estimated. The licensee has proposed that the additional funds now required be contributed in 3 equal installments. The Commission is constrained to wonder about the sanctity of the valuation in view of the wild variations in the valuations that the licensee has submitted and also observes that the licensee has proposed to spread out the recovery over three years for which no justification has been provided. As against this, the licensee, in its appeal filed with the Hon'ble Appellate Tribunal for Electricity in Appeal no 100 of 2012, had cited that it is bound by statute and therefore the amount of liability assessed by the actuary be allowed, and the argument was accepted by the Hon'ble Appellate Court. The Commission is also constrained to observe that in case the licensee had the option to defer the payment, then it would have been better to defer the payments to FY 2019-20 to FY 2020-23, when the terminal benefit contribution is expected to be negative as per the information provided by the licensee in the filing and which would have resulted in normalization of transmission tariff. However, the licensee has submitted that the amount has actually been paid up to the trust and therefore the Commission allows true up based on actual payment basis for the FY 2016-17 as proposed by the licensee . However, the Commission directs the licensee to examine the details provided to the actuary and to determine the reasons behind revision in valuation in detail. The Commission further directs the licensee to seek prior approval of the Commission for contribution to the pension trust in excess of that proposed by it in the ARR in future in view of the fact that there is no legal hitch in deferring the payment to the trust funds as demonstrated by the proposal of the licensee for the FY 2016-17.

The Licensee was directed to examine certain anomalies in the actuary report in the FY 2015-16 and submit a report within one month of the order. However, the Commission observes that the licensee made no efforts to examine the issue or to submit any report to the Commission within the time frame prescribed.

3.4.3 REPAIR AND MAINTENANCE EXPENSES (R&M)

The Licensee has submitted that the actual R&M cost incurred in the FY 2016-17 is lower than the HERC approved R&M cost as every element of R&M expenditure incurred is related to works that are recurring in nature and the petitioner has applied significant prudence in undertaking these works. Accordingly, it has been submitted that the benefit of lower cost may be passed on to the beneficiaries. The details are as under:-

Particulars (Rs. Millions)	HERC Approved	HVPLN Proposed	Difference
R&M Cost – Transmission	414.56	232.56	182

As per the MYT Regulations, the R&M expenses are to be allowed as a factor of GFA. The Commission observes that R & M expenses incurred by the licensee during the past years have been substantially lower than those approved in accordance with the MYT Regulations. In view of the lower availability of the transmission system in the FY 2015-16, **the Commission had directed the licensee to prepare and undertake ‘predictive maintenance’ besides ‘preventive maintenance’ so as to ensure better operating efficiency and reliability of the Transmission System.** In response, the licensee has submitted that maintenance is being carried out as per the standard operating procedure with regard to the prescribed maintenance schedule is being adhered to. Accordingly, the Commission approves the true-up R&M cost as for the FY 2016-17 as proposed by the licensee.

3.4.4 A&G EXPENSES

The Petitioner has submitted Administrative and General Expenses (A&G) approved by the Commission and the actual A&G expense incurred as under:-

True-up of A&G Expenses for FY 2016-17

Particulars (Rs. Millions)	Approved	Actual	Difference
A&G Expenses	151.69	206.27	(55)

Petitioner has submitted that the increase in A&G cost is mainly due to the actual rate of inflation in the economy and certain expenditure items such as rates and taxes, legal and professional fees etc. are unavoidable in nature, which have largely contributed to the increase in A&G expenses. The Commission observes that the audited A&G expenses for the FY 2015-16 were Rs.153.85 million after capitalization. The licensee, vide notes to accounts, has informed that it has decided not to capitalize A&G expenses and employee cost from FY 2016-17 onwards. Therefore it would be appropriate to compare the A&G expenses before capitalization for the FY 2015-16, Rs. 175.42 million, which when increased by the inflation

factor worked out as per the MYT regulations (3.04%), comes to Rs. 181.38 million. On perusal of the audited accounts submitted by the licensee, unlike as claimed by the licensee, it is observed that the increase in legal expenses is negligible. Further, the licensee has not provided any explanation for the increase in rates and taxes in the filing. However, the licensee has, during the course of hearing, informed the Commission that the increase is due to arrears of property tax paid to the Govt. of Haryana.

In view of above discussions the Commission approves Rs. 206.27 million as per audited accounts as part of true-up for the FY 2016-17 as proposed by the licensee.

3.4.5 DEPRECIATION

True up of depreciation as proposed by the licensee has been examined and found in order and as per the methodology prescribed. The Commission, therefore, approves Rs. 3313.91 million as per audited accounts as part of true-up for the FY 2016-17 as proposed by the licensee.

3.4.6 RETURN ON EQUITY (ROE)

The Licensee has proposed true up of RoE of Rs. 2052.70 million for the FY 2016-17 as against Rs. 1704.60 approved by the Commission. The Commission has examined the true up proposed and observes that the licensee has omitted to reduce the equity used for investing in distribution companies Rs. 1259.33 million. Further no explanation has been given for the source of funding for increase in investment in generation business. The licensee was asked to provide an explanation for the source of funding for the difference. However, no such explanation has been given by the licensee, though the matter was also raised in the earlier years. In view of the fact that the licensee is having different businesses, it is imperative for the licensee to provide the source of funding for additional investment in all its businesses separately. **The Commission, therefore, directs the licensee to map the source of funding of its investments in separate businesses while submitting its application for true up in future;** else the Commission shall be constrained to reduce the equity accordingly. The licensee has revised its calculations of RoE to Rs. 1926.77 million in its additional submissions furnished to the **Commission on 31.10.2018 to exclude the equity used for distribution business. Accordingly, the calculation of true up of RoE for the FY 2016-17 is as under:-**

Table: True-up of Return on Equity for FY 2016-17 (Rs. Million)

	HERC Order	HERC True up
	2016-17	2016-17
Paid up Equity Share Capital at the beginning of the year		21,487.76
Share application money pending allotment		2,000.00

	HERC Order	HERC True up
	2016-17	2016-17
Less		0.00
Equity Capital for SLDC		56.00
Equity Capital for Generation		1595.40
Equity capital for investment in distribution companies		1,259.33
Balance Equity for Transmission	18,576.97	20577.03
Add 50% of equity portion of GFA added during FY 2016-17	1,151.69	456.55
Less equity related to transmission works not yet commissioned	2,682.64	1767.30
Less equity not utilised for transmission business in FY 2011-12 as per audited accounts	0.00	0.00
Equity to be considered for ROE	17,046.03	19266.28
Rate of return	10%	10%
Return on Equity for Transmission Business	1,704.60	1926.63

In view of the above details the Commission approves the revised RoE of Rs. 1926.63 millions for the FY 2016-17 as against Rs. 1926.77 million claimed by the licensee.

3.4.7 INTEREST AND FINANCE CHARGES

The Licensee has submitted the break-up of finance cost (interest expenses) of transmission business for the FY 2016-17 as per audited annual accounts as under:-

Particulars (In Rs Million)	Interest Cost Incurred
Interest on Cap-Ex Loan	2,499.06
Interest on Working Capital loan	212.01
Interest on Uday Bonds	332.21
Interest on Pension/PF Bonds	170.21
Interest on bonds issued by HVPN on behalf of Discoms	1,421.96
Other Finance Charges	42.66
Total interest incurred by HVPN	4,678.11

The actual interest and finance charges for capital expenditure borrowings incurred by the Petitioner are lower than that approved by the Commission, as presented below.

Interest Cost (In Rs Million)	Approved for FY 2016-17 vide Order dated 31.03.2016	Actual	Difference
Interest on Capex Loan	2655.75	2499.06	156.69

The outstanding term loans have been examined based on starting Loan Balances as on 31.3.2014 as per HERC order dated 18.8.2015, additional borrowings based on the admitted capital expenditure for the FY 2016-17 and the preceding years and available information on

repayments. Rate of interest and capitalization is based on the audited figures provided by the licensee. Accordingly, the approved interest on term loans for the FY 2016-17 is as below:-

	Balance at the beginning of the year	Receipt during the year	Repayment during the year	Closing Balance	Interest cost	Weighted Average Rate of Interest
Interest as per Audited Accounts for the 2016-17						
Loan balance	32499.70			37240.88	2643.62	7.58%
Less capitalised					144.56	
Intt cost net of capitalisation					2499.06	
HERC approval for True up Transmission including SLDC						
Starting Loan Balances as on 31.3.2014 as per HERC order dated 18.8.2015						
FY 2014-15	29084.18	4969.56	2764.21	31289.53	2217.61	7.35%
FY 2015-16	31289.53	3926.60	3026.11	32190.02	2259.78	7.12%
FY 2016-17	32190.02	1692.41	3313.90	30568.52	2378.96	7.58%
Less capitalized (pro rata based on audited accounts)					130.09	
Intt cost net of capitalisation					2248.87	

Interest Cost (Capex Loan)

Interest (In Rs Million)	As per HVPNL Filing	HERC approved
Approved	2655.75	2655.75
Actual	2499.06	2248.87
Difference	156.69	250.19

Petitioner has further submitted that PF Bonds and Pension Bonds have been taken over by the Government and UDAY bonds of Rs 855 Crores have been issued @ 8.18% per annum interest rate has been issued in its place. Interests on UDAY bonds issued for have been accordingly considered as per actual by the petitioner.

The Commission has examined the matter and observes that the Commission has already been allowing interest on unpaid balance of PF and Pension bonds to HVPNL and the said bonds have been fully paid off in the FY 2016-17 for the purpose of ARR. Substitution of one loan with the other can only be allowed to the extent of outstanding amount. As no amount is outstanding against PF and Pension bonds as on 31.3.2017, no substitution of loan amount or interest on UDAY bonds is allowed. Further, the Commission had allocated certain incomes e.g.profit on sale of fixed assets etc. towards repayment of PF bonds instead of the amounts being reduced from the tariff for the consumers of the state in view of the prayer of the petitioner that it has no funds to repay these liabilities. The Commission notices that the petitioner has

received Rs. 342 crores from the state government as share application money in the FY 2016-17 towards part repayment of these bonds. In view of the fact that the Commission has already paid off the PF and pension bonds for the purpose of ARR and that the licensee is now receiving certain subventions from the state governments towards repayment of these bonds, the Commission directs the licensee to calculate the amount of “other income” that ought to have been used for reduction of transmission tariff but has been adjusted towards repayment of these bonds and submit the calculations to the Commission along with the next ARR application so that appropriate adjustment may be made for the benefit of consumers.

The Commission, in light of the above discussions, retains the interest allowed in the ARR for the FY 2016-17 towards the PF bonds at Rs. 6.72 million for true up.

Interest on Working Capital

The petitioner has submitted that the interest on working capital approved by the Commission on the ARR was in line with the MYT Regulations 2012. The actual Interest on Working Capital incurred by the Petitioner is lower than that approved by the Commission. Therefore, the Petitioner has prayed that the actual interest on working capital incurred by the Petitioner, which is based on the accounts audited by Statutory Auditor of FY 2016-17 be approved for true up and the same is approved by the Commission as proposed by the licensee.

Working Capital/Bank Loans (Rs. Million)	Approved for FY 2016-17 vide Order dated 31.03.2016	Proposed Based Actual	Difference
Interest	253.8	212.01	41.79

3.4.8 OTHER FINANCE CHARGES.

The licensee has proposed a true up of other finance charges amounting to Rs. 42.66 million. The Commission observes that the licensee had neither proposed any cost towards other finance charges as part of its ARR petition for the FY 2016-17, nor has provided any explanation/ justification for allowing such cost as part of true up now. However, the licensee has submitted the details and considering the same, the Commission allows true up of other finance charges as proposed by the licensee.

3.4.9 REACTIVE ENERGY CHARGES

The Commission in its Order dated 18.8.2015, on the issue of reactive energy charges, has ordered as below:-

“.....Hence, HVPNL is directed to pay the said amount i.e. Rs. 44.187 Million to the Discoms out of Rs. 75.4 Million received from PGCIL-NRLDC and the balance is to be kept in the State Reactive Energy Pool Account, to be maintained by the SLDC on behalf of the Haryana Power Utilities. SLDC shall invest any surplus available in the pool account in fixed deposits with any nationalised bank and the same shall be shown under a separate head in its books of accounts. The Commission shall issue separate instructions/ directions for maintenance and use of funds in the pool account shortly after holding consultation with stakeholders. The Commission has been informed by the licensee as well as Discoms that HVPNL is retaining all funds with itself and not passing on the benefits of positive RE profile to the Discoms. **The Commission, therefore, directs HVPNL to retain only the net amount in the State pool account in accordance with the earlier orders of the Commission and further directs the petitioner to frame a proposal in this regard taking into consideration the methodology adopted by other states and submit the same for consideration of the Commission within 1 month of this order.**

3.4.10 FOREIGN EXCHANGE RATE VARIATION

The Petitioner has proposed recovery of FERV, in line with the Commission's order dated 31.03.2016, Clause 3.4.11, whereby the principle of recovery based on cash loss due to FERV has been considered, as reproduced below:

“...However, in order to spread the incidence of recovering FERV, the cash payment basis can be adopted for the purpose of regulatory practice. Under this methodology, the Licensee will claim the FERV as and when the repayment of loan is made. However, care should be taken that the FERV which has been capitalized should not be recovered again while making payment of the loan. Accordingly, the capitalized value of FERV will be divided into 50 instalments (based on the number of instalments of loan repayment) and while calculating the FERV on the each repayment instalment, the additional FERV will be reduced by 1/50th of the FERV already capitalized.”

Accordingly, in order to estimate the incidence of FERV to be capitalized, the Petitioner has considered recovery of Rs.4.20 Cr up to previous year, while for the FERV capitalized during FY 2016-17, is Rs. (8.52) Cr., the amount has been spread over 45 instalments, as only 45 instalments are yet to be paid. The details as provided by the licensee are as below:

Year	FERV Capitalized (in Rs . Cr.)	FERV Charged to P&L (in Rs Cr.)	Total FERV
2011-12	42.42	15.9	58.32
2012-13	27.77	6.6	34.37

HERC ORDER ON TRANSMISSION TARIFF AND SLDC CHARGES FOR FY 2018-19, ANNUAL PERFORMANCE REVIEW FOR THE FY 2017-18 & TRUE-UP FOR THE FY 2016-17

Year	FERV Capitalized (in Rs . Cr.)	FERV Charged to P&L (in Rs Cr.)	Total FERV
2013-14	79.16	15.8	94.96
2014-15	30.72	13.43	44.15
2015-16	17.38	43.77	61.16
Total	197.45	95.5	292.96
Capitalization recovery for 47 Installments (for amount till FY 17)	4.20		
2016-17	(8.52)	(18.22)	(26.73)
Total upto 31.3.2017	188.93	77.28	266.21
Capitalization recovery (for 45 installments)	(0.19)		
Total FERV Capitalization to recovered in current year	4.01		

The details of calculation of FERV, proposed to form part of true up by the licensee are provided in the table below:

Calculation of FERV on 1 st installment Paid in 2016-17		Figure (in Crore)
Amount received (1 st Installment of loan drawl)	USD	2.76
Repayment -3 rd installment in FY 16-17	USD	0.37
Amount Paid – 4 th installment in FY 16-17	USD	0.41
Exchange Rate at the time of receipt of installment	INR	45.82
Exchange Rate at the time of Payment of 3 rd installment - in FY16-17	INR	67.08
Exchange Rate at the time of Payment of 4 th installment - in FY16-17	INR	68.05
FERV on 3 rd installment	INR	7.92
FERV on 4 th installment	INR	9.21
Less: Recovery of capitalized FERV	INR	4.01
Net FERV on 3 rd and 4 th Installment of loan	INR	13.11

The Commission has examined the calculation of FERV as submitted above and observes that the recovery of capitalised FERV has been calculated based on one installment whereas the repayment has been of two installments. The amount of capitalised FERV is to be reduced from the FERV expensed for each installment. The correct calculation is as approved below:-

		HVPNL Proposal	HERC Order
FERV on 3 rd installment	Rs. crores	7.92	7.87
FERV on 4 th installment	Rs. crores	9.21	9.11
Less: Recovery of capitalized FERV on 3rd installment	Rs. crores	4.01	4.20
Less: Recovery of capitalized FERV on 4th installment	Rs. crores		4.20
Net FERV on 3 rd and 4 th Installment of loan	Rs. crores	13.11	8.58

Total FERV capitalized as on 31.03.2017	Rs. Crore	188.93
Less: Recovered	Rs. Crore	
2014-15	Rs. Crore	3.60
2015-16	Rs. Crore	7.91
2016-17		8.21
Unrecovered balance of capitalized FERV as on 31.03.2016	Rs. Crore	169.21

Total FERV charged to Revenue upto 31.03.2017	Rs. Crore	77.28
Less: Recovered from ARR		
FY 2013-14	Rs. Crore	15.83
FY 2014-15	Rs. Crore	1.99
FY 2015-16	Rs. Crore	14.42
FY 2016-17	Rs. Crore	17.13
Unrecovered FERV charged to Revenue as on 31.03.2017	Rs. Crore	49.37

The Commission observes that the risk arises due to the fact that the revenue generated in the present case is in INR while financing of forex loan is in USD. Thus INR depreciation vis-à-vis USD, in the present case, would therefore result in revenue that is insufficient to cover the cost of funding. Further, given the country credit rating it is unlikely that forward foreign exchange transactions could be arranged at an affordable cost. Hence, till such times the credit rating of India reaches 'investment grade' on a sustained basis, HVPNL may keep such transactions indexed with the foreign exchange rate and at the same time keep exploring the possibilities of strategic hedging / passive hedging. Thus, in line with the previous Order of the Commission on FERV the licensee is allowed to recoup losses on account of FERV through ARR/Tariff.

3.5 NON TARIFF INCOME

The Commission had considered non-tariff income of Rs. 314.38 million for the FY 2016-17 while determining the ARR. As against this, the Licensee has proposed a true-up of Rs. 354 million as non tariff income for the FY 2016-17. The Commission has examined the proposed amount offered for true up and finds it reasonable and allows the same as proposed.

3.6 TRUE UP FOR THE FY 2014-15 AND CARRYING COST

A large number of interveners, during the course of hearing, had objected to the recovery of true up cost for the FY 2014-15 and holding cost thereon. The Commission would like to clarify that the order on true up cost for the FY 2014-15 was part of the order dated 31.03.2016. The true up cost, once determined and approved by the Commission, is required to be recovered as part of tariff for the year in which the true up is so determined. Therefore, the true up for the FY 2014-15 was recovered as part of tariff for the FY 2016-17 and there is no proposal for recover it again during the FY 2018-19. Similarly, the true up for the FY 2016-17, now approved, will be recovered as part of tariff for the FY 2018-19, in accordance with the regulations and there will be no double recovery.

3.7 APPROVED AND PROPOSED ARR FOR TRUE-UP OF FY 2016-17

Based on the above analysis of various components of the of the ARR, the true-up proposed by the Licensee and revised calculations based on the MYT Regulations and previous Orders of the Commission, the true-up amount is presented below:-

Table 3.13 HERC Approved True-up for the FY 2016-17 (Rs. Millions)

Particulars (Rs. Million)	Approved for FY 2016-17 vide Order dated 31.03.2016	Proposed for Truing Up of FY 2016-17	True up approved by HERC
O&M expenses	5165.85	6875.09	6875.08
R&M Expenses	414.56	232.56	232.56
Employee Expenses	2506.49	3250.53	3250.53
Terminal Benefits	2093.11	3185.72	3185.72
A&G Expenses	151.69	206.27	206.27
Depreciation	3285.91	3,313.91	3,313.91
Interest on Loans	2655.75	2,499.06	2248.87
Interest on Uday Bonds		332.21	0
Interest on Pension/PF Bonds	6.72	170.21	6.72
Interest on working Capital	253.80	212.01	212.01
Other Finance Charges		42.66	42.66
Share of SLDC Charges			
Total Expenditure	11361.31	13445.14	12699.25
Return on Equity	1704.60	2052.70	1926.63
Less Non Tariff Income	(314.38)	(354)	(354)
Less SLDC expenses forming part of O&M expenses	(69.00)	0	0
True-up for FY 2014-15 for Transmission	902.97*	902.97	902.92
Carrying cost on true-up for FY 2014-15	97.97*	97.97	97.97
Add: Loss Due to Foreign Exchange Rate Variation		131.144	85.78
Add: Incentive based on Transmission Availability passed on to beneficiary		(12.92)	(25.84)
Total Aggregate Revenue Requirement determined after true up	13683.47	16,263	15332.76
Unitary charges	537.60		527.96
Less Over recovery of Transmission and SLDC charges during FY 2014-15	-8.75		-8.75
Add Transmission share of SLDC charges	9.28		9.28
Less 75% of Income from open access consumers	-346.17		-346.17
Less YTC for Lines Operating As ISTS Lines (For FY15-16 & FY16-17)	-101.76		-101.76
Adjustment of Contingency reserve fund (only for Distribution Licensees)	-282.87		-282.87
Total ARR to be recovered	13497.5281		15130.46
Transmission Charges Billed during FY 2016-17	13497.5281		13874.90
True up proposed/ approved for FY 2016-17			(1255.56)

Particulars (Rs. Million)	Approved for FY 2016-17 vide Order dated 31.03.2016	Proposed for Truing Up of FY 2016-17	True up approved by HERC
*As per HERC Order dated 08.11.2016			

The true-up amount as approved by the Commission for the FY 2016-17 shall be added to the ARR/Tariff in the FY 2018-19 along with holding cost.

3.8 REVISED ARR FOR THE FY 2018-19 BASED ON MIDTERM PERFORMANCE REVIEW FOR THE FY 2017-18

The licensee, in its petition, has submitted a proposal for the extended control period from FY 2018-19 to FY 2022-23, to be determined within the existing MYT framework, 2012. The Commission has considered the prayer of the petitioner and observes that there has been substantial change in the regulatory thinking since the existing MYT regulations were framed in FY 2011-12. Though the first control period has been extended by the Commission vide order dated 15.10.2018 to include FY 2018-19, it would be appropriate to look at the next control period only in the context of the revised MYT regulations that the Commission expects to put into place in the near future. The determination of ARR for the FY 2018-19, therefore, shall be in accordance with the MYT Regulations, 2012 and shall only be an extension of the methodology used for determining the ARR for FY 2017-18. Though the 2nd amendment to the MYT Regulations specifies FY 2015-16 as the base year for the calculating the O&M Expenses, the base year considered by the Commission for determining the ARR is the FY 2016-17; being the latest year for which the audited accounts are made available. The Commission has also examined the expenses for the FY 2016-17 as part of true up exercise and therefore is of the opinion that it would be appropriate to use the same year as the base year in place of FY 2015-16. Further, the Commission is not revising the ARR for the FY 2017-18 in view of the fact that the year is now over.

The Commission's analysis of the proposed ARR for the FY 2018-19 filed by the petitioner and Order on each of the items of expenditure is as under:-

3.8.1 O & M EXPENSES

The O&M expenses proposed by HVPNL for the FY 2018-19 at Rs. 7708.23 million are substantially higher (22%) than Rs. 6292.23 million approved by the Commission for the FY 2017-18 as per the Order dated 30.05.2018. A major part of this increase is on account of increase in employee expenses and terminal benefits which is mainly on account of new recruitments and also the impact of 7th Pay Commission report on employee cost. The amount

proposed by the licensee for employee cost for the FY 2018-19, though high against the amount that would have been allowed in accordance with MYT regulations, is however, in line with the actual cost being incurred by the licensee in the first 5 months of the FY 2018-19. The Commission therefore approves the amount of Rs. 3933.34 million as employee cost for the FY 2018-19 as proposed by the licensee.

Employees Rationalization: As pointed out earlier also, the sub-station automation system has been embarked upon in all the new / upcoming sub-stations of HVPNL. Resultantly, the manpower required for manning such sub-stations would reduce to a certain extent. Hence, keeping in view modernization and automation, HVPNL was directed to undertake manpower planning & rationalizations to rein in employees cost. In this regard, HVPNL submitted that a proposal has been prepared by Technical Committee and considered by the Whole Time Directors, HVPNL in its meeting held on 21.12.2017. Now, the agenda is being put-up for consideration of the BODs, HVPNL. **In this regard, HVPNL is directed to submit the final report to the Commission within three months.**

Repair and maintenance expenses are calculated @ 0.5% of the average GFA for the FY 2018-19 and escalated by the inflation factor. The licensee has used an inflation factor of 4.29% for the FY 2017-18 and 4.32% for the FY 2018-19 for which no calculations have been provided. The inflation factor calculated by the Commission for the FY 2017-18 over FY 2016-17 comes to 3.04% which has been used to estimate the figures for the ensuing year wherever required. The resultant figure is as under:-

Table R & M expenses for the FY 2018-19	
	Rs. millions
Opening Balance of gross fixed assets	78,251.71
Add: Additions to GFA	8,446.19
less: Retirement	0
Closing balance	86,697.90
Average GFA	82,474.80
R&M 0.5% of Average GFA of Rs.83,816.49 million)	412.37
Escalation (Inflation factor)	3.04%
R & M Cost (412.37*1.0304)	424.91

A & G expenses have been calculated simply by applying the escalation factor on the approved A & G expense for the FY 2016-17 as part of true-up.

Table: A & G expenses for the FY 2018-19	
	Rs. millions
A&G cost for FY 2016-17	206.27

Table: A & G expenses for the FY 2018-19

	Rs. millions
Escalation (Inflation factor for FY 2017-18 and FY 2018-19)	3.04%
Revised A&G cost for FY 2018-19	219.00

Summing up, the O&M expenses as proposed by HVPNL and that approved by the Commission is given in table 3.14.

Table Commission Approved O&M expenses for FY 2018-19 (Rs. Millions)

	HVPNL Proposed	HERC Approved
R&M Expenses	556.76	424.91
Employee Expenses	3933.34	3933.34
Terminal Benefits	2993.72	2993.72
A&G Expenses	224.41	219.00
Total O&M Expenses	7708.23	7570.97

3.8.2 DEPRECIATION

The average rate of depreciation considered by the Licensee is 5.40% for the FY 2018-19 on the additions to GFA and 4.65% on balance as on 01.04.2016. The Commission, in accordance with the methodology adopted in the earlier three years of the control period approves depreciation for the FY 2018-19 @ 4.91% being the average rate of depreciation as per the audited accounts for the FY 2016-17. The opening balance of GFA as on 1.4.2018 considered by the Commission is based on the balance as per audited balance sheet for the FY 2017-18. The additional investment in capital works is as approved in para 3.1.7 of this order. Further, the capitalization of CWIP is assumed to be in the same ratio as proposed by the licensee. Funding of additional investment is assumed to be 20% by equity as proposed on table at page 29 of the filing. The licensee has not proposed any grant. However, the Commission has based its estimates of additional borrowings based on the same level of grants as received by the licensee during the previous year.

The depreciation rate used by the licensee for calculating depreciation on additions during the FY 2018-19 is 5.40% claiming to be the weighted average rate of depreciation derived based on proportion of different category of assets being added. However, no such calculations have been provided. Even otherwise, the Commission observes that average rate of depreciation as per audited accounts would also take into account any effect of depreciation on assets capitalized / added during the year and accordingly, using the average rate of depreciation as per the audited accounts for the FY 2016-17, the depreciation for the FY 2018-19 is approved as under:-

Table: Commission approved calculation of CWIP and its Funding (Rs. Million)

	FY 2017-18	FY 2018-19	FY 2018-19
	Audited	Estimated	Approved
Opening CWIP excluding Generation Proj.	7374.82	7063.69	7063.69
Additions during the year / interest	3579.89	11316.00	7971.00
Total	10954.71	18379.69	15034.69
Transfer to GFA	3891.02	10359.80	8474.37
Closing Balance excluding generation works	7063.69	8019.89	6560.31
Funding of CAPEX:			
Equity		479.30	1594.20
consumer contribution		0	146.99
Loan Funds (balancing figure)		10359.80	6229.81
Total funds		11316.00	7971.00

Table: Commission approved calculation of GFA and depreciation (Rs. Million)

	HVPNL	HVPNL	HERC
	Audited	Estimated	Approved
	2017-18	2018-19	2018-19
Transmission and SLDC GFA	74628.69	78,251.71	78,251.71
Opening Balance of gross fixed assets	74628.69	78,251.71	78,251.71
Add: Additions to GFA	3,891.02	10,359.80	8,474.37
less: Retirement	268.009	0	0
Closing balance	78,251.71	88,611.51	86,726.08
Consumer Contribution	4,230.29	4,377.29	4,377.28
SLDC	239.07	239.07	239.07
Depreciation			
Gross Fixed Assets at the beginning of the year	74,628.69	78,251.71	78,251.71
Depreciation rate	4.91%	5.44%	4.91%
Total Depreciation Expense Rs. Million	3,666.31	4,258.45	3,844.29
Less Depreciation against Capital reserve	210.85	195.91	228.76
Less Depreciation against SLDC	3.47	13.67	13.67
Net Depreciation for the year	3451.98	4048.87	3601.87

3.8.3 INTEREST ON TERM LOAN FOR CAPITAL EXPENDITURE

Interest on term loan for capital expenditure is derived from the approved funding for capital expenditure for the previous years. Additionally, any difference in the closing balance of term loans as approved by the Commission for the FY 2016-17 and that as per audited accounts will also reflect in the interest cost to be allowed for the FY 2018-19. The Commission, in its order dated 18.08.2015, had examined the allocation of borrowings amongst various businesses of the licensee and had approved loan balances as on 31.03.2014 based on the information provided by the licensee. In addition, the Commission had also decided that the additional long term loan shall be the balancing figure for financing capital expenditure after accounting for equity and consumer contribution. Accordingly, the balance as on 31.03.2015 was arrived at as part of true up for the FY 2014-15 vide order dated 31.03.2016. Going forward, the balance as on 31.03.2015 is adjusted for approved additions for long term borrowings based on approved funding of capital expenditure for the FY 2015-16, FY 2017-12016-17 and 2017-18 to arrive at the opening balance as on 01.04.2018.

The approved capital expenditure of Rs.7971 million during the FY 2018-19 is proposed to be met by equity (Rs.1594.20 million), consumer contribution (Rs.146.99 million) and balance

as loan (Rs.6229.81 million). Repayment is assumed to be equal to depreciation and interest on loan is provided at the average balance for the FY 2018-19 at average rate of interest on existing loans as proposed by the licensee (10%). Interest is capitalized in the same ratio as proposed by the licensee to arrive at the IDC of Rs.169.10 million.

Interest on Capex loan (Rs. Millions)					
	Balance at the beginning of the year	Receipt during the year	Repayment during the year	Closing Balance	Interest cost
Interest cost proposed for the FY 2018-19					
Existing loans	28986.31	0.00	5337.12	23649.19	2632.00
New loans	5039.66	9067.09	503.97	13602.79	918.14
					3550.14
Less capitalisation					206.16
					3343.98
Interest cost Approved for the FY 2018-19					
FY 2017-18	30568.52	688.90	3,451.98	27805.44	2918.70
FY 2018-19	27,805.44	6,229.81	3,601.87	30,433.38	2911.94
IDC					169.10
Net interest expensed					2742.84

3.8.4 INTEREST ON UDAY BONDS

The petitioner has submitted that the PF Bonds and Pension Bonds have been taken over by the Government and UDAY bonds of Rs 855 Crores have been issued @ 8.18% per annum interest rate in its place. Interests on UDAY bonds issued for have been accordingly considered as per actuals. The petitioner has computed the Interest on UDAY Bonds for FY 2017-18 and the Control Period from FY 2018-19 to FY 2022-23 and has submitted that the above interest on UDAY Bonds are to be incurred by the Petitioner which must be allowed to be recovered, as it is a financial burden on the Petitioner.

The Commission observes that interest on PF and Pension bonds along with repayment has already been allowed to the Discoms in compliance of the orders of the Hon'ble Appellate Tribunal for Electricity. Accordingly, the PF and Pension bonds are deemed to have been fully redeemed in the FY 2015-16 and the FY 2017-18 respectively and therefore, no interest is to be provided during the FY 2018-19 even on UDAY bonds which are to replace the already redeemed PF and Pension Bonds.

3.8.5 INTEREST ON WORKING CAPITAL

The licensee's proposal of interest on working capital amounting to Rs. 416.79 million has been considered. The licensee has proposed an interest rate of 12.45%. However, the

actual rate of interest at which the licensee has been borrowing funds for working capital as on March 2018 is much lower and ranges between 7.90% and 10.65% as given below:

S. No	Name of Bank	Rate of Interest
1	State Bank of India	7.90%
2	State Bank of Patiala	10.65%
3	Dena Bank	8.10%
4	Andhra bank	8.10%
5	Canara Bank	8.45%
6	UCO Bank	7.90%
7	Corporation Bank	8.00%

The Commission therefore, has calculated the allowed working capital borrowings as per the MYT Regulations, 2012 at the average rate of interest of 8.5% p.a. as available to the licensee as on March 2018 in place of @12.45% per annum proposed by the licensee. The working capital borrowings, based on the approved ARR for the FY 2018-19, interest cost thereto are as per the table 3.18.

Table 3.18 Interest on Working Capital 2018-19

S. No.	Interest on working capital	Rs. millions
1	O&M Expenses for a month	630.91
2	Spares (15% of annual O&M Expenses)	1135.65
3	Receivables - 1 Months	1469.62
4	Total working Capital (1+2+3)	3236.19
5	Normative Interest Rate (%)	8.50%
6	Normative Interest on Working Capital	275.08

3.8.6 TRUE-UP OF THE FY 2016-17

Based on the audited accounts of HVPNL for the FY 2016-17, the true-up amount has, as discussed earlier, has been estimated at Rs. 1255.56 million. In addition, the Commission had, in its order dated 15.03.2018 had allowed the licensee to recover Rs. 382.96 million of unrecovered true up for the FY 2013-14 and also Rs. 1.96 million on account of recalculation of incentive/ penalty for the FY 2015-16 along with the true up for the FY 2016-17. The licensee has proposed holding cost @ 12.60% p.a. The Commission has allows holding cost for one and half year @ 8.5%% p.a., the rate of interest approved for working capital borrowing. However, the rate of interest shall be trued up based on the actual cost of borrowings for the FY 2017-18 and the FY 2018-19. The licensee in its original filing had not proposed any recovery of Rs.

382.96 million. However, the licensee, in its revised submissions filed on 31.10.2018 has included the amount along with holding cost. However, rate of interest has not been provided to enable the Commission to take a view on the calculations. Holding cost allowed by the Commission on true up of any year is allowed on an estimate of the rate of interest. The same shall also be trued up based on the actual rate of interest. The true-up amount approved by the Commission is as under:-

CALCULATION OF TRUE UP FOR HVPNL	Rs. millions
Description	HERC Approval
True up for FY 2013-14	381.00
Holding cost for the FY 2016-17 @ 10 %	38.10
Holding Cost @ 8.5 % pa for 1and half year	48.58
Total true up for the FY 2013-14 including holding cost	467.68
True up for FY 2016-17	1255.56
True up for Incentive/Penalty for the FY 2015-16	1.96
Holding cost for the FY 2015-16 @ 10 %	0.20
Holding Cost @ 8.5 % pa for 1 and half year	160.33
Total True up for FY 2016-17 including holding cost	1418.04

3.8.7 RETURN ON EQUITY (ROE)

The Licensee has proposed RoE of Rs.3285.23 million @ 14% on equity of Rs.23465.92 million. The licensee has revised the RoE to Rs. 2925.62 million in its filings dated 31.10.2018, however no calculations have been provided to support the revised calculations. Resultantly, the Commission has examined the RoE originally proposed by the licensee. The Commission, in its calculation, has considered the share capital at the beginning of the year as proposed by the licensee. The opening balance is adjusted for equity deployed by the licensee in other businesses. The balance equity is then adjusted for equity locked in CWIP at the beginning and at the end of the year to arrive at the equity eligible for return @ 10%. The Commission has taken a holistic view while pegging the RoE @ 10% as the financial burden passes on to the DISCOMs and ultimately to the electricity consumers. Further, the State Government, through various schemes is also working towards turnaround of the power sector and the restricted RoE will go towards reduction in the burden of the common man. Accordingly, the Commission approves RoE as per table 3.19.

Table 3.19 Computation of Return on Equity for FY 2018-19 (Rs. Millions)

	HVPNL	HERC Working
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	Proposal	
	2018-19	2018-19
	Rs Millions	Rs Millions
Paid up Equity Share Capital at the beginning of the year	23,361.28	23,361.28
Share application money pending allotment	0.00	0.00
Less		
Equity Capital for SLDC	0.00	56.00
Equity Capital for Generation	0.00	1,595.40
Equity capital for investment in distribution companies	0.00	1,259.33
Balance Equity for Transmission	23,361.28	20,450.55
Add 50% of equity portion of GFA added during the year	1,932.19	797.10
Less equity related to transmission works not yet commissioned	1,827.55	2,119.11
Equity to be considered for ROE	23,465.92	19,128.54
Rate of return	14%	10%
Return on Equity for Transmission Business	3,285.23	1,912.85

3.8.8 NON-TARIFF INCOME

The Commission approves non-tariff income as proposed by the Licensee i.e. Rs. 354 million.

3.8.9 SHARE OF SLDC CHARGES

The Licensee has proposed Rs.6.30 million as share of SLDC charges to be borne by the transmission business for the FY 2018-19. The Commission has approved Rs. 71.92 million as the ARR for the SLDC business for the FY 2018-19 as against Rs. 78.78 million proposed by the licensee. However, the SLDC charges have been taken out of calculation of the ARR of the transmission Licensee in order to avoid double counting of the working capital borrowings and interest thereto. The calculation of individual components of SLDC ARR is based on the same assumptions as have been used for calculation of transmission ARR for the FY 2018-19.

Table: HERC Approved SLDC Charges for FY 2018-19 (Rs. Millions)

Particulars	FY 2018-19	FY 2018-19
(Rs. Million)	Proposed	Approved
O&M Cost	55.63	55.63
Interest on Loan	7.8	7.8
Depreciation	13.67	13.67
Interest on Working Capital	2.43	2.43
Non-Tariff Income	-0.76	-0.76
Less Interest cost on true-up for FY 2016-17		-6.85
Annual Revenue Requirement	78.78	71.92

3.9 ARR FOR TRANSMISSION BUSINESS FOR FY 2018-19

Based on the above calculations, the ARR for the transmission business for the FY 2018-19 is as per the table 3.21.

Table: ARR for Transmission business for FY 2018-19 (Rs. millions)

Annual Revenue Requirement			
S.NO.	Particulars	2018-19	2018-19
		HVPNL Proposal	HERC approval
	Expenditure		
1	O&M expenses	7708.23	7571.04
a	R&M Expenses	556.76	424.98
b	Employee Expenses	3933.34	3933.34
c	Terminal Benefits	2993.72	2993.72
d	A&G Expenses	224.41	219.00
2	Depreciation	4048.87	3601.87
3	Interest on term Loans	3344.06	2742.84
3	Interest on Pension bonds	139.88	0.00
5	Interest on UDAY bonds		0.00
6	Interest on PF Bonds	0.00	0.00
7	Interest on working Capital	416.79	275.08
8	Interest on bonds (others)	0.00	0.00
9	Share of SLDC Charges	6.30	0.00
A	Total Expenditure (1+2+3+4+5+6+7+8+9)	15664.13	14190.83
B	Return on Equity	3285.23	1912.85
C	Non Tariff Income	(354.00)	(354.00)
D	True up for FY 2016-17 for Transmission		1257.52
	Carrying cost on above		160.53
E	Amount to be recovered as per HERC Order dated 15.03.2018		381.00
	Carrying cost on above		86.68
F	Aggregate Revenue Requirement	18595.36	17635.41

3.10 TRANSMISSION TARIFF FOR THE FY 2018-19

Unitary charges of M/s KT Transco and share of SLDC charges borne by the Transmission Licensee are to be added to the transmission ARR approved by the Commission to arrive at the total transmission charges to be recovered from long term beneficiaries of Intra-State Transmission system, in accordance with Regulation 50 of MYT Regulations, 2012. However, the transmission charges to be recovered from both long term beneficiaries and Short Term Open Access Consumers requires certain other adjustments.

The MYT regulations 51.1.2 provide for the methodology of recovery of transmission charges as under:-

“The Total Transmission Cost (TTC) as determined by the Commission as per regulation 51.1.1 above, shall be shared by all long-term and medium-term open access consumers on monthly basis (including existing Distribution Licensees) in the same manner as provided for in regulation 50 for sharing of annual transmission charges.”

3.11 YEARLY TRANSMISSION CHARGES FOR LINES OPERATING AS ISTS LINES

The Licensee has proposed to reduce the yearly transmission charges (YTS) for transmission lines designated as inter-state transmission lines from the charges to be paid by long term beneficiaries which is in accordance with the methodology approved by the Commission. Consequently, the transmission charges to be recovered from long term beneficiaries shall be reduced by Rs. 87.99 million as proposed by the licensee.

3.12 DETERMINATION OF TRANSMISSION TARIFF

In accordance with the ARR determined by the Commission for the FY 2018-19 and the above mentioned adjustments, the Transmission Tariff for the FY 2018-19 shall be as per the details provided in the table that follows and shall be shared by the long term beneficiaries of the intra-state transmission system based on their respective estimated transformation capacity.

Table: Transmission Tariff for the FY 2018-19 (Rs. Millions)

Particulars	Amount (Rs. Million)	Amount (Rs. Million)
Aggregate Revenue Requirement for FY 2018-19	18,595.78	16,217.36
Gap on account of True-up for FY 2016-17	2,579.96	1,257.52
Gap on account of Review of FY 2017-18	3,356.94	0.00
Carrying Cost on Gap for FY 2016-17 & FY 2017-18	629.5239	160.53
Adjusted ARR	25,162.21	17635.41
Transmission Share of SLDC Charges		5.75
Unitary Charges for JKTPL	529.2	516.204
Less YTC for Lines Operating As ISTS Lines FY 18-19	87.9895	87.9895
Total Transmission Charges	25,603.42	18069.38
Monthly Transmission Tariff	2,133.62	1505.78
Ratio Of Average Transformation Capacity		
UHBVNL	45.62%	45.62%
DHBVNL	53.54%	53.54%
TPTCL	0.62%	0.62%

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Particulars	Amount (Rs. Million)	Amount (Rs. Million)
NTPC Ltd	0.03%	0.03%
CRPCPL	0.00%	0.00%
Northern Railways	0.19%	0.19%
Monthly Transmission Tariff - UHBVN (based on ratio of Transmission capacity)	973.4354	686.9931
Monthly Transmission Tariff - DHBVN (based on ratio of Transmission capacity)	1,142.27	806.1486
Monthly Transmission Tariff - TPTCL (based on ratio of Transmission capacity)	13.2397	9.34337
Monthly Transmission Tariff - NTPC (based on ratio of Transmission capacity)	0.5339	0.3764
Monthly Transmission Tariff - CRPCPL (based on ratio of Transmission capacity)	0.079	0.05571
Monthly Transmission Tariff - Northern Railways (based on ratio of Transmission capacity)	4.0573	2.8640

3.13 TRANSMISSION CHARGES FOR SHORT TERM OPEN ACCESS CONSUMERS

HVPNL has sought revision of Short Term Open Access (STOA) charges for the FY 2018-19 on account of determination of ARR for the FY 2018-19 as below:-

Table: Transmission charges proposed to be recovered from STOA Consumers

Particulars	FY 2018-19
Transmission Cost for FY 2018-19(Rs. Million)	18,596
Unitary Charges (Rs. Million)	529.2
Projected Sales for the FY 2018-19 for the distribution Licensee(MU)(based on the submissions made by the UHBVNL & DHBVNL in their APR Petition for FY 17-18)	37,115
Proposed Transmission Charge (Rs./kWh) from STOA Consumer	0.515

The Commission, based on the approved ARR for FY 2018-19 for the transmission business, determines the transmission charges to be paid by short term open access consumers based on the methodology approved by the Commission vide its order dated 31.03.2016 based on the energy drawn through the transmission system for the year. Accordingly, the transmission cost for the calculation of short term open access charges is under:-

Table: Transmission Cost for Short Term Open Access consumers for FY 2018-19 (Rs. Millions)

Particulars	HVNL Proposal FY 2018-19	HERC Approval FY 2018-19
Transmission Cost for FY 2018-19(Rs. Million)	18,596	17,635
Unitary Charges (Rs. Million)	529.2	516.204
Total Cost to be recovered from Short term OA consumers		18,152
Projected Sales for the FY 2018-19 for the distribution Licensee(MU)(based on the submissions made by the UHBVNL & DHBVNL in their APR Petition for FY 17-18)	37,115	0
Energy proposed to be drawn through the transmission system based on the ARR filings for the FY 2018-19		50,871
Proposed Transmission Charge (Rs./kWh) from STOA Consumer	0.515	0.36

CHAPTER 4

ANALYSIS OF THE PETITION AND COMMISSION'S ORDER ON SLDC CHARGES

4.1 TRUE-UP OF ARR OF SLDC BUSINESS FOR THE FY 2016-17

The Petitioner has submitted that the true-up for SLDC business may be considered by the Commission as per details provided by them. The details of the ARR approved for SLDC business by the Commission in its Tariff Order for the FY 2016-17, the actual expenditure incurred as per the audited accounts is provided in the table that follows.

The Commission has examined the petition for true-up of the SLDC expenses and approves the same as proposed by HVPNL. Accordingly (Rs. 36.679) million is approved for true-up of the SLDC expenses for the FY 2016-17 as under:-

Table: True up of ARR of SLDC Business for the FY 2016-17

Particulars (Rs. Million)	Approved in ARR Order dated 31.03.2016	Actual SLDC proposed for Truing up of FY 2016-17
O&M Cost	69	54.61
R&M Expenses		6
Employee Expenses		34.32
A&G Expenses		14.29
Interest on Loan	50	3.33
Depreciation	50	8.23
Interest on Working Capital	3	2.32
Non-Tariff Income	-1	-0.76
Less: true-up for FY 2014-15	-54.98	
Annual Revenue Requirement	116.02	67.74
SLDC Charges recovered		104.419
True up Approved		36.679

The Commission observes that it shall not be possible to adjust the surplus amount of Rs.36.68 million from the ARR of the FY 2018-19. **The Commission, therefore, orders that the surplus amount shall be returned back to the long term beneficiaries of SLDC in the same ratio as billed during the FY 2016-17. The holding cost on account of this surplus shall be adjusted in the ARR for the FY 2018-19. The licensee is directed to report compliance within one month of the Order.**

4.2 SLDC ARR FOR THE FY 2018-19

The licensee has sought to revise the capital expenditure envisaged during FY 2017-18 and project the capital expenditure year for the MYT control period. The Commission, in view of the proposed changes in the MYT regulations, has considered the calculations for the FY 2018-19, based on the existing MYT Regulations. The table below provides the details of proposed capital expenditure for the SLDC for FY 17-18 and the Control Period from FY 18-19 to FY 2022-23.

SLDC (Rs Million)	FY 18	FY 19	FY20	FY 21	FY 22	FY 23
Total	100	50	-	-	-	-

The Commission has considered the ARR for the SLDC submitted by the licensee and approves the same, finding them in order. The Commission has directed the licensee to refund the surplus amount determined for the FY 2016-17 to the beneficiaries. However, the interest cost on the surplus @ 10.45% is reduced from the ARR for the FY 2018-19. At this stage, the Commission has not considered revision of the ARR for FY 2017-18 and the same shall be taken-up in the FY 2017-18 in line with the MYT Regulations, 2012. Based on the above revised capital expenditure plan for FY 2017-18, projected capital expenditure for the FY 2018-19 and actual expenses for FY 16-17, the revised annual revenue requirement for FY 2017-18 and projected ARR for the FY 2018-19 along with the Commission approved figures are as given below:

Particulars	FY 2017-18	FY2017-18	FY 2018-19	FY 2018-19
(Rs. Million)	Approved	Revised	Proposed	Approved
O&M Cost	56.04	53.11	55.63	55.63
Interest on Loan	24.73	3.25	7.8	7.8
Depreciation	43.48	10.18	13.67	13.67
Interest on Working Capital	3	2.28	2.43	2.43
Non-Tariff Income	-1	-0.76	-0.76	-0.76
Less Interest cost on true-up for FY 2016-17@ 10.45%	-18.98			-6.85
Annual Revenue Requirement	107.27	68.06	78.78	71.92

4.3 SLDC CHARGES

The Licensee has proposed that in accordance with the amended Regulation 52 of the HERC MYT Regulations 2012. The annual charges of SLDC determined as per regulations 6 and 16, shall be recovered as a single composite charge from the beneficiaries as under:-

Intra – State Transmission Licensee	8% of the Annual SLDC Charges
Generating Stations and Sellers	46% of the Annual SLDC Charges
Distribution Licensees and Buyers	46% of the Annual SLDC Charges

The SLDC charges shall be levied by the Transmission licensees / STU, also designated as the SLDC, on the basis of weighted average of the lines (Ckt. km) owned by the Intra State Transmission Licensee(s) as on the last day of the month prior to billing of the month.

Ckt. km	400 kV	MF 4	product
Ckt. km	220 kV	MF 2.2	product
Ckt. km	132 kV	MF 1.32	product
Ckt. km	66 kV	MF 0.66	product

Total __XXX__

Therefore, the SLDC charges for transmission

Licensee = $8\% \times (\text{annual SLDC charges} \times \text{weighted Ckt Km of concerned transmission licensee}) / \text{total weighted Ckt. Km of all transmission licensees}$

The SLDC charges from the generating companies and sellers (which exclude short term open access consumers) shall be collected in proportion to their installed capacity /contracted capacity as on the last day of the month prior to billing of the month.

The SLDC charges from distribution licensees and buyers (which exclude short term open access consumers) shall be collected in proportion to the sum of their allocated transmission capacity in MVA as on the last day of the month prior to billing of the month.

In line with the above and HERC MYT Regulation 2012 (1st Amendment), Regulation 2016, petitioner has apportioned the SLDC Charges for FY 2018-19 among the different beneficiaries as per the table below:

Beneficiaries	Installed Capacity / Capacity (in MW)	Amount (in Rs Million)	Total (Rs. Millions) FY 18-19
HVPN @ 8%	-	Amount	6.3022
Generating Companies & Sellers @ 46%		Amount	36.2376
HPGCL	2,782.400	Sub-Amount	21.9869
Faridabad Gas Power Plant	432.000	Sub-Amount	3.4137
Mahatma Gandhi Super Thermal Power Station	1,320.000	Sub-Amount	10.4308
Gemco Biomass	8.000	Sub-Amount	0.0632

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Beneficiaries	Installed Capacity / Capacity (in MW)	Amount (in Rs Million)	Total (Rs. Millions) FY 18-19
Star Wire India Ltd	9.900	Sub-Amount	0.0782
Sri Jyoti	9.500	Sub-Amount	0.0751
Shahbad Co-operative Sugar Mills	24.000	Sub-Amount	0.1897
Distribution Licensees and Buyers @ 46%	Transformation Ratio (in %)	Amount	36.2376
UHBVN	45.6237%	Sub-Amount	16.5329
DHBVN	53.5369%	Sub-Amount	19.4005
TPTCL	0.6205%	Sub-Amount	0.2249
NTPC	0.0250%	Sub-Amount	0.0091
CRPCPL	0.0037%	Sub-Amount	0.0013
Northern Railways	0.1902%	Sub-Amount	0.0689
Total (HVPN + Gencos + Discoms)			78.7774

The Commission observes that the proposed recovery of SLDC charges from various constituents in the FY 2018-19 is as per the 1st Amendment to the HERC MYT Regulations, 2012. The Commission directs the Licensee that in case the allocation factors of generating companies, sellers, distribution licensee and buyers change, the Licensee shall adjust its bills for subsequent months as per the provisions of the MYT Regulations without the need for seeking regulatory approvals. Accordingly, the approved recovery of SLDC charges shall be as given below:

Beneficiaries	Installed Capacity / Capacity (in MW)	Amount (in Rs Million)	HVPNL Proposal (Rs. Millions) FY 18-19	HERC Approval (Rs. Millions) FY 18-19
HVPN @ 8%	-	Amount	6.3022	5.754
Generating Companies & Sellers @ 46%	4,585.80	Amount	36.2376	33.083
HPGCL	2,782.40	Sub-Amount	21.9869	20.073
Faridabad Gas Power Plant	432	Sub-Amount	3.4137	3.117
Mahatma Gandhi Super Thermal Power Station	1,320.00	Sub-Amount	10.4308	9.523
Gemco Biomass	8	Sub-Amount	0.0632	0.058
Star Wire India Ltd	9.9	Sub-Amount	0.0782	0.071
Sri Jyoti	9.5	Sub-Amount	0.0751	0.069
Shahbad Co-operative Sugar Mills	24	Sub-Amount	0.1897	0.173
Distribution Licensees and Buyers @ 46%	Transformation Ratio (in %)	Amount	36.2376	33.083
UHBVN	45.62%	Sub-Amount	16.5329	15.094
DHBVN	53.54%	Sub-Amount	19.4005	17.712
TPTCL	0.62%	Sub-Amount	0.2249	0.205
NTPC	0.03%	Sub-Amount	0.0091	0.008
CRPCPL	0.00%	Sub-Amount	0.0013	0.001
Northern Railways	0.19%	Sub-Amount	0.0689	0.063
Total (HVPN + Gencos + Discoms)			78.7774	71.92

CHAPTER 5

GENERAL INSTRUCTIONS/DIRECTIVES

5.1 COMPLIANCE OF DIRECTIVES

In addition to the directives contained in the preceding chapters, the Commission further directs as under:-

- i) In view of continued under achievement in execution of capital works, the licensee is directed to analyze the reasons and submit a report within three month of this order and bring out work wise reasons for such under achievement and delay in execution of capital works in FY 2017-18. The report should highlight the generic short comings in the area of procurement, tendering, ensuring adequate bid participation, quality and timely the completion of the works and action proposed for overcoming the same. Further, the physical and financial progress of the major capital works being executed having estimated cost exceeding Rs. 20 Crores each be also placed on the licensees website for information of the stakeholders and a quarterly report regarding the same be submitted to the Commission.
- ii) HVPNL is directed to optimize the inventory of spares and other maintenance equipments etc. and restrict itself in piling up of inventory. Every efforts should be made by HVPNL to keep the stock of maintenance spares within the allowed limits. HVPNL is also directed to furnish month-wise detail of number of days maintenance stock kept by it. Further, the inventory be also hosted on the website of HVPNL, so that all the users can easily access the same and if need arises, utilise the same.
- iii) HVPNL is advised to plan customized training schedule for its engineers, operators, technician as well as facilitate training of officers/ officials of Discoms so as to put to optimum use the HVPNL's training centre at Madanpur, Panchkula. The training schedule so prepared should be hosted by HVPNL on its website at the beginning of the financial year.
- iv) The Commission has advised HVPNL on several occasions to frame its Work of Licensee Rules, so that issues / litigations arising while constructing new electric/transmission lines can be avoided. HVPNL is directed to submit action taken report in this regard.

- v) HVPNL should review the need for technological up gradation on regular intervals and necessary timely action be taken so that the transmission system does not lag behind technological advancement.
- vi) The State of Haryana is fast developing so far as colonization and industrialization is concerned. HVPNL should undertake survey and identify the areas where load augmentation is required so that necessary transmission infrastructure is created well in advance.
- vii) 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.
- viii) HVPNL is directed to review all the earlier directions / Orders passed by the Commission and submit a report to the Commission within a month including reasons for non-compliance, if any.
- ix) The Licensee shall implement the tariff and charges contained in this Order with effect from 01.04.2018.

This Order is signed, dated and issued by the Haryana Electricity Regulatory Commission on 31.10.2018.

Date: 31.10.2018
Place: Panchkula

(Jagjeet Singh)
Chairman