COMMISSION'S ORDER

ON

TRUE UP OF THE AGGREGATE REVENUE REQUIREMENT (ARR) FOR TRANSMISSION BUSINESS AND STATE LOAD DISPATCH CENTRE (SLDC) FOR THE FY 2018-19, ANNUAL (MID-YEAR) PERFORMANCE REVIEW FOR FY 2019-20, DETERMINATION OF ARR FOR THE TRANSMISSION BUSINESS AND SLDC FOR THE CONTROL PERIOD FY 2020-21 TO FY 2024-25 AND THE TRANSMISSION TARIFF AND SLDC CHARGES FOR THE FY 2020-21.

CASE NO: HERC/PRO – 66 OF 2019

21st May, 2020

HARYANA ELECTRICITY REGULATORY COMMISSION

BAYS 33-36, SECTOR-4, PANCHKULA-134112, HARYANA

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BEFORE HARYANA ELECTRICITY REGULATORY COMMISSION

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

CASE NO: HERC / PRO-66 OF 2019

IN THE MATTER OF

Petition filed by Haryana Vidyut Prasaran Nigam Limited (herein after referred to as HVPNL or the Petitioner or the Licensee) for approval of True up for the FY2018-19, Annual Performance Review for the FY 2019-20 and Tariff Petition for the FY 2020-21.

QUORUM

Shri D.S.Dhesi	**Chairman**
Shri Pravindra Singh Chauhan	**Member**
Shri Naresh Sardana	**Member**

ORDER

The present petition has been filed by HVPNL i.e. the Transmission Licensee also notified by the Haryana Government as the State Transmission Utility (STU) and State Load Dispatch Centre (SLDC)

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 filed by HVPNL for True-Up of the Aggregate Revenue Requirement (ARR) for Transmission Business and State Load Dispatch Centre (SLDC) for FY 2018-19, Annual (Mid-Year) Performance review for the FY 2019-20, MYT petition for determination of ARR for the second control period w.e.f FY 2020-21 to FY 2024-25 and determination of transmission tariff and SLDC charges for the FY 2020-21 under section 26(7) of the Act read with applicable provisions of the licensee, the MYT Regulations and section 32(3), Section 62 and 64 of the Electricity Act, 2003.The Commission, while passing this Order, has considered the submissions made in Petition, 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 10.02.2020 along with the submissions made by all stakeholders and the discussions during the meeting of the State Advisory Committee held on 24.02.2020.

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, 2019 ("MYT Regulations 2019") were notified on October, 31, 2019. 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. Hence, the present petition is examined in the light of the MYT Regulations, 2019 with appropriate adjustments / indexing wherever considered appropriate by the Commission.

HVPNL, vide Memo No. Ch.152/SE/RAU/F-166 dated 13.12.2019, filed thepresent Petition for True-Up of the Aggregate Revenue Requirement (ARR) for Transmission Business and State Load Dispatch Centre (SLDC) for FY 2018-19, Annual (Mid-Year) Performance review for the FY 2019-20, MYT petition for determination of ARR for five years of the second control period w.e.f FY 2020-21 to FY 2024-25 and determination of transmission tariff and SLDC charges for the FY 2020-21 under section 26(7) of the Act read with applicable provisions of the licensee, the MYT Regulations and section 32(3), Section 62 and 64 of the Electricity Act, 2003 for consideration and approval of the Commission.

The Petitioner has also submitted the status of Capital Expenditure (Capex) approved vis-à-vis the envisaged capital expenditure for the FY 2019-20 and for the second control period from the FY 2020-21to FY 2024-25. The Capex envisaged and the impact thereto on the relevant elements of ARR/ Tariff have been provided in the present petition.

1.2 HVPNL'S PETITION

It has been submitted that 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. Further, 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 to meet with the objective envisaged under Section 31 (1) of the Act, shall be operated by HVPNL w.e.f. 10.12.2003.

The Petitioner, has sought True up of FY 2018-19 based on the Annual Audited accounts; Annual Performance Review of FY 2019-20 and Multi Year Tariff Petition for FY 2020-21 to the FY 2024-25, based on the revised estimates for the FY 2019-20 and projections for the FY 2020-21 to FY 2024-25 of the MYT Control Period.Further, it has been submitted that the MYT Regulations, 2019 also provides as under: -

"The capital investment plan and the business plan for a period not less than the control period to be submitted by the utilities for their respective businesses along with the MYT Petition; Provided that to begin with, the generating companies and the licensees may file their business plan by the end of January 2020 and the first-year investment plan with the respective MYT Petition for the second control period under these Regulations".

Additionally, it has been submitted by the Petitioner that the requisite Business Plan for the Control Period will be filed by the due date for Transmission and SLDC businesses.

The Petitioner has prayed that the Commission may consider its submission for true-up of FY 2018-19, based on the annual audited accounts, annexed with this Petition, as well as proposed revision in ARR for the FY 2019-20 and proposed ARR for the control period FY 2020-21 to FY 2024-25 and for Tariff Determination for FY 2020-21 and pass appropriate order in this regard.

The details, as submitted by the Petitioner, are briefly set out in the paragraphs that follow. At the onset, the Commission observes that the FY 2018-19 Order (now being taken up for 'true-up') was passed in accordance with the applicable provisions of now repealed HERC MYT Regulations, 2012. Hence, the 'true-up', for the FY 2018-19 shall be carried out as per the provisions and principles specified therein. While the Transmission ARR / SLDC charges for the MYT Control Period for the FY 2020-21 to the FY 2024-25 shall be considered and determined in accordance with the provisions of the MYT Regulations, 2019 in vogue.

1.3 TRUE-UP (FY 2018-19)

1.3.1 PRINCIPLES FOR TRUE-UP

It has been submitted that regulation 13 of the HERC Tariff Regulations, 2012 provides for the True Up of previous year based on Audited Accounts. Further, Regulation 8 of the Tariff Regulations, 2012 (the relevant Regulations for the purpose of 'True – up') provides that the baseline values for various financial and operational parameters of ARR for the control period shall be determined after taking into consideration the figures approved by the Commission in the past, actual average figures of last three years, audited accounts, estimate of the figures for the relevant year, Industry benchmarks/norms and other factors. It has been further submitted that while passing the True up Order for the FY 2017-18, the Commission had considered the annual audited accounts for most of the elements of ARR. Therefore, it has been prayed that based on the same principle, the true up exercise for FY 2018-19, may also be undertaken.

That summary of the HERC approved figures for the FY 2018-19 and the corresponding amount submitted for True up of transmission business for FY 2018-19 including Rs. 4.07 Million as approved by the Commission in the Review Order HERC/RA-11 of 2019 dated 28.05.2019 on Revision in Computation of Penalty for FY 2017-18 is presented in the table below: -

Transmission Business for FY 2018-19 - True -up (Rs. Million)

Particulars	Approved by HERC	Proposed for true up FY 2018-19	Gap Surplus/(Deficit)
Expenditure			
O&M Expenses	**7571.04**	**7638.4**	(67.36)
R&M Expenses	424.98	255.13	169.85
Employee Expenses	3933.34	3536.41	396.93
Terminal Benefit Expenses	2993.72	3388.08	(394.36)
A&G Expenses	219	458.78	(239.78)
Depreciation	3601.87	3593.9	7.97
Interest on Loans	2742.84	2260.52	482.32
Interest on working Loans	275.08	255.1	19.98
Total Expenditure	**14190.83**	**13747.92**	42.91
Return on Equity	1912.85	2982.82	1,069.97)
Less: Non-tariff Income	354	333.9	20.10
Annual Transmission charges	**15749.68**	**16396.84**	647.16)
Add: Incentive for TSA		56.22	(56.22)
Add: Incentive computation as per Review Order	-	4.07	(4.07)
Net ARR	**15749.68**	**16457.13**	(707.45)
Revenue Gap for FY 2016-17	1257.52	1257.52	
Carrying Cost	160.53	160.53	
Amount to be recovered as per HERC order15.03.2018	381	381	
carrying Cost on Above	86.68	86.68	
ARR	**17635.41**	**18342.86**	707.45)
Transmission Share of SLDC	5.75	5.75	
Unitary Charges	516.2	457.94	58.26
Less: YTC for Lines-ISTS	87.99	77.95	10.04
Add: ULDC (FOCS) (State Sector)		38.42	(38.42)
Total Transmission Charges	**18069.37**	**18767.02**	(697.65)

In view of the above the Licensee has prayed that the Commission may approve the revised ARR for the Transmission Business for the FY 2018-19, based on actual / audited figures, for true up of the differential amount of Rs. 697.64 Million.

1.4 TRUE-UP OF SLDC BUSINESS (FY 2018-19)

Similarly, the ARR approved by the Commission and Actual Expenditure incurred in the FY 2018-19 by SLDC business and filed for true-up by the petitioner is presented below:-

SLDC Business for FY 2018-19 True up (Rs. Million)

Particulars	Approved by HERC	Actual	Gap Surplus/(Deficit)
Employees Cost	55.63	41.01	8.24
A&G Expenses		6.38	
R&M		6.06	
Interest on Capex	7.8		7.8
Depreciation	13.67	39.02	(25.35)
Interest on Working Capital	2.43	20.84	(18.41)
Return on Equity		17.84	(17.84)
Less: Non-Tariff Income	0.76	1.45	(0.69)
Less: Interest Cost on For FY 2015-16	6.858	6.85	
Total	**71.912**	**122.85**	(50.94)

In view of the above, the licensee has prayed that the Commission, for the SLDC business, approve the revised ARR for the FY 2018-19 based on actual figures, amounting toRs. 50.94 Million.

1.5 REVIEW OF ARR FOR THE FY 2019-20 AND CAPITAL EXPENDITURE PLAN FOR FY 2020-21 TO FY 2024-25

That on 29th May, 2014, the Commission had issued the MYT Order for HVPN for the Control Period FY 2014-15 to FY 2016-17which was extended to FY 2019-20 vide 2nd Amendment to HERC Regulations 2012, notified on 31.10. 2018.HVPN is required to file for Annual Performance Review (APR) in line with Regulation 11(5) of the MYT Regulations, 2012. Further, in line with the above stated regulation and para 11.5 of the MYT Regulations, 2019 (reproduced below) the Petitioner has requested the Commission to consider the revised estimates for FY 2019-20 and proposed estimates for FY 2020-21 to FY 2024-25 based on the annual audited accounts of FY 2019-20 as it would provide a realistic estimates for the Control Period. The relevant extracts are provided as below: -

11.5 The scope of the mid-year performance review shall be a comparison of the performance of the generation company and the licensees for the relevant financial year with the approved forecast of ARR for their respective businesses and the performance targets specified by the Commission. Upon completion of the mid-year performance review and truing up as per regulation 13, the Commission shall pass an order recording:

(a) The revised approved ARR for such financial year including approved modifications, if any;
(b) The approved aggregate gain or loss on account of controllable items and sharing of such gains or losses;
(c) Truing-up or pass through of uncontrollable items of ARR of previous year(s);
(d) Pass through of variations in controllable items due to force majeure events, if any.
(e) Pass through of variations in controllable items attributable to uncontrollable factors.
(f) Tariff applicable for the ensuing year.

In line with the above, the Petitioner has filed the present petition for True up for the FY 2018-19, Annual Performance Review of FY 2019-20 and the MYT petition for the FY 2020-21 to FY 2024-25 along with Transmission Tariff and SLDC charges for the FY 2020-21 (memo no. ch-152/SE/RAU/F-166 dated 13.12.2019) and requested the Commission to consider the revised estimates of ARR for FY 2019-20 including revised Capex and proposed Capex Plan for the control period i.e. FY 2020-21 to FY 2024-25

The revised ARR of HVPN for FY 2019-20 vis a vis that approved by the Commission for FY 2019-20 is summarized in the table below: -

Transmission ARR for FY 2019-20 (Rs. Million)

Particulars	Approved by HERC	Actual	Gap Surplus/(Deficit)
Expenditure			
O&M Expenses	**4,115.36**	**4,460.39**	**(345.03)**
R&M Expenses	438.13	**457.66**	**(19.53)**
Employee Expenses	3,465.67	**3,682.47**	**(216.80)**
Terminal Expenses	(14.10)	**(14.10)**	
A&G Expenses	225.66	**334.36**	**(108.70)**
Depreciation	3,948.56	**3,906.69**	**41.87**
Interest on Loans	1,983.36	**3,079.97**	**(1,096.61)**
Interest on Uday Bonds		**23.38**	**(23.38)**
Interest on PF Fund			
Interest on Working capital	181.91	**201.87**	**(19.96)**
Total Expenditure	**10,229.19**	**11,672.30**	**(1,443.11)**
Return on Equity	2,276.59	**3,313.05**	**(1,036.46)**
Revenue Gap for FY 2017-18	608.04	**608.04**	
Revenue Gap for FY 2018-19		**(697.64)**	**697.64**
Carrying Cost for FY 2017-18 and FY 2018-19		**86.6**	**(86.60)**
Less: Non-Tariff Income	246.04	**384.71**	(138.67)
Total ARR	**12,867.78**	**14,597.64**	**(1,729.86)**
Transmission Share of SLDC	5.7	**5.7**	
Unitary Charges	513.17	**513.17**	
Transmission Charges	**13,386.65**	**15,116.51**	**(1,729.86)**
Less: YTC for Lines-ISTS	109.5	**109.5**	
Total Transmission Charges	**13,277.15**	**15,007.01**	**(1,729.86)**

The Petitioner has prayed that the Commission may approve the revised Aggregate Revenue Requirement for the FY 2019-20 as brought out in the table above.

1.5.1 REVENUE GAP AND CARRYING COST

That based on the true-up of FY 2018-19 and revised ARR for FY 2019-20, the revenue gap for the FY 2019-20 has been computed. Accordingly, the Petitioner has also computed the carrying cost on the revenue gap for FY 2018-19 and FY 2019-20 considering the applicable SBI base rate and appropriate margin as per the details provided in the table below:

Revenue Gap with carrying Cost for FY 2018-19 and FY 2019-20(Rs. Million)

Particulars	FY 2018-19	FY 2019-20
Approved ARR	18,069	13,277.15
Proposed Revised ARR	18,767.01	15,007.00
Opening revenue Gap	608.04	1,392.28
Addition revenue Gap	697.64	1,729.85
Closing Revenue Gap	1,305.68	3,122.13
Interest Rate	9.05%	8.95%
Carrying Cost	86.6	202.02
Closing Revenue Gap with Carrying Cost	**1,392.28**	**3,324.15**

That the Commission may include the carrying cost of **Rs. 86.6 Million and Rs. 202.02 Million** for FY 2018-19 and FY 2019-20 respectively along with the revenue gap for recovery through transmission charges. It may be noted that while calculating carrying cost it is assumed that full cost will be recovered at the beginning of the FY 2020-21.

1.6 REVIEW OF AGGREGATE REVENUE REQUIREMENT OF SLDC

The Petitioner has sought revision in the Capex for the FY 2019-20 and intends to revise the Interest on Loan Return and Equity for the FY 2019-20 and has requested the Commission to approve the revised ARR as submitted as under: -

Aggregate Revenue Requirement for FY 2019-20 (Rs. Million)

SLDC Business	2019-20
Employees Cost	42.25
Interest on Capex	10.87
Depreciation	40.2
A&G expenses	6.57
R&M	5.55
Less Non-Tariff Income	1.45
Interest on working Capital	21.47
Return on equity	18.38
Total	**143.84**

A summary of approved and revised estimates for SLDC business along with calculation of surplus/ (Deficit) as submitted by the Petitioner is provided in the table that follows: -

Summary of Surplus/ (Deficit) of SLDC Business (Rs. Million)

SLDC Business	Approved by HERC	Revised Estimates	Surplus/ (Deficit)
TOTAL	71.29	143.84	(72.55)

The petitioner has requested the Commission to approve the revenue deficit of **Rs. 72.55 Million** and allow recovery of the same along with True-up Gap for the FY 2018-19 with the ARR of the FY 2020-21.

1.7 ARR FOR CONTROL PERIOD FY 2020-21 TO 2024-25 AND ANNUAL TRANSMISSION CHARGES & SLDC CHARGES FOR FY 2020-21

1.7.1 BACKGROUND

In line with the HERC Regulations 2019, the petitioner has submitted the Annual Revenue Requirement for each year of the Control Period i.e. FY 2020-21 to 2024-25 and Annual Transmission charges & SLDC charges for FY 2020-21 as under: -

Annual Revenue Requirement For 2020-21 to FY 2024-25 (in Rs. Million)

Particulars	2020-21	2021-22	2022-23	2023-24	2024-25
Expenditure					
O&M Expenses	4,812.00	4,883.14	5,016.77	5,152.12	5,297.81
R&M Expenses	507.81	547.57	574.13	593.42	611.30
Employee Expenses	3,979.37	4,059.70	4,154.62	4,258.14	4,372.96
Terminal Expenses	(20.90)	(81.60)	(81.60)	(81.60)	(81.60)
A&G Expenses	345.72	357.46	369.61	382.17	395.15
Depreciation	4,320.15	4,642.42	4,845.89	5,032.70	5,197.34
Interest on term Loans	3,507.65	3,704.99	3,684.79	3,611.61	3,519.57
Interest on working Capital	222.78	231.06	237.93	243.86	249.70
Share of SLDC Charges	22.01	12.17	13.62	13.58	14.50
Total Expenditure	**12,884.59**	**13,473.79**	**13,798.99**	**14,053.88**	**14,278.92**
Return on Equity	3,734.25	4,068.29	4,291.39	4,453.38	4,603.56
Less: Non-Tariff Income	(222.80)	(222.80)	(222.80)	(222.80)	(222.80)
Annual Transmission charges	**16,396.04**	**17,319.28**	**17,867.58**	**18,284.46**	**18,659.68**

The ARR proposed by HVPNL for the FY 2020-21 is summarized in the table below: -

Transmission ARR for FY 2020-21 (Rs. In Millions)

Particulars	2020-21
Expenditure	
O&M Expenses	**4,812.00**
R&M Expenses	507.81
Employee Expenses	3,979.37
Terminal Expenses	-20.9
A&G Expenses	345.72
Depreciation	4,320.15
Interest on term Loans	3,507.65
Interest on working Capital	222.78
Share of SLDC Charges	22.01
Total Expenditure	**12,884.59**
Return on Equity	3,734.25
Less: Non-Tariff Income	222.80
Annual Transmission charges	**16,396.04**
Carrying cost on Revenue Gap of 2017-18 & 18-19	86.60
Revenue Gap for FY 2019-20	1,729.85
Carrying cost on above	202.02
Aggregate Revenue Requirement	**18,414.51**
Transmission Share of SLDC Charges	22.01
Unitary Charges for JKTPL	494.78
Less: YTC for Lines Operating as ISTS Lines FY 19-20	96.90
Total Transmission Charges	**18,834.40**

Based on the true-up of FY 2018-19 and revised ARR for FY 2019-20 the revenue gap computed by the Petitioner is provided in the table below: -

Revenue Gap with Carrying Cost for FY 2020-21 (Rs. Million)

Particulars	**FY 2018-19**	**FY 2019-20**	**FY 2020-21**
Approved ARR	18,069	13,277.15	18,414.51
Proposed Revised ARR	18,767.01	15,007.00	18,414.51
Opening Revenue Gap	608.04	1,392.28	3,324.15
Addition in Revenue Gap	697.64	1,729.85	
closing Revenue Gap	1,305.68	3,122.13	3,324.15
Interest rate	9.05%	8.95%	
Carrying Cost	86.6	202.02	
Closing Revenue Gap with Carrying Cost	1,392.28	3,324.15	3,324.15

The Petitioner has requested the Commission to allow recovery of the revenue gap of FY 2018-19 and gap on account of proposed revision in APR of FY 2019-20 in the transmission charges to be approved by the Commission for FY 2020-21 and also allow carrying cost on the under-recovered amount in line with HERC MYT Regulations, 2012.

The Petitioner has further requested the Commission to approve the proposed Aggregate Revenue Requirement of HVPN for FY 2020-21 as estimated in the table above and allow recovery of the variation in the transmission charges for FY 2018-19 in the ARR for the FY 2020-21.

1.8 AGGREGATE REVENUE REQUIREMENT OF SLDC

It has been submitted that computation of expenses for SLDC business has been done in accordance with MYT Regulations 2019. The Revenue Gap estimated in the FY 2020-21 is without any carrying cost. The Aggregate Revenue Requirement of SLDC business for the Control Period FY 2020-21 to FY 2024-25 has been projected by the Petitioner as under: -

Aggregate Revenue Requirement for SLDC For FY 2020-21 to FY 2024-25 (Rs.Million)

SLDC Business	20120-21	2021-22	2022-23	2023-24	2024-25
Employees Cost	43.68	45.17	46.7	48.29	49.93
Interest on Capex	13.85	16.92	19.85	19.85	19.85
Depreciation	41.41	42.66	43.94	45.27	46.63
A&G expenses	6.77	6.97	7.18	7.4	7.62
R&M	6.29	6.48	10.42	12.42	12.42
Non-Tariff Income	1.45	8.32	1.45	8.32	1.45
Interest on Working Capital	22.12	22.79	23.47	24.18	24.91
Return on Equity	18.93	19.5	20.09	20.7	21.32
Add: Revenue Gap/ Surplus Refund/ Int.	123.5				
TOTAL	**275.10**	**152.17**	**170.23**	**169.79**	**181.25**

1.9 ANNUAL TRANSMISSION CHARGES AND SLDC CHARGES

That the Annual Transmission Charges arerequired to be determined as per the provisions of the Regulation 50 of the HERC MYT Regulations 2019. The relevant part of the ibid regulation is reproduced below:

"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, as proposed by the Licensee is summarized in the table that follows: -

Annual Revenue Requirement for FY 2020-21	**Rs. Million**	**16396.04**
Carrying Cost on Rev Gap of FY 2017-18 & FY 2018-19	Rs. Million	86.6
Revenue Gap for FY 2019-20	Rs. Million	1729.85
Carrying Cost on above	Rs. Million	202.02
Aggregate Revenue Requirement	Rs. Million	18414.51
Transmission Share of SLDC Charges	Rs. Million	22.01
Unitary charges for JKTPL	Rs. Million	494.78
Less: YTC for Lines Operating As lines FY 19-20	Rs. Million	96.9
Total Transmission Tariff	Rs. Million	18834.39
Monthly Transmission Tariff	Rs. Million	1569.53
Monthly transmission charges UHBVNL	0.461352	724.11

Monthly transmission charges DHBVNL	0.531178	833.7
Monthly transmission charges TPTCL	0.005053	7.93
Monthly transmission charges NTPC	0.000204	0.32
Monthly transmission charges CRPCPL	0.00003	0.05
Monthly transmission charges Northern Railways	0.002183	3.43

It has been submitted that the Transmission Charges are waived off for M/s Marino Power and M/s Orbit as per the applicable regulations of HERC for the captive Solar Power Plants. In case of any addition of new beneficiary, the transmission charges would be levied in proportion to the allocated capacity.

The contracted capacity of the Northern Railways is considered at 59.52 MVA. As per the submission made to the HERC in Case No 11 of 2017, the HVPN intended to charge Annual Transmission charges for 97.8 MVA. However, as the matter is *sub-judice*, the apportionment of charges has been computed at contracted capacity of Northern Railways at 59.52 MVA and the same shall be altered in line with the Order pronounced by the Commission.

1.10 SHARE OF SLDC CHARGES AS PER HERC MYT REGULATIONS 2019 –

That as per the HERC MYT Regulations 2019. "The annual charges of SLDC is determined as a single composite charge to be recovered from the beneficiaries as per the details provided in the table that follows.

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*

In line with the HERC MYT Regulation 2019, the Petitioner has apportionedSLDC Charges for the FY 2020-21 amongst the different beneficiaries as under: -

SLDC Charges for FY 2020-21 (Rs. Million)

Column1	Column2	Column3	Column4
Beneficiaries		**Amount (in Rs Million)**	**Total (Rs millions) FY 2020-21**
HVPN @ 8%		**Amount**	**22.0085**
Generating Companies & sellers @ 46%	**Installed capacity/ capacity (in MW)**	**Sub- Amount**	**126.5491**
HPGCL	2,782.40		76.7827
Faridabad Gas Power Plant	432		11.9214
Mahatma Gandhi Super Thermal Power Station	1320		36.4265
Gemco Biomass	8		0.2208
Star Wire India Ltd.	9.9		0.2732

Sri Jyoti	9.5		0.2622
Shahbad co-operative Sugar mills	24		0.6623
Distribution Licensees and buyers @ 46%	**Transformation ratio (in %)**	**Amount**	**126.5491**
UHBVNL	46.11185	Sub- Amount	58.354
DHBVNL	53.09%		67.1859
TPTCL	0.51%		0.6391
NTPC	0.02%		0.0258
Merino Power	0.20%		0.0258
CRPCPL	0.00%		0.0038
Northern Railways	0.22%		0.2761
Orbit	0.03%		0.0387
Total (HVPN + GENERATING COMPANIES+ DISTRIBUTION LICENSEES)			**275.1067**

It has been submitted that in case of any addition of new beneficiary, the transmission charges /SLDC charges would be levied in proportion to the allocated capacity. The Petitioner has prayed that the Commission may approve the apportionment of SLDC Charges for the FY 2020-21 amongst the different beneficiaries as stated above.

1.11 PROSPECTIVE SHORT-TERM OPEN ACCESS CHARGES (STOA)

It has been submitted that the MYT Regulation 2019 (Clause 53) 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 quantum of energy sales by the distribution licensee(s) during the previous year.

As such, the Petitioner, has prayed that the Commission may determine the Transmission Charges to be recovered from prospective Short-Term Open Access Consumers. The Calculations submitted by HVPNL is as under: -

Transmission Charges to be recovered from Short-term Open Access Consumers

STOA Charges (Rs. Mn)	Amount
Transmission Cost for FY 2020-21	16,396.04
Unitary Charges	494.78
Projected Sales for FY 2020-21 for distribution licensee (MU) as per ARR Submission	42,454.68
Proposed Charges (Rs/Unit)	0.40

It has been submitted by the Petitioner that the projected drawl by the Discoms for the FY 2020-21 is based on the submissions made by the Distribution companies of Haryana (UHBVNL & DHBVNL) in the Tariff Petition for the FY 2020-21 filed by them.

1.12 RECOVERY OF SLDC CHARGES FROM SHORT TERM OPEN ACCESS CONSUMERS

That the short-term open access consumers shall pay composite SLDC charges as provided in HERC (Terms and conditions for grant of connectivity and open access for intra–State transmission and distribution system), Regulations, 2019 as amended from time to time. As such the Petitioner has requested the Commission to decide the SLDC Charges to be recovered from Prospective Short-Term Open Access consumers.

CHAPTER 2

PROCEDURAL ASPECTS OF THE ARR FILING

2.1 PUBLIC PROCEEDINGS

In accordance with the provisions of Section 64 (2) of the Electricity Act, 2003, HVPNL published 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) and Punjab Kesri (Hindi) dated 20.12.2019 inviting objections/ suggestions/ comments from the stakeholders and general public. The Commission also issued Public Notice in The Tribune (English) and Dainik Bhaskar (Hindi) dated 10.01.2020 inviting comments / objections from the stakeholders/general public. In response to the public notice the following parties / stakeholders filed their objections.

The objections raised by the interveners, HVPNL's reply thereto and the Commission's view on the objections / suggestions is presented below: -

i) M/s Namrata Mukherjee, Head – Policy Advocacy, Sterlite Power Transmission Limited, New Delhi.

ii) Shri R.K. Jain, Advisor Legal & Power for Chanderpur Renewable Power Company Pvt. Ltd.

Sterlite Power (Section-I: General Comments)

That Haryana Vidyut Prasaran Nigam Ltd. (HVPNL) has filed the MYT Petition (ARR and Tariff Proposal for five years w.e.f. FY 2020-21 to the FY 2024-25) and petition for true up of the Aggregate Revenue Requirement (ARR) and Transmission Business and State Load Dispatch Centre (SLDC) for FY 2018-19, Annual (Mid-year) Performance Review for FY 2019-20 and determination of transmission tariff and SLDC charges for the FY 2020-21 with the HERC. The State of Haryana has achieved 100% electrification under SAUBHAGYA scheme, and 1.39 lakh previously unconnected households now have access to electricity. Considering factors like new consumers being added to the grid, and the natural/ projected growth in demand, taken together with the fact that consumers expect benefit from the cheap RE power being installed across the country, it becomes apparent that the Commission needs to ensure that reliable transmission systems are put in place in a time- and cost-efficient manner.

It has been submitted that competitively discovered tariffs have proven to be cheaper than cost-plus tariffs in the Inter-State (ISTS) and Intra-State (InSTS) transmission projects awarded by the Central Government, as well as by States such as Uttar Pradesh, Madhya Pradesh, and Rajasthan, among others. Recently, Uttar Pradesh awarded three InSTS projects and reportedly achieved ~35% tariff reduction. It has been well established that on an average tariff discovered under Tariff Based Competitive Bidding (TBCB) route are 30-40% lower as compared to tariffs under Cost Plus route.

Further to the above, it has been submitted that the Electricity Act 2003 seeks to encourage competition in the Power sector with appropriate regulatory intervention. Competition is expected to yield efficiency gains and result in improved quality of electricity supply to consumers at competitive rates. Clause 5.3 of Tariff Policy, 2016 envisages the development of all Intra-State Transmission projects, costing above a threshold limit under tariff based competitive bidding –

> *"5.3 … Further, intra-state transmission projects shall be developed by State Government through competitive bidding process for projects costing above a threshold limit which shall be decided by the SERCs."*
>
> In this context, we are pleased to share with you that the Hon'ble Punjab State Electricity Regulatory Commission (PSERC) notified a Threshold Limit of Rs 50 Cr through the Gazette Notification No. PSERC/Secy/132 dated 05.11.2018 (Attached as Appendix-I). The notification states:
>
> *In accordance with para 5.3 of National Tariff Policy, the Punjab State Electricity Regulatory Commission hereby decides that intra-state transmission projects costing more than Rs. 50 Crore shall be developed by State Govt./STU through tariff based competitive bidding.*

The Hon'ble Bihar Electricity Regulatory Commission (BERC), in the matter of SMP-04/2019 "Suo-motu proceeding for determination of Threshold limit for development of intra-state transmission projects through tariff based competitive bidding (TBCB)", has issued its Order on 23.12.2019. Through this Order, BERC has `notified a Threshold Limit value of Rs 100 Cr for the State of Bihar. The Order states:

Based on the above analysis, the Commission hereby specifies the 'Threshold Limit' at Rs. 100 Crore above which all new and augmentation schemes for transmission shall be developed under TBCB route.

BERC had initiated proceedings via a consultative paper titled “Determination of ‘Threshold Limit’ for development of intra-state transmission projects through tariff based competitive bidding (TBCB)” in Mar-2019, and the Order has been issued after detailed stakeholder consultations and deliberations.

Other than Punjab and Bihar, it is understood that Rajasthan and Assam are also working on notifying a Threshold Limit value.

Submission: It is submitted that the Hon’ble Commission may decide a ‘threshold limit’, above which all new projects and augmentation schemes for transmission shall be developed under TBCB route, as envisaged by the Electricity Act and the Tariff Policy.

The “threshold limit” be determined in such a way that:

a) the “threshold limit” permits planning and development of end-to-end transmission schemes with upstream and downstream elements, and once commissioned the transmission system can be put to use without any dependencies on other elements and with minimal interface and coordination issues. This has also been noted by the Hon’ble Central Electricity Regulatory Commission (CERC) in their Advisory to the Ministry of Power via D.O. No. 10/5/2013-Statutory Advice/CERC dated 14.10.2016, where in Hon’ble CERC has advised –

“*in case of new transmission network, splitting the network into components and award of the project through TBCB complicates the execution of project. Therefore, it is advisable to identify the entire network for development through TBCB, instead of comparatively smaller elements, commissioning of which depends upon commissioning of all upstream/ downstream elements*.” (emphasis added)

b) the “threshold limit” should help achieve efficient procurement of equipment and provide economies of scale in development, along with the reduction of O&M expenses – which is directly dependent on project size.

Suggested language that may be considered for inclusion in the MYT Order to be issued, is submitted as follows:

“All new Intra-State Transmission projects, costing above a threshold limit value to be notified separately, shall be developed through Tariff Based Competitive Bidding (TBCB), as per provisions of the Electricity Act and the Tariff Policy. The

Commission is in the process of notifying of the threshold limit and after the notification the projects costing above the threshold limit shall be implemented through TBCB process."

1. Section-II: Clause-wise detailed Comments:

   1) Section 7 – Annexures

   Annexure-I : The report on failure of transformers

   Annexure-II : Annual Audited Accounts for FY 2018-19

   Annexure-III : Report on Actuarial Valuation of Terminal Liabilities for FY 2019-20 to FY 2021-22 along with projections for FY 2022-23 to FY 2024-25

   Annexure-IV : Summary of revised Capital Expenditure for FY 2019-20 and proposed Capital Expenditure for Control period FY 2020-21 to FY 2024-25.

   Annexure-V : Depreciation Schedule for FY 2020-21 to FY 2024-25

Comments: -

HVPNL has included a list of Annexures with its petition, which must have been filed with the Commission. However, these annexures are not available on HVPNL website for viewing or downloading.

In the absence of access to detailed documents, our further comments and suggestions are restricted to information as provided in the main body of the petition.

   2) Section 3.4 – Transmission System Business

   The following table provides the work wise expenditure for period FY 2020-21 to 2024-25. It also includes the expenditure planned for the current year FY 2019-20. The details of the works are provided as part of the Annexure to this Petition.

   Table 1: Work-wise expenditure for control period from FY 2020-21 to FY 2024-25 and current year FY 2019-20 (Rs. Million)

Works	*2019-20*	*2020-21*	*2021-22*	*2022-23*	*2023-24*	*2024-25*
Substation	*7909.8*	*6740.2*	*2447.75*	*1843.13*	*3496.4*	*2801.4*
Lines	*1153.3*	*1625.6*	*870.37*	*131.3*	*21*	*0*
Information Technology	*51.5*	*74.4*	*31.4*	*24.9*	*24.9*	*32.4*
Land	*9.6*	*10.0*	*10.2*	*10.6*	*4.6*	*4.7*
Miscellaneous	*250*	*200*	*200*	*200*	*200*	*200*
Total	*9374.2*	*8650.3*	*3559.7*	*2209.9*	*3746.9*	*3038.5*

Comments: -

In this petition, HVPNL has submitted its Capital Investment Plan of Rs. 3057.95 Cr to be invested in a span of 6 years from FY 2019-20 to FY 2024-25, where a majority of the investment

(59%) is to be made in first 2 years (FY 2019-20 and FY 2020-21). However, HVPNL's projections/ planned Capex vis-à-vis the actual achievements for the previous period merits a relook. The below table captures the projected versus actual Capex for the past 4 years:

Year	Projected Capex (Rs. Million)	Approved Capex (Rs. Million)	Actual Capex (Rs. Million)	Actual achieved vs. Projected (%)
2014-15	12963	8337	6297	49%
2015-16	11110	7744	4688	42%
2016-17	9558	7182	4622	48%
2017-18	9299	7332	3640	39%

It can be seen that each year, HVPNL has projected Capex at much higher levels than actual achievement capability. In fact, the maximum that they have been able to achieve is less than half of the originally planned/ projected Capex.

It is submitted that in order to cater to system requirements and transmission capacity addition plans, the TBCB route be adopted via which the other developers can come in and execute the required projects in a time- and cost-efficient manner.

3) Section 3.5 and 3.6 – Substations and Transmission Lines

Expenditure planned for new substations (in Rs. Million)

Substations	*2019-20*	*2020-21*	*2021-22*	*2022-23*	*2023-24*	*2024-25*
Panchkula Zone	*2780.97*	*1754.54*	*872.44*	*527.33*	*2125.6*	*1454.8*
Hisar Zone	*5128.83*	*4985.66*	*1575.32*	*1315.8*	*1370.8*	*1346.6*
Total	*7909.8*	*6740.2*	*2447.75*	*1843.13*	*3496.4*	*2801.4*

Expenditure planned for Transmission lines (in Rs. Million)

Transmission Lines	*2019-20*	*2020-21*	*2021-22*	*2022-23*	*2023-24*	*2024-25*
Total	*1153.3*	*1625.6*	*870.37*	*131.3*	*21*	*0*

Comments:

As can be seen, in FY 2020-21, Rs. 674.02 Cr is to be invested in new substations/ strengthening the existing substations and Rs. 162.56 Cr investment is planned for new transmission lines and repair & maintenance of the existing lines.

In the absence of published details of transmission line & substation schemes, this raises the concern that the Capex is structured for individual elements rather than a whole transmission system development scheme. As noted before, planning and development of end-to-end transmission schemes with upstream and downstream elements is imperative, and once commissioned the transmission system can be put to use without any dependencies on other elements and with minimal interface and coordination issues.

It is submitted that the Hon'ble Commission directs HVPNL to identify transmission schemes/ projects in a manner that they cover end-to-end power transfer. This will ensure that once such scheme/ project is completed, it can be put-to-use in the best interest of the consumers and is not rendered stranded.

4) Section 3.10 – Funding Pattern

Funding Pattern (in Rs. Million)

Financial Institution	*2020-21*	*2021-22*	*2022-23*	*2023-24*	*2024-25*
Debt	*6,055.21*	*2,491.82*	*1,546.93*	*2,622.85*	*2,126.93*
Equity	*2,595.09*	*1,067.92*	*662.97*	*1,124.08*	*911.54*
Total Capex	*8,650.30*	*3,559.75*	*2,209.90*	*3,746.93*	*3,038.47*

Comments: -

Before coming to the current petition, the previous years' plans and funding patterns merit a relook. It may be noted that in FY 2018-19, the equity infusion was Rs. 120 Cr (in Debt-Equity ratio of 90:10) and in FY 2019-20 it was Rs 149 Cr (in Debt-Equity ratio of 80:20).

In the current petition, HVPNL has proposed total Capex of Rs 2,120 Cr, out of which equity requirement is of Rs 636 Cr (Debt-Equity ratio being 70:30). This is more than 400% of the current equity infusion planned, and casts a doubt on the funds that are to be deployed by HVPNL/ State Government.

Reply of HVPNL in respect of Sterlite Power's Comments

<u>Comment no. 1</u>

Section -I General Comments

HVPNL's Reply: -

HVPNL submits that, the comments stated in this section is not under the purview of HVPNL's Petition.

Commission's View:

The Commission has carefully perused the objections / comments filed by the intervener regarding determination of threshold limit value including the reference made to different SERCs as well as the fact that the provisions of the Act i.e. to encourage competition in the power sector and the provisions of the NTP, 2016 Clause 5.3 regarding transmission projects to be developed through competitive bidding. **The Commission does not agree with the contention of the**

Petitioner i.e. HVPNL that this section is not under the purview of HVPNL's Petition. The Commission, on several occasions, in its ARR / Tariff Order(s), has pointed out the significant gap in execution, both financial and physical, of Capital Works by the Licensee. Hence, in Order to optimize investments in the Transmission System with associated quantified benefits, it would be worthwhile to explore the competitive bidding options including PPP model implemented in Haryana in the power sector for the first time in the country. Resultantly, the Commission, before taking a view on the suggestions of the intervener, may prepare a staff paper in the matter for consultation with the Stakeholders before taking a final view.

Comment No.2

Section-7 Annexure

HVPNLs Reply

HVPNL submits that, the said annexures have already been uploaded on HVPNL website.

Commission's View:

The Commission has taken note of the reply filed by HVPNL. Further, it is always open to the Intervener to seek a hard copy of the petition from the Petitioner's office along with annexures at a cost determined for the purpose.

Comment No. 3

Section-3.4: Transmission System Business

HVPNL's Reply

The information in respect of work-wise expenditure for control period from FY 2020-21 to FY 2024-25 including the expenditure planned for the current year FY 2019-20 submitted by HVPNL vide memo no. Ch-23/SE/RAU/F-168/Vol-II dated 24.01.2020 in the reply to the additional information sought by the HERC is as under: -

(Rs. millions)

Works	2019-20	2020-21	2021-22	2022-23	2023-24	2024-24
Substations	7909.8	6760.2	2447.75	1843.13	4096.39	3701.1
Lines	3781.07	5039.29	2506.41	848.78	21.00	0.00
Information Technology	51.50	74.40	31.39	24.89	24.89	32.39
Land	9.59	10.05	10.22	10.57	4.63	4.67
Miscellaneous	250	200	200	200	200	200

Total	12002.93	12083.95	5195.78	2927.38	4346.92	3938.47

The revised Capex stands submitted with the Hon'ble HERC, HVPNL also submits that, it intends to adhere to the Capex as submitted with the Petition.

Commission's View:

The Commission has taken note of the comments filed by the intervener and HVPNL's reply thereto. At the onset the Commission observes that any additional data / information regarding the petition filed by HVPNL should also be placed on the website so that the public / Stakeholders are also aware of the same. Further, the Commission while reckoning with the Capex keeps in mind past performance also in this regard and is seized with the issue of gap / shortfall in actual execution of the Capital Works vis-à-vis that approved.

<u>Comment no. 4</u>

Section- 3.5 and 3.6 – Substations and Transmission Lines

HVPNL's Reply

HVPNL submits that, the capex planning of HVPN is done considering end-to-end power transfer and the same is submitted with theCommission in the petition for Business Plan for control period FY 2020-21 to FY 2024-25.

<u>Comment no. 5</u>

Section-3.10 – Funding Pattern by Sterlite

Response:

HVPNL submits that, the Debt-Equity ratio of 70:30 is considered as per the HERC MYT Regulations, 2019 for control period FY 2020-21 to FY 2024-25.

Commission's View:

The Commission has taken note of the objections as well as the reply filed by HVPNL. It is observed that while the normative Capital Structure is 70:30, the Commission while reckoning with the interest and RoE on Capex proposed also keeps in view the actual equity infusion vis-à-vis the normative level of 30%.

Comments filed on behalf of Chanderpur Renewal Power Co. Pvt. Limited.

ARR for FY 2018-19 approved by Hon'ble Commission vide order dated 31.10.2018:

It has been submitted that the Commission approved ARR for FY 2018-19 for a total Transmission Charge of Rs.18,069.38 Million and corresponding Monthly Transmission Charges of Rs.1505.78 Million/month and Wheeling Charges of 36 Ps/unit for Short-Term Open Access consumers.

That the Transmission Licensee has submitted a revised ARR for the year 2018-19 showing actual expenses of Rs. 18,767.01 Million, thus showing a deficit of Rs. 697.64 Million. The main variation indicated is on account of Return on Equity (RoE) which has been increased from Rs.1,912.85 Million to 2,982.12 Million i.e. an increase of 56%. A substantial reduction of 40% has been shown in the O&M expenses. The lower expenses on R&M directly impacts the scheduled repairs & maintenance works which in turn affects the reliability of the system.

That as per the Reg. 8.3 (b) of MYT Regulations, 2012, both these parameters fall under the category of "Controllable Items of ARR" and hence need to be disallowed. This will also reduce the gap shown by the Licensee and the corresponding carrying cost.

Review of ARR for FY 2019-20:

That the Commission approved the total Transmission Charges of HVPN for FY 2019-20 vide order dated 07.03.2019 for a net figure of Rs.13,277.15 Million. As per the present submissions for FY 2019-20, HVPN has requested the Commission to allow revised total Transmission Charges of Rs. 15,007 Million i.e. an increase of Rs.1,729.85 Million or 13% over the approved figures. Major increase has been proposed in Return on Equity (Rs.1,036.46 Million or 46%) and Interest on Loans Rs.1,096.61 Million or 55%). As already said these parameters fall under the category of "Controllable Items of ARR" and hence need to be disallowed. Total CAPEX of Rs.8,650.30 Million has been shown for FY 2019-20, which should be linked with improvement in performance targets of HVPN.

Proposed ARR for FY 2020-21:

That the Utility has proposed total Transmission Charges for FY 2020-21 of Rs. 18,834.39 Million i.e. an increase of 26% over the approved ARR for FY 2019-20. Such abnormal increase in proposed expenses adversely impact the smaller beneficiaries who cannot pass on this expenditure to any other entity and have to bear it by itself.

Impact on the small RE Project of Chanderpur Renewal Power

That the Commission may kindly consider the following important factors relating to the CRPCPL Project,

(i) The power project of Chanderpur Renewal is a Captive Biomass Gasification Project which was taken up as a demonstration Project in collaboration of kFW (Germany) IREDA (GoI) and HAREDA (GoH). The Project falls in micro size Renewable Energy Project category with an installed capacity of 1 MW with proposed limited injection of 500-700 kW in the grid.

(ii) This tiny project has been clubbed with other Giant Beneficiaries like UHBVN, DHBVN, TPTCL, NTPC, etc. There is no comparison of CRPL RE Project with those beneficiaries. While the total power being wheeled over the intra-State Transmission System of Haryana State is around 45,000 MUs/year and that of the CRPCL is not even 0.6 MUs. Thus, there is no comparison of CRPCL captive plant with other beneficiaries.

(iii) Moreover, there is no other Generators/Transmission Licensee/ Distribution Licensees/captive power user who bears the additional burden of Fixed Demand charges but CRPCPL has to bear the additional burden of over Rs.2.5/unit over and above the cost of power generated by CRPCPL. This amounts to double charging of wheeling charges from CRPCL.

(iv) CRPCL is not using any open access facility for the last over one year as it is no economically viable for the Owners to continue paying these high charges.

(v) The total power generated from this project is utilized for captive consumption i.e. 160 kVA for its own in-house consumption (excluding the auxiliary consumption) at Chanderpur Renewal Project (CRPL), V. Sohana (Mullana), 275 kVA at its industrial plant i.e. Chanderpur Works Pvt. Ltd. (CPW), V. Jorian (Yamuna Nagar), and another 240 kVA at its industrial plant i.e. Chanderpur Industries Pvt. Ltd. (CIPL), V. Kanjnu (Radaur).

(vi) All the interlinking lines i.e. for injection of captive power at 66 kV substation Mullana (3.7 kms), evacuation of captive power from 220 kV substation Jorian (1 km) and 66 kV substation Radaur (4 kms) were built by CRPL at a huge cost of over Rs. 60 lac.

(vii) The average monthly power generation from this captive power plant used to be hardly 75,000 units till December 2018, which was totally consumed in its three own industrial units. However, due to illegal demand raised by UHBVN in Jan. 2019, the power generation from this RE Power Plant had to be curtailed to bare minimum so as to keep it in running condition and no power is being transmitted to the captive users.

(viii) The average cost of power production from this biomass-based Gasifier power project comes to Rs. 9.00/unit. The incidence of transmission charges alone, as per the prevailing transmission tariff, on this power is presently Rs. 37,600/month or 50 Ps/unit. It needs to be appreciated that corresponding Transmission charges being levied on other Short-Term Open Access consumers are 36 Ps/unit only.

(ix) This is the only Captive Power Plant where all the three captive users are embedded industrial consumers of UHBVN. Therefore, they are required to pay Fixed Demand Charges @ Rs.170/kVA/month. The impact of these fixed demand charges alone on the industrial consumption works out to on an average Rs.2.5/unit. There is no other consumer in the State who is made to pay these Fixed Demand Charges as well as Transmission Charges.

(x) Thus, the delivered cost of this power to the industrial units of the RE Project Developer comes to over Rs.12.00/unit i.e. almost double of the grid tariff for industries.

(xi) Although the Haryana Bio-Energy Policy of 2018 notified by the New & Renewable Energy Department, Government of Haryana, on 09.03.2018 provides various incentives to the Biomass based RE Projects including the exemption from all cross-subsidy charges, Transmission & Distribution charges, surcharges and reactive power charges, but this benefit is not being given to the CRPL.

(xii) Recently the Distribution Licensee has also claimed Distribution Wheeling Charges (including the network cost and distribution losses) retrospectively from the date of commissioning of this Project in 2014 @ Rs.1.64 lac/month, which translates to another Rs.2.19 Ps/unit compared to 82 Ps/unit being charged as wheeling charges from other open access consumers, who have neither borne the cost of the entire distribution system nor bear the distribution losses.

(xiii) Similar is the incidence of transmission & SLDC charges paid by Distribution Utilities which gets added in the ARR of the Distribution Licensees as expenses and these are ultimately loaded on to the electricity consumers as a part of the tariff. But these have to be paid by CRPCL as a part of the transmission charges.

In view of the above submissions the Commission is requested to kindly exclude this RE Project of CRPCL from the list of beneficiaries while determining transmission charges or approving ARR of the Transmission Licensee.

Commission's View:

The Commission has taken note of the submissions of the intervener on the 'True-up' claims of HVPNL for the FY 2018-19, APR of the FY 2019-20 and Transmission Business ARR / SLDC charges proposed for the FY 2020-21. The Commission has dealt, item wise, all these issues with the framework of the MYT Regulations. On the CRPCL related issue raised by the intervener, the Commission observes that specific benefits / relaxation ought not be extended on case to case basis and the dispensations in the ARR / Tariff Order has to necessarily be within the four corners of the Act / Statute and the Regulations framed thereunder.

2.2 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 10.02.2020 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.

2.3 STATE ADVISORY COMMITTEE (SAC)

The meeting of the State Advisory Committee, constituted under the enabling provisions of Section 87 of the Electricity Act, 2003, was held on 24.02.2020 to seek suggestions / comments from the SAC Members on the ARR / Tariff proposal of the Haryana Power Utilities. The comments / suggestions of the SAC Members were mostly confined to the ARR / Tariff proposal of the power generating company i.e. HPGCL and the Distribution Licensee i.e. UHBVNL and DHBVNL, hence, the same is not being reproduced here.

CHAPTER 3

COMMISSION'S ANALYSIS OF THE PETITION & ORDER

3.1 TRUE-UP OF ARR FOR THE FY 2018-19

3.1.1 PRINCIPLES FOR TRUE-UP FOR FY 2018-19

Regulation 13 of the HERC Tariff Regulations, 2012 provides for the True Up of previous year based on Audited Accounts. Further, Regulation 8 of the Tariff Regulations, 2012 provides that the baseline values for various financial and operational parameters of ARR for the control period shall be determined after taking into consideration the figures approved by the Commission in the past, actual average figures of last three years, audited accounts, estimate of the figures for the relevant year.

In the following paragraphs, various components of the ARR are discussed in detail for ascertaining the amount eligible for 'true- up' for the FY 2018-19.

3.1.2 OPERATIONS AND MAINTENANCE EXPENSES FOR FY 2018-19

Operations and Maintenance (O&M) Expenses of the Petitioner consists of the following elements:

- **A.** Employee Expenses
- **B.** Repairs and Maintenance Costs (R&M)
- **C.** Administrative and General Expenses (A&G)

Further, the employee expenses comprise of salaries, dearness allowance, leave encashment and staff welfare expenses etc. Administrative expenses mainly comprise of rents, telephone and other communication expenses, professional charges, conveyance and travelling allowances, other debits etc. Repairs and Maintenance Expenses go towards the day to day upkeep of the transmission network of the company and form an integral part of the Petitioner's efforts towards reliable and quality power supply as also in the reduction of losses in the system. Regulation 45.3 of HERC MYT Regulations 2012 provides for determination of O&M Cost. A comparison of approved and actual O&M expenses incurred during the FY 2018-19 is summarized in the following table.

Proposed True Up of O&M Expenses for FY 2018-19 (Rs. Million)

Particulars	Approved by HERC	Actual	Difference Surplus/(Deficit)
O&M Expenses	**7,571.04**	**7,638.40**	**-67.36**
R&M Expenses	424.98	255.13	**169.85**
Employee Expenses	3,933.34	3,536.41	**396.93**
Terminal Expenses	2,993.72	3,388.08	**-394.36**
A&G Expenses	219.00	458.78	**-239.78**

A. EMPLOYEE EXPENSES FOR FY 2018-19

A comparison of approved and actual employee expenses incurred during FY 2018-19 is summarized in following table.

Proposed True Up of Employee Expenses for FY 2018-19 (Rs. Millions)

Particulars	Approved by HERC	Actual	Difference Surplus/(Deficit)
Salaries & Wages		2,457.21	
Other Staff cost		1,025.73	
Staff Welfare Expenses		91.56	
Benefit from Staff loans		2.93	
Less: Employee Benefit For SLDC		41.01	
Total Employee Cost	**3933.34**	**3,536.41**	**396.93**

The Commission has considered the submissions of the Petitioner that the employee cost for the FY 2018-19 was approved by the Commission vide its Order dated 31.10.2018 and now the Commission may consider the actual employee cost of FY 2018-19, as reflected in the annual audited accounts for the year under consideration, which may be approved and set as a base for projection of employee cost for the ensuing Control Period.

The Commission has considered the prayer of the petitioner and finds the amount now claimed by the Petitioner for 'true up' in order and also in line with the principles of 'true up' as set out in the MYT Regulation, 2012. **Accordingly, the Commission approves the employee cost of Rs. 3536.41 incurred by the licensee during the FY 2018-19, as per its Audited Accounts, for 'true up'.**

B. TERMINAL BENEFITS FOR FY 2018-19

Regulation 8 of the MYT Regulations 2012 provides that the terminal liability is an uncontrollable element of ARR. Accordingly, the Petitioner has sought 'true up' of terminal liability based on the actual terminal benefits expenses incurred as provided below.

Proposed True Up of Terminal Liabilities for FY 2018-19 (Rs. Millions)

Particulars	Approved by HERC	Actual	Gap Surplus/ (Deficit)
Terminal Benefits	2,993.72	3,388.08	(394.36)

The Commission has considered the submissions of the Petitioner and in accordance with the Audited Accounts, approves **Rs. 3388.08 million towards terminal benefits for theFY 2018-19.** However, the Commission would like to reiterate the directive on payment to pension trust issued vide order dated 07.03.2019 as under.

The Commission 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 Commission further directs the Licensee to ensure that any payment approved by the Commission in its order towards terminal benefits is duly paid within time and before the close of the relevant financial year.

C. ADMINISTRATIVE AND GENERAL EXPENSES (A&G) FOR FY 2018-19

Following table provides a comparison of approved and actual A&G Expenses for FY 2018-19.

Proposed True Up of A&G Expenses for FY 18-19 (Rs. Million)

Particulars	Approved by HERC	Actual	Gap Surplus/(Deficit
Administration Expenses			
Rent (including Lease Rent)		1.9	
Insurance		3.51	
Rates and taxes		193.08	
Telephone charges, Postage, telegram and Telex Charges		5.12	
Mobile sets Charges		0.48	
Legal and professional		39.69	
Payments to auditors (including out of pocket expenses)		0.74	
Consultancy charges		5.17	
Professional charges		4.9	
Service charges for computerisation		0.41	
Conference Expenses			
Training Expenses		11.55	
Travelling and conveyance		84.95	
Other Expenses		94.62	
Sub-Total of administrative expenses		446.12	
Other charges			
Material related Expenses		17.37	
Expenses on Photoshop on Contract Basis		1.66	
Sub-Total of other charges		19.03	
Less: A&G Expenses against SLDC		6.38	
Total Charges	219	458.77	(239.77)

The Commission has considered the submissions of the licensee that the increase in A&G cost is due to the payment of previous arrears pertaining to Property Taxes(Rs. 138.2 Million), higher legal and professional fees pertaining to Arbitrage cases, electricity arrears and on account of updating of schedule of rates for training and travel etc. These being in the nature of onetime expenses may be allowed to be recovered as part of true up. The licensee has further submitted that such onetime expenses have been excluded while projecting expenses for the MYT period.

The Commission has examined theone time expenses provided by the licensee and observes that it is the duty of the licensee to ensure that the dues on account of electricity charges and property tax or for that matter any statutory levies / liabilities that are applicable are paid on time. The Commission, as a onetime measure, allows such arrears to be recovered through ARR. however, such expenses are required to be excluded while extrapolating the expenses for ensuing years. The Commission further directs that interest on payment of such arrears is not allowed to be recovered through ARR. It has been noted that such onetime expenses have not been included by the Petitioner for the purposes of projections going forward. However, while allowing the pass through of A&G expenses, the Commission, has excluded the CSR cost being a charge on profit as per Law. **Accordingly, the Commission approves Rs. 449.47 million as A&G expenses for the FY 2018-19 on 'true up' including onetime expenses approved by the Commission.**

D. REPAIRS AND MAINTENANCE EXPENSES (R&M) FOR FY 2018-19

The following table provides a comparison of approved and actual R&M Expenses for the FY 2018-19.

Proposed True Up of R&M Expenses for FY 18-19 (Rs. Millions)

Particulars	Approved by HERC	Actual	Gap Surplus/ (Deficit)
Plant and machinery		131.81	
Building		80.96	
Civil works		19.03	
lines, Cables Net Works etc.		11.55	
Vehicles		11.13	
Furniture and Fixtures		0.55	
Other Office equipments		6.16	
Total		**261.19**	
Less: SLDC		6.06	
Total R&M Cost	**424.98**	**255.13**	169.85

The Commission has considered the submissions of the Petitioner that the actual R&M expenses incurred are lower than the HERC approved R&M expenditure. Thus, the Petitioner has itself requested the Commission to pass on the benefit of lower R&M expenditure incurred vis-à-vis that of approved in the Tariff Order. It has been submitted that every element of R&M expenses incurred are 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. **The Commission accordingly approves Rs. 255.13 million as R&M expenses for the FY 2018-19.**

3.1.3 CAPITALIZATION FOR THE FY 2018-19

The Commission observes that Capitalization of Assets i.e. transfer of capital works from CWIP to FAR as the assets enter into revenue earning mode has a direct bearing on the ARR as the amount capitalized goes into the rate base. It has been noted that in the FY 2018-19, a total of **Rs. 4961.05 Million has been capitalized** and added to the Gross Fixed Asset (GFA)of the Transmission Business as per the details provided by HVPNL tabulated below: -

ADDITIONS TO GFA for FY 2018-19 (Rs. Million)

Particulars	Opening Balance of GFA	Addition during year	Adjustments & Deduction	Closing Balance of GFA
Land	3,525.75	250.7		3,776.45
Building	5,928.96	157.51	67.61	6,018.86
Plant &Machinery	72,746.39	4,536.03	203.39	77,079.03
Furniture& Fixtures	242.11	11.19	2.93	250.37
Vehicles	134.02	5.66	4.66	135.03
Less: SLDC assets	583.06	0.04	-525.9	1,109.00
Total	**81,994.17**	**4,961.05**	**804.49**	**86,150.74**

3.1.4 DEPRECIATION FOR FY 2018-19

The following table provides details of depreciation expenses for the FY 2018-19 as per the Audited Accounts.

Proposed True Up of Depreciation for Transmission Business for FY 2018-19 (Rs. Millions)

Particulars	Provision for Depreciation			
	At Beginning of year	Addition during year	Adjustments & Deduction	At End of year
Land				
Building	1,667.73	175.54	1.38	1,841.89
Plant & Machinery	25,310.62	3,654.40	103.55	28,861.47
Furniture& Fixtures	119.2	18.05	2.17	135.08
Vehicles	104.3	4.82	3.99	105.13
Less: Assets financed through consumer contribution	0	219.89		
Less: SLDC assets	343.99	39.02	(0.03)	383.05
Total	**26,857.86**	**3,593.90**	**111.12**	**30,560.52**

The Commission has taken note of the submissions of the Petitioner that it has followed the principle adopted by the Commission in its True up order and deducted the depreciation chargeable to SLDC assets, Generation Assets and towards assets financed through consumer contribution and further requests the Commission to approve the depreciation for the FY 2018-19 on actual basis, as detailed in the table above.

The Commission, in view of the fact that the rates of depreciation are as approved by the Commission in the MYT Regulations, 2012, finds no reason to further examine the actual calculation of depreciation and approves the same as proposed by the Petitioner.

3.1.5 INTEREST AND FINANCE CHARGES FOR FY 2018-19

The following table provides a comparison of approved and actual interest and finance charges incurred in the FY 2018-19.

Proposed True Up of Interest and finance charges for FY 2018-19 (Rs. Million)

Particulars	Approved by HERC	Actual	Gap Surplus/ (Deficit)
Rural Electrification Corp.		1,559.76	
Interest on Medium Term Loan from REC			
Power Finance Corp.		292.86	
Interest on World through state Govt. (WB)		366.82	
Interest on loan from NABARD		62.62	
Loan Processing Fee-World Bank Loan		2.16	
Total		2,284.22	
Foreign Exchange Rate Variation		174.03	
Other Interest & Finance Charges		27.48	
Total of B		201.51	
Grand Total of Interest & Finance Charges		2,485.73	
Less: Interest &Finance Charges Chargeable to capital Account		-225.2	
Net Total of Interest & Finance Charges: For Revenue Account: C-D		2,260.53	
Net Interest on Loan	**2,742.84**	**2,260.52**	**482.32**

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

Gap on account of Interest & Finance Charges (in Million)

Particulars	HERC Approved	Actual	Gap Surplus/ (Deficit)
Interest and Finance Charges	2,742.84	2,260.52	482.32

The Commission has examined the proposed true up of Interest on term loans by the license and finds the same in Order. **The Commission however observes that the proposed amount of Rs. 2260.52 million is inclusive of Foreign Exchange Rate Variation (FERV) cost**

amounting to Rs. 174.03 million. As the FERV cost is approved separately by the Commission as the same is an allowable cost under the MYT Regulations**, the Commission approves interest cost on long term at Rs. 2086.49 Million (Rs. 2260.52 million less Rs. 174.03 Million).**

3.1.6 INTEREST ON WORKING CAPITAL FOR FY 2018-19

The Commission has taken note of the following table that provides a comparison of approved and normative computation of Working Capital as per the HERC MYT Regulations 2012 for FY 2018-19.

Proposed True Up of Interest on working capital for FY 2018-19 (Rs. Millions)

Particulars	HERC Approved	Actual	Gap Surplus/ (Deficit)
Interest on Working capital	275.08	255.10	19.98

The petitioner has submitted that the interest on working capital approved by the Commission in the ARR was in line with the MYT Regulations 2012 and its subsequent amendments. The petitioner has further submitted that as the normative Interest on Working Capital incurred by the Petitioner is lower than that approved by the Commission, the same may be allowed.

The Commission has examined the calculation of interest on working capital proposed by the licensee and on comparing the same with the audited accounts submitted by the licensee, observes that the actual interest cost on working capital, incurred by the licensee is only Rs. 37.26 million, which is less than 20% of the amount proposed to be recovered by the licensee from its consumers. The Commission is of the considered view that when actual expenditure is available (based on Audited Accounts), it may not serve any purpose to substitute one estimated figure by another as proposed by the licensee. **The Commission, after due deliberations, decides to restrict the interest on working capital to the cost actually incurred by the licensee i.e. Rs 37.26 million, for the purpose of 'True up'.**

3.1.7 RETURN ON EQUITY (ROE) FOR FY 2018-19

The Petitioner has proposed the RoE for the FY 2018-19 considering the closing equity for FY 2017-18 as mentioned at Pg. 85 of the HERC Order in case number HERC/PRO-60 OF 2018 dated 07.03.2019. The Petitioner has estimated RoE in line with the HERC MYT Regulations 2012 and subsequent amendments and as per the Methodology proposed in the Tariff Order. The equity portion of assets capitalized is considered for estimating the amount of equity eligible for return on equity. The petitioner has proposed return on equity @ 14% for true up purposes, justifying the same as being in line with the MYT Regulations, 2012 and subsequent amendments thereof.

Proposed RoE for FY 2018-19 (Rs. Million)

Particulars	HERC Approved	Actual	Gap Surplus/ (Deficit)
Equity to be Considered for Transmission business (opening)		20,561.68	
Add: Equity portion of GFA added		1,488.32	
Closing equity for RoE		22,050.00	
Add: Equity portion of GFA added		1,488.32	
Closing equity of RoE		22,050.00	
Average Equity		21305.84	
Rate of Return		14%	
RoE- Proposed	1,912.85	2982.82	(1,069.97)

The Petitioner has prayed that the Commission may allow the revised return on equity for true-up.

The Commission has considered the above submissions and observes that the opening equity for transmission business as on 01.04.2018 has already been determined by the Commission vide Order dated 07.03.2019 and therefore, the same amount has been considered for calculations of RoE for the FY 2018-19. Further, on perusal of the Audited Accounts, it is observed that only 16.28% equity has been received for capital expenditure during the FY 2018-19 (Equity received Rs. 1488.32 million against additional capital expenditure of Rs. 9142.01 million). Accordingly, the same percentage is used to calculate additional equity eligible for calculating RoE for assets put to use in the FY 2018-19. The rate of return is 10% in accordance with regulation 11.6 of the MYT regulations and the HERC Order dated 31.10.2018. The Commission approved calculations for RoE are as given in the table below: -

HERC approved RoE	
Equity for Transmission Business as on 31.3.2018 as determined by the Commission at para 3.1.11 of HERC Order dated 07.03.2019	20561.68
Additions to GFA for the FY 2018-19 (Net of SLDC Assets)	4,961.05
Equity received against above additions @ 16.28%	807.66
Equity in use for transmission business as on 31.3.2019	21369.34
Average equity for the FY 2018-19	20965.51
Approved Rate of Return for the FY 2018-19	10%
Approved RoE for the FY 2018-19	2096.55

In view of the above, the Commission allows RoE for the FY 2018-19 as Rs. 2096.55 million as the trued-up amount.

3.1.8 INCENTIVES AND PENALTY: SYSTEM AVAILABILITY FOR FY 2018-19

Regulation 12 of the HERC MYT Regulations 2012 provides for the incentives and penalty for system availability.

The transmission system 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. HVPNL has calculated the month wise availability of each circle as per the formula specified in the HERC MYT Regulations. Calculation of System Availability for FY 2018-19

Sr. No.	Month	Total of lines & transformers capacity during month (C*D)	Total Numerator (H*C*D)	Availability during month {100-100*(S/(R*U))}	Hours in the month	Total Denominator (R*U)	Cumulative Transmission System Availability (in percentage)
1	Apr-18	117955.3918	566326.8551	99.3332	720	84927882.1117	99.3332
2	May-18	119252.0014	671742.5584	99.2429	744	88723489.0307	99.2870
3	June-18	120140.0949	443960.8394	99.4868	720	86500868.3200	99.3534
4	July-18	120541.2106	599490.2788	99.3315	744	89682660.6772	99.3478
5	Aug-18	123387.8859	639892.4254	99.3030	744	91800587.1407	99.3385
6	Sept-18	123844.6581	672382.7295	99.2459	720	89168153.8656	99.3230
7	Oct-18	124853.6590	379985.6998	99.5909	744	92891122.2608	99.3629
8	Nov-18	125777.7013	503767.9703	99.4437	720	90559944.9125	99.3731
9	Dec-18	126122.1417	159205.4305	99.8303	744	93834873.4360	99.4262
10	Jan-19	132908.8213	79782.7219	99.9193	744	98884163.0368	99.4800
11	Feb-19	128401.7585	54132.3359	99.9373	672	86285981.7360	99.5197
12	Mar-19	129599.9879	220763.1114	99.7710	744	96422391.0281	99.5401
	Total		**4991432.9566**			**1089682117.5560**	

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 2018-19, as per HERC Formula is:
100-100*{Total Nominator H*C*D)/(Total Denominator R*U)}
100-100*{(15644780.7449)/(919455465.0795)}
99.5401%

Incentive/ (Penalty) Calculation for System Availability proposed for FY 2018-19 (Rs. Million)

Particulars	Formula	HVPNL Proposal
Annual Transmission Charges	ATC	16,396.83
Actual Transmission Availability	AA	99.5401%
Normative Transmission Availability	TA	99.20%
	(AA-TA)/TA	0.003428
Incentives/(Penalties) (Rs. Mn)	**ATC*(AA-TA)/TA**	**56.22**

The Petitioner has submitted that the System Availability has been higher than the normative availability during FY 2018-19, for which the incentive is to be allowed. The incentive of Rs. **56.22 Million** for FY 2018-19, based upon system availability, has been accordingly proposed.The Commission has examined the calculations of incentive as submitted by the licensee and finds the same in order. However, the incentive is required to be calculated based on the revised ARR for the FY 2018-19 approved by the Commission on true up**. Accordingly, the incentive for actual availability is approved at Rs. 52.28 million based on the approved annual transmission charges for the FY 2018-19 as under: -**

Particulars	Formula	HVPNL Proposal	HERC Approval
Annual Transmission Charges	ATC	16,396.83	15249.05
Actual Transmission Availability	AA	99.5401%	99.5401%
Normative Transmission Availability	TA	99.20%	99.20%
	(AA-TA)/TA	0.003428	0.003428
Incentives/(Penalties) (Rs. Mn)	**ATC*(AA-TA)/TA**	**56.22**	**52.28**

3.1.9 FOREIGN EXCHANGE RATE VARIATION (FERV) FOR FY 2018-19

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.

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

Proposed Calculation of FERV (Rs. Millions)

FERV on instalments paid in 2018-19	UOM	Figures (in million)
Amount received (1st instalment of loan drawn)	USD	27.6
Repayment-8th instalment in FY 2018-19	USD	4.56
Amount paid-9th instalment in FY 2018-19	USD	4.56
Exchange Rate at the time of receipt of instalment	INR	45.82
Exchange Rate at the time of payment of 8th instalment -in FY 2018-19	INR	68.76
Exchange Rate at the time of payment of 9th instalment -in FY 2018-19	INR	71.32
FERV on 8th instalment	INR	104.62
FERV on 9th instalment	INR	116.29
Less: Recovery of capitalized FERV	INR	46.88
Net FERV on 8th and 9th instalment of loan	INR	174.03

The Net FERV impact which is being claimed with the True-up for the year FY 2018-19 is **Rs. 174.03 Mn.**The calculation of FERV as above has been revised by the petitioner vide filing dated 24.01.2020 as under:

FERV on installed paid in 2018-19	**UOM**		**Figures (in million)**
Amount received (1st instalment of loan drawn)	USD	a	27.60
Repayment made up to 31.3.2018	USD	b	26.71
Balance of 1st instalment	USD	c (a-b)	0.89
Amount received (2nd instalment of loan drawn)	USD	d	21.4
Exchange rate at the time of receipt of 1st instalment	INR	e	45.8
Exchange rate at the time of receipt of 2nd instalment	INR	f	44.3
Repayment 8th instalment in FY 2018-19	INR	g	4.56
Repayment 9th instalment in FY 2018-19	INR	h	4.56
Exchange rate at the time of payment of 8th instalment	INR	i	68.76
Exchange rate at the time of payment of 9th instalment	INR	j	71.32
FERV on 8th instalment (balance of 1st instalment)	INR	k= c(i-e)	20.48
FERV on 8th instalment (from 2nd instalment of loan drawn)	INR	l=(g-c)*(i-f)	89.72
FERV on 9th instalment (from 2nd instalment of loan drawn)	INR	m=h(j-f)	123.22
Less; Recovery of capitalized FERV	INR	n	46.88
Net FERV on 8th & 9th instalment of loan	INR	o=(k+l+m)-n	186.53

The calculation of FERV, as submitted by the licensee, has been examined by the Commission and found mostly in order except for reduction of the capitalized amount of FERV. The licensee has reduced only one installment of the capitalized amount whereas two installments are required to be reduced in view of the fact that two installments have been repaid by the licensee to the lender. The revised calculations submitted by the petitioner and those approved by the Commission are given in the table below: -

			HVPNL Calculations	**HERC Approval**
Amount received (1st installment of loan drawn)	USD	a	27.6	
Repayment made up to 31.3.2018	USD	b	26.71	
Balance of 1st installment	USD	c (a-b)	0.89	
Amount received (2nd installment of loan drawn)	USD	d	21.4	
Exchange rate at the time of receipt of 1st instalment	INR	e	45.8	
Exchange rate at the time of receipt of 2nd installment	INR	f	44.3	
Repayment 8th installment in FY 2018-19	USD	g	4.56	
Repayment 9th installment in FY 2018-19	USD	h	4.56	
Exchange rate at the time of payment of 8th installment	INR	i	68.76	
Exchange rate at the time of payment of 9th installment	INR	j	71.32	
FERV on 8th installment (balance of 1st installment)	INR	k= c(i-e)	20.48	20.48
FERV on 8th installment (from 2nd installment of loan drawn)	INR	l=(g-c)*(i-f)	89.72	89.72
FERV on 9th installment (from 2nd installment of loan drawn)	INR	m=h(j-f)	123.22	123.22
Less; Recovery of capitalized FERV	INR	n	46.88	93.76
Net FERV on 8th & 9th instalment of loan	INR	o=(k+l+m)-n	186.53	139.66

3.1.10 NON-TARIFF INCOME FOR FY 2018-19

The Commission has examined the non-tariff income details submitted by the Petitioner and finds the proposed true up of non-tariff income i.e. Rs. 333.905 million in order. Hence, the same is approved. The details are as under: -

Non-Tariff Income for FY 2018-19 (Rs. Millions)

Particulars	HERC Approved	Actual	Gap Surplus/ (Deficit)
Income from Investment, fixed & call Deposits			
Interest Income from Investments			
Interest on fixed deposits		27.25	
Interest on Staff Advances and Advances to Contractors		21.51	
Interest on IT Refund		111.09	
Sub-Total		**159.85**	
Non-Tariff Income			
Income from Trading (other than Electricity)		1.99	
Income/Fee/Collection against staff welfare activities		0.57	
Miscellaneous receipts		169.88	
Penalty charges recovered from Contractors and Suppliers		3.06	
Sub-Total		**175.5**	
Less: NTI		1.445	
Total (I+II)	**354**	333.905	20.095

3.2 TRUE UP FOR THE FY 2016-17 AND CARRYING COST

The Petitioner has submitted that 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 2015-16 which was allowed to be recovered as part of tariff for the FY 2018-19 is included as such in order to arrive at the true up amount to be recovered either from the consumers or from the licensees. **Similarly, the true up for the FY 2018-19, now approved, will be recovered as part of tariff for the FY 2020-21, if required, in accordance with the regulations and there will be no double recovery.**

3.3 REVENUE FROM TRANSMISSION TARIFF FOR THE FY 2018-19

Based on the Transmission Tariff approved by the Commission for the FY 2018-19, the Licensee has recovered the following amounts from the beneficiaries as per the Audited Accounts:

Transmission charges recovered for the FY 2018-19		
	As per HERC Order	**As per Audited Accounts**
Total Wheeling charges	18069.37	18069.37
Unitary charges received		8.07

Connectivity fee for Transmission system		23.02
Total Recovery for the credit of Long-Term Beneficiaries		18100.46

3.4 APPROVED AND PROPOSED ARR FOR TRUE-UP OF FY 2018-19

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 amount to be 'trued-up' is presented in the table below: -

Revised ARR of Transmission Business for FY 2018-19 (Rs. Million)

FY 2018-19			
Particulars	**Approved by HERC order dated 31.10.2018**	**Proposed for True-Up FY 2018-19**	**HERC revised Approval**
Expenditure			
O&M expenses	7,571.04	7,638.40	7629.09
R&M Expenses	424.98	255.13	255.13
Employee Expenses	3,933.34	3,536.41	3,536.41
Terminal Benefits	2,993.72	3,388.08	3,388.08
A&G Expenses	219.00	458.78	449.47
Depreciation	3,601.87	3,593.90	3,593.90
Interest on Loans (FERV excluded)	2,742.84	2,260.52	2086.49
FERV Cost			139.66
Interest on working Capital	275.08	255.10	37.26
Total Expenditure	**14,190.83**	**13,747.91**	**13486.40**
Return on Equity	1,912.85	2,982.82	2,096.55
Less Non-Tariff Income	354.00	333.90	333.90
Annual Transmission Charges	**15,749.68**	**16,396.83**	**15249.05**
Add: Incentive for TSA	-	56.22	52.28
Add:Incentive Computation as per Review Order	-	4.07	4.07
Net ARR	**15,749.68**	**16,457.12**	**15305.40**
Revenue Gap for FY 2016-17	1,257.52	1,257.52	1,257.52
Carrying Cost	160.53	160.53	160.53
Amount to be recovered as per HERC order 15.03.2018	381.00	381.00	381.00
Carrying Cost on Above	86.68	86.68	86.68
TOTAL ARR	**17,635.41**	**18,342.85**	**17191.13**
Transmission Share of SLDC	5.75	5.75	5.75
Unitary Charges	516.20	457.94	457.94
Less: YTC for Lines - ISTS	87.99	77.95	77.95
Add: ULDC (FOCS) (State Sector)	-	38.42	38.42
Total Transmission Charges to be recovered	**18,069.37**	**18,767.01**	**17615.30**

True Upof Transmission Business for FY 2018-19 (Rs. Million)

Transmission ARR approved by the Commission for True up	17,615.30
Total Revenue Recovered as per Audited Accounts	18,100.46
ARR Surplus/(Gap)	485.16

As per the MYT Regulations and past practice the above surplus shall be reduced from the ARR for the FY 2020-21 along with carrying cost @ 8.70%.

3.5 TRUE-UPOF SLDC BUSINESS FOR FY THE 2018-19

The Licensee has submitted and prayed to the Commission that the ARR for SLDC Business for FY 2018-19 based on actual figures, may kindly be approved for the true up of **Rs. 50.94 Million**. The Commission has examined the true up proposal submitted by the licensee as against the segregated accounts forming part of the audited accounts for the FY 2018-19 and the principles adopted while determining the ARR for SLDC business vide its Order dated 31.10.2018. Based on these parameters, the revised ARR for SLDC business for the FY 2018-19 is approved at Rs. 84.18 million as against Rs. 71.92 million approved by the Commission. Accordingly, the licensee may recover the differential amount along with the SLDC charges for the FY 2020-21. The difference between the amount proposed by HVPNL and that estimated by the Commission is primarily on account of Interest and RoE. The ARR approved by the Commission, true up proposed by the licensee, Actual Expenditure incurred for FY 2018-19 as per audited accountsby SLDC business and the amount approved by the Commission for true-up is summarized below:

True Upof SLDC Business for FY 2018-19 (Rs. Million)

S. No	Particulars	Approved by HERC	True up propose by HVPNL	As per Audited Accounts	HERC revised Approval
1	Employees Cost	55.63	41.01	41.01	41.01
2	Terminal benefit				
3	A&G expenses		6.38	6.38	6.38
4	R&M		6.06	6.06	6.06
5	Interest on Capex	7.80	-	-	-
6	Depreciation	13.67	39.02	39.02	39.02
7	Interest on working Capital	2.43	-	-	-
8	Return on Equity	-	0.00	-	0.00
9	Less: Non-Tariff Income	0.76	1.45	1.45	1.45
	Less Interest Cost on true-up for FY 2015-16	6.85	6.85	-	6.85
	TOTAL	**71.92**	**84.18**	**91.02**	**84.18**

3.6 REVIEW OF AGGREGATE REVENUE REQUIREMENT FOR FY 2019-20 AND CAPITAL EXPENDITURE PLAN FOR FY 2020-21 TO FY 2024-25

In line with the MYT Regulations, 2019, the Petitioner has submitted that the Commission may consider the revised estimates for the FY 2019-20 and proposed estimates for the FY 2020-21 to FY 2024-25. The petitioner has submitted that in view of changes in the proposed capital expenditure and fresh recruitment of regular employees during the FY 2019-20, the ARR is expected to go up. The Commission has examined the proposed Transmission ARR for the FY 2019-20 along with APR submitted by the petitioner in the following paragraphs:

Proposed Transmission ARR for FY 2019-20 (Rs. Million)

Particulars	Approved by HERC	Actual	Gap Surplus/(Deficit)
Expenditure			
O&M Expenses	**4,115.36**	**4,460.39**	**(345.03)**
R&M Expenses	438.13	457.66	(19.53)
Employee Expenses	3,465.67	3,682.47	(216.80)
Terminal Expenses	(14.10)	(14.10)	
A&G Expenses	225.66	334.36	(108.70)
Depreciation	3,948.56	3,906.69	41.87
Interest on Loans	1,983.36	3,079.97	(1,096.61)
Interest on Uday Bonds		23.38	(23.38)
Interest on PF Fund			
Interest on Working capital	181.91	201.87	(19.96)
Total Expenditure	**10,229.19**	**11,672.30**	**(1,443.11)**
Return on Equity	2,276.59	3,313.05	(1,036.46)
Revenue Gap for FY 2017-18	608.04	608.04	
Revenue Gap for FY 2018-19		(697.64)	697.64
Carrying Cost for FY 2017-18 and FY 2018-19		86.6	(86.60)
Less: Non-Tariff Income	246.04	384.71	(138.67)
Total ARR	**12,867.78**	**14,597.64**	**(1,729.86)**
Transmission Share of SLDC	5.7	5.7	
Unitary Charges	513.17	513.17	
Transmission Charges	**13,386.65**	**15,116.51**	**(1,729.86)**
Less: YTC for Lines-ISTS	109.5	109.5	
Total Transmission Charges	**13,277.15**	**15,007.01**	**(1,729.86)**

The Petitioner has requested the Commission to approve the revised Aggregate Revenue Requirement for the FY 2019-20 as proposed by them.

3.7 REVISED CAPITAL EXPENDITURE AND CAPITALIZATION FOR FY 2019-20 AND PROPOSED CAPITAL EXPENDITURE PLAN FOR CONTROL PERIOD FY 2020-21 TO FY 2024-25

The Petitioner has submitted that Capex is essential for meeting demand growth and timely upkeep of the transmission network on a sustainable basis. Capital expenditure is incurred when a business spends money either to buy fixed assets or to add to the value of an existing fixed asset with a useful life extension to deter investments. The Capex schemes have been integral part of the transmission planning and are core to the business of the utility. Keeping this in mind, the Licensee invests in the right schemes yielding higher returns.

HVPN has invested capital each year with a single-minded 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 earlier submitted a Capital Expenditure plan for the period FY 2018-19 to FY 2022-23. The Hon'ble Commission had approved the Capital Expenditure Plan only for FY 2018-19 vide its Order dated 31.10.2018 and for FY 2019-20 vide its order dated 07.03.2019. Now the Capital Expenditure of FY 2020-21 to FY 2024-25 and revised Capital Expenditure Requirement for FY 2019-20 is being submitted for the kind consideration of the Commission.

That HVPNL, 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, Gurugram and Faridabad Circles, while the Panchkula Zone is divided in Panchkula, Karnal and Rohtak circles. The circles are further divided into divisions.

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 2020-21 to FY 2024-25.

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

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

The planning department of HVPN receives inputs from field offices and the Distribution Companies on investment requirement for meeting growth on annual basis which formulate core of the capital expenditure 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.

The petitioner has requested the Commission to approve the revised capital expenditure for FY 2019-20 and proposed Capital Expenditure Plan for the Period FY 2020-21 to FY 2024-25 as submitted in the Capital Expenditure Plan for the control period.

A. TRANSMISSION SYSTEM BUSINESS

The capital investment plan for the transmission business has been divided in the following key areas, based on the nature of capital works:

i. Transmission lines

ii. Sub station

iii. Information technology initiatives

iv. Land & Right of Way expenses

v. Miscellaneous works including civil works, procurement of thermo-vision cameras, testing equipment, contingency capital works.

The following table provides the work wise expenditure for period FY 2020-21 to 2024-25. It also includes the expenditure planned for the current year FY 2019-20. The details of the works are provided as part of the Annexure to this Petition.

Work-wise expenditure for control period from FY 2020-21 to FY 2024-25 and current year FY 2019-20 (Rs. Million)

Works	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Substation	7909.8	6740.2	2447.75	1843.13	3496.4	2801.4
Lines	3781.1	50393.3	2506.41	3327.3	21	0
Information Technology	51.5	74.4	31.4	24.9	24.9	32.4
Land	9.6	10.0	10.2	10.6	4.6	4.7
Miscellaneous	250	200	200	200	200	200
Total	**12002**	**12063.9**	**5195.76**	**2927.38**	**3746.9**	**3038.5**

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.

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.

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

B. SUBSTATIONS

In the two zones, many new substations have been planned to augment the existing system and make it robust. It is submitted that adequate infrastructure is required to ensure that unforeseen breakdowns in 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 enough redundancies in the system considering the state of existing infrastructure and growth in power demand. The expenditure related to proposed substations in two transmission zones is summarized in the table below:

The capital expenditure proposed above is likely to be incurred not only towards strengthening the existing substation infrastructure but also to create new substation capacity.

Expenditure planned for new substations (in Rs. Million)

Substations	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Panchkula Zone	2780.97	1754.54	872.44	527.33	2125.6	1454.8
Hisar Zone	5128.83	4985.66	1575.32	1315.8	1370.8	1346.6
Total	7909.8	6740.2	2447.75	1843.13	3496.4	2801.4

C. TRANSMISSION LINES

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:

Planned Expenditure for Transmission lines (in Rs. Million)

Transmission Lines	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Total	3781.1	5039.3	**2506.41**	3327.3	21	0

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.

D. 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.

Expenditure planned for Information Technology (in Rs. Million)

InformationTechnology	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Total	**51.5**	**74.4**	**31.4**	**24.9**	**24.9**	**32.4**

E. LAND

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

Capital Investment plan for Land Acquisition & ROW settlements (in Rs. Million)

Land	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Hisar	4.1	4.4	4.5	4.7	0	0
Panchkula	5.5	5.6	5.7	5.9	4.64	4.68
Total	**9.6**	**10.0**	**10.2**	**10.6**	**4.64**	**4.68**

F. 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 windstorm / Augmentations etc.

Expenditure planned for miscellaneous items (in Rs. Million)

Miscellaneous	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Total	**250**	**200**	**200**	**200**	**200**	**200**

G. FUNDING PATTERN

HVPN has sought to utilize debt fund 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.

Funding Pattern (in Rs. Million)

FinancialInstitution	2020-21	2021-22	2022-23	2023-24	2024-25
Debt	6,055.21	2,491.82	1,546.93	2,622.85	2,126.93
Equity	2,595.09	1,067.92	662.97	1,124.08	911.54
Total Capex	**8,650.30**	**3,559.75**	**2,209.90**	**3,746.93**	**3,038.47**

The Commission has considered the aforesaid submissions and observes that there seems to be some typographical error in the workwise expenditure for FY 2019-20 and the control period FY2020-21- FY2024-25. The revised figures are as follows: -

Capex Proposed for FY2019-20 to FY2024-25 (Rs million)

FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
12001.96	12064	5195.75	2927.4	3746.9	3038.5

The Petitioner vide Memo No. Ch-21/SE/RAU/F-168 dated 21.01.2020, has also submitted that the petition HERC/PRO-09 of 2020 for Capital Investment Plan relating to transmission and SLDC &Business Plan of HVPNL for the Control Period FY 2020-21 to the FY 2024-25. The abstract of Capital Investment for the control period FY 2020-21 to FY 2024-25 for transmission and SLDC business is as under: -

Capital Investment Plan (Rs.Million)

Actual Investment	Proposed	Proposed	Proposed	Proposed	Proposed	Proposed
FY 2018-19	**FY2019-20**	**FY 2020-21**	**FY 2021-22**	**FY 2022-23**	**FY 2023-24**	**FY 2024-25**
7885.25	12150.55	12471.35	5615.79	3327.38	4346.93	**3938.47**

The Commission has taken into consideration the Capital Investment projections for the control period for FY 2020-21 only, from the CIP submitted by the HVPNL for the control period FY 2020-21 to FY 2024-25, for the approval of the ARR of the transmission business and SLDC and the transmission and SLDC charges for FY 2020-21. The projection of CIP for FY 2021-22 and onwards shall be considered while considering ARR for FY 2021-22 onwards. The table below shows the Capital expenditure projected by HVPNL, approved by HERC & the actual expenditure on capital works.

Capital expenditure projected by HVPNL, Approved by HERC & the Actual Expenditure on Capital Works.

FY	Projected Expenditure by HVPNL (Rs. million)	Expenditure approved by HERC (Rs. million)	Actual Expenditure (Rs. million)	% of actual w.r.t. approved expenditure (Rs. million)
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	3640	49.65%
2018-19	11315.76	7921	7885 (Including IDC)	99.5%
2019-20	10113.12 12002 (rev.)	8500		

The Commission observes that HVPNL had incurred expenditure of Rs. 4622 million on Capital works against Capex of Rs.7182 million approved by the commission during FY 2016-17 which is about 64% of the approved capital Investment Plan. Further, the licensee in capital expenditure plan for FY 2017-18, had projected an expenditure of Rs.9299 million, but the Commission, in view of the past performance of the licensee, approved Rs.7332 million for this period. However, HVPNL could achieve progress of Capex Rs3640 million (excluding IDC) only during FY 2017-18 which is 49.65% of the approved Capital Expenditure Plan. It is observed that there exists significant gap in the Capex envisaged and execution of the Capital Works. The Licensee needs to review the methodology of projecting Capex and closely monitor financial and physical progress. Hence, projections have to be necessarily realistic and implementable within the given time frame, funds available and expected benefit to flow from such works.

Further, the Petitioner had proposed Capex of Rs. 11316 million for the FY 2018-19. in its filing dated 25.01.2018 for ARR and Tariff Petition for FY 2018-19. Whereas the Commission approved an amount of Rs. 7921 million for transmission business and Rs. 500 million for SLDC for this period. The licensee has reported progress of Rs 7885 million during FY2018-19 which is 99.5% of the capex approved and about 70% of the Capex envisaged in the filing.

HVPN had projected Capital Expenditure of Rs.10113.16 million for FY2019-20, whereas the Commission after considering the past performance of the licensee had approved Rs. 8500 million and directed the licensee to submit the revised Capax schedule for FY 2019-20. The licensee was also directed to place physical and financial progress of the major capital works of the value exceeding Rs. 20 Crore each on its website for information of the public.

The Licensee vide its instant Petition has submitted the revised capital investment plan of Rs.12001.96 million for FY2019-20 and proposed Rs. 12064 million Capex during FY2020-21.

The Commission, in view of foregoing discussions, approves Capex for FY2020-21 at Rs.9250 million keeping in view the past performance of HVPNL and retains the Capex for the FY2019-20 as approved in its Order dated 07.03.2019. However, the Commission may consider re-visiting the same at the time of its true-up based on the audited figures.

H. INTRA-STATE TRANSMISSION LOSSES

The Petitioner has submitted that as per Regulations, Commission specifies the trajectory for intra-state transmission loss based on the approved capital investment plan in the MYT order. The SLDC reduces the demand scheduled by the beneficiaries during each time block by the 12 months rolling transmission losses (the 12 months period is proceeding the relevant month by 3 months). The SLDC is required to post the rolling 12 months losses regularly on its website. The SLDC, however, is yet to develop necessary software for working out rolling 52-week losses and reduce the scheduled demand accordingly thereafter. If the actual annual transmission losses (%) exceed the benchmark value (%) approved by the Commission, the licensee(s) is penalized as per the regulations in vogue.

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 by 0.02% per annum during the control period subject to penalty clause in line with HERC MYT Regulations.

I. TRANSMISSION LOSSES

It has been submitted that the Commission fixed the Intra-State losses for control period (2020-21 to FY 2024-25), subject to penalty clause in line with HERC MYT Regulations 2019, as under:

FY	2020-21	2021-22	2022-23	2023-24	2024-25
Losses (%)	**2.15**	**2.10**	**2.05**	**2.02**	**2.0**

J. TRENDS IN TRANSMISSION LOSSES

The licensee has submitted that the reduction in transmission losses is an important objective under section 26(2)(b) and (c) of the Act and tariff determination is required to take into account such reductions. Capital expenditure incurred by the HVPNL is Rs 4111.7 Crore. The trajectory ot transmission losses vis-à-vis approved by the Commission is as under:

Period	Target fixed by 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	2.44	2.259	508710
2018-19	2.42	2.055	515146
2019-20 October 2019	2.40	2.078*	365028

**** based on provisional energy account of October, 2019***

It has been submitted that HVPNL has been able to limit Transmission Losses vis-à-vis the Target from FY 2016-17 onwards. The commission vide its Tariff Order dated 07.03.2019has allowed the actual transmission losses for FY 2018-19 and FY 2019-20 as prayed for by HVPNL.

However, the Commission had directed the licensee to put in sincere and concerted efforts to bring transmission losses below 2.40% in FY 2019-20.

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 found viable as per the Cost Benefit Analysis. The Transmission Plan for period FY 2019-20 and FY 202-21 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 targets of Transmission Losses prescribed for the control period is too ambitious, and are much higher than the targets fixed in other similar States.

The State transmission system is having small Transmission Lines but there are large number of interface points and substations to cater the load and maintain voltage profile as per Norms but in order to achieve further reduction in Losses, the Petitioner is required to invest huge additional capital, which may not fulfil the criteria of Cost Benefit Analysis. The Petitioner is of the view that the Transmission Losses vary with the load and Generation variation from different sources, which is not in control of the Transmission Licensee beyond the certain level.

The month wise transmission losses of HVPN during FY 2018-19 and FY 2019-20 is as under: -

Intra-State transmission losses FY 2018-19 and FY 2019-20

	2018-19			2019-20		
Month	**Total Drawl by Discomin LU**	**Intra State Transmission Losses in LU**	**Intra State Transmission losses in %**	**Total Drawl by Discom) in LU**	**Intra State Transmission) losses in LU**	**Intra State Transmission losses in %**
April	35202.6667	769.30400	2.139	36955.67262	796.16941	2.109
May	45040.4458	929.81857	2.023	48118.77234	803.12319	1.642
June	51746.3716	1184.82476	2.238	56020.92521	1234.17203	2.156
July	56118.2057	1142.54853	1.995	58253.70913	1265.17498	2.126
Aug	55955.4007	1205.32901	2.109	57717.60086	1274.76104	2.161
Sept	44568.2835	911.86692	2.005	58270.34076	1295.76639	2.175
Oct	41646.3854	852.47220	2.006	42106.93571	915.09855	2.127
Nov	32765.3297	732.39535	2.186			
Dec	36893.5732	782.33721	2.076			
Jan	36469.7040	796.74172	2.138			
Feb	32203.4411	608.10170	1.853			
March	35950.5088	670.22968	1.830			
Total losses	504560.31620	10585.96966	2.055	357444.00663	7584.26560	. 2.078*

* (Up- to Oct. 2019)

The licensee has submitted that the transmission losses in FY 2019-20 (ending Oct. 2019) are 2.078%.

The Commission observes that the Intra State Transmission losses for FY 2016-17 and FY 2017-18 and FY2018-19 have been 2.311%, 2.259% and 2.055% respectively. Further, these losses for FY 2019-20 (end Oct. 2019) have been 2.078% as a result of constant pursuance of licensee with field offices to keep a check on the readings of the meters at the interface points and the Discoms besides removing the overloading of transmission lines by addition of new lines/ augmentation of lines capacity with HTLS conductors etc.

The Commission is of the view that still there is lot of scope for further reduction in this loss and observes that target fixed for transmission losses in the MYT Regulations 2019 i.e. 2.15% for the FY 2020-21 is quite realistic and achievable. Accordingly, the Commission approves the same as per the MYT Regulations.

K. 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) (%)

	MYT Period				**Extended MYT Period**		
	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Norms (AC System)	98.80	99.00	99.20	99.20	99.20	99.30	99.20

The above target availability is 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. The Transmission System Availability for the period FY2007 to FY2019 (ending Oct.) is as under:

Transmission System Availability (FY 2007- FY 2018 end Oct. 2019)

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
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	98.3
Cumulative for the year 2016-17	99.04
Cumulative for the year 2017-18	98.95

Cumulative for the year 2018-19	99.54
Cumulative for the year 2019-20(end Oct. 2019)	99.797

The Commission in its MYT 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 Y2016-17 respectively. Further, the licensee was mandated to maintain the transmission system availability as 99.20 % in FY2017-18, 2018-19 and 99.30 % in FY2019-20 by its respective Orders on ARR for transmission Business and SLDC for these years.

The Commission observes that the transmission system availability in the FY 2017-18, is 98.95% against the target of 99.2 and in FY 2018-19 the availability has been 99.54%. The licensee was asked to analyze the reason for fall in the transmission system availability for FY 2017-18. The licensee has provided the outages due to tripping and break downs at various voltage levels in the System for the FY 2018-19 and 2019-20 with detailed analysis report giving the reasons for such break downs in the system leading to fall in the Transmission System Availability.

Additionally, it is observed that at 400 KV level the transmission lines experienced 53 nos. outages in FY 2018-19 for total time loss of 483 hours. Similarly, the 220 KV and 132 KV lines in the system encountered 612 outages and 271 outages resulting into time loss of 6003 hours and 1406 hours respectively. At 66kv level, 187 outages of lines rendering a time loss of 21574 Hrs. has been experienced. Further, 625 outages of power transformers at various voltage level have been experienced with downtime of 27286 Hrs. in 2018-19.

Similarly, during the Year 2019-20 (ending Oct., 2019) 592 outages of lines and 270 outages of the power transformers with downtime of 9447 Hrs. and 4885 Hrs. respectively occurred at various voltages levels in the system.

The Commission observes that the licensee has been able to achieve transmission system availability of 99.54% in the FY 2018-19 and 99.79% in FY 2019-20 (ending Oct. 2019). However, it would like to emphasize the need to keep focused attention for the preventive maintenance of the transmission lines and the power transformers to avoid outages/ break downs in the transmission system. The **Commission reiterates that the Licensee ought to maintain target availability as per the norms specified for the purpose.**

L. POWER TRANSFORMERS FAILURES

HVPNL has submitted that there are 1175 Power Transformer installed in its system as on 31.10.2019, 10 nos. power transformers failed during the period 1.04.19 to 31.10.19 as per following details: -

Power Transformer damage

2017-18	2018-19	2019-20 (end oct. 2019)
14	27	10

The voltage wise detail of Transformer damage during FY 2019-20 (end Oct. 2019) is as under:

Sr. No.	Voltage rating	Total no.of transformer	Damaged transformer	% of damage
1	400 kV	15	0	-
2	220 kV	201	0	-
3	132 kV	589	8	1.35%
4	66 kV	376	2	0.53%

The Commission observes that vide its Order dated 29th May, 2014 for ARR and tariff proposal of HVPNL transmission business, the licensee was advised to strictly enforce the preventive maintenance schedules, 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 as submitted by HVPNL.

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	1082	14	1.29
4.	2018-19	1136	27	2.40
5.	2019-20 (ending Oct.2019)	1175	10	0.85

The Commission observes that the damage rate of Power transformers continued to be high which should not be more than one percent of its population as being observed in the best performing utilities. The damage rate has been 1.29% in FY 2017-18, 2.40% in FY 2018-19 and 0.85% during FY 2019-20 (end Oct. 2019) as reported by the license. The damage rate in FY 2018-19 has been very high 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.

HVPNL has provided the details in respect of circle-wise, transformer damage as under:

Circle-wise Transformer damage

		2017-18			FY 2018-19			FY 2019-20		
Name of circle	Voltage	No. of T/F	T/F Damage	%	No. of T/F	T/F Damage	%(Oct.2017)	No. of T/F	T/F Damage	%
Panchkula	220/66KV	21	1	4.76	22	1	4.55	22	0	0
	220/33KV	1	0	0	1	0	0	1	0	0
	132/66KV	3	0	0	2	0	0	2	0	0
	132/11KV	1	0	0	1	0	0	1	0	0
	66 /11KV	145	1	0.69	151	1	0.66	154	0	0
	66/33KV	3	0	0	3	1	33.33	3	0	0
	33/11 KV	1	0	0	0	0	0	0	0	0
Karnal	220 KV	27	0	0	31	0	0	34	0	0
	132 KV	160	0	0	162	7	4.32	168	0	0
	66 KV	1	0	0	1	0	0	2	0	0
Rohtak	220 KV	24	0	0	24	2	8.33	30	0	0
	132 KV	137	5	3.65	138	6	4.35	150	3	2
Faridabad	400 KV	2	0	0	2	0	0	3	0	0
	220 KV	18	0	0	18	1	5.56	21	0	0
	66 KV	104	0	0	107	2	1.87	110	1	0.91
Gurgaon	400 KV	6	0	0	7	0	0	7	0	0
	220 KV	41	0	0	45	2	4.4	50	0	0
	132 KV	54	1	1.85	54	0	0	55	1	1.85
	66 KV	91	1	1.10	100	1	1	99	1	1.01
	33KV	1	0	0	1	0	0	1	0	0
Hisar	400 KV	5	1	20	5	0	0	5	0	0
	220 KV	44	0	0	46	0	0	46	0	0
	132 KV	206	4	1.94	212	3	1.42	217	4	1.84
	33 KV	16	0	0	16	0	0	16	0	0

It is observed that there has been a little improvement in the reduction of damage rate of power transformers in the FY 2017-18. However, in some of the circles the damage rates are still very high, again it has risen in FY 2018-19. Further, in FY 2019-20, ten nos. transfer are reported to be damaged till Oct., 2019 the licensee was asked to intimate the cause of damage, action taken and the preventive action to be taken to avoid recurrence of such faults.

The Commission further observes that out of these 37 sick transformers, two no. transformers are in service for less than 10 years and six transformers has been working for less than 15 years, further, twenty-two transformers are in service 15 years to 30 years. However, seven transformers have been working in the system for more than 30 years i.e. these transformers have served their useful life.

The Commission feels that the sick power transformers which are in service for 10 to 15 years are to be critically, examined for the condition and get these transformers replaced on priority and these transformers be repaired/rectified in its workshop to enhance their life**. The Commission directs the licensee to provide the action plan and the action taken to replace/rehabilitate sick power transformers working in the field, circle wise with the detail of the transformers during FY 2018-19 and FY 2019-20.**

In compliance of Commission's directives to investigate the causes of damage to its transformers and action taken to prevent occurrence of the same, HVPNL has submitted that one of the major causes is excessive tripping of 11 KV feeders emanating from HVPNL substations and the other is age and internal faults in the Power Transformers. It has been further submitted that in order to keep the organization in tune with the changing scenario in power sector four no. knowledge group one each for Power Transformer, AIS, GIS substations, protection philosophy and the transmission lines have been constituted and the following action has been taken on the recommendation of these knowledge group to avoid damage to the Power Transformers.

<u>Identification of defective LAs/ GO switches / defective earthing at 1st H-pole of 11 kV feeders emanating from HVPNL substations</u>

The defective LAs/ GO switches, defective earthing at 1st H-pole of 11 kV feeders emanating from HVPNL substations are one of the major reasons for breakdowns/ trippings at HVPNL grid substation and damage of power transformers. A special campaign has been launched to identify tile defective LAs/GO switches/ defective earthing at 1st H-pole of 11 kV feeders emanating from HVPNL substations in the month of January, 2019. The matter is being pursued vigorously with DISCOMs for taking necessary action. The latest status in this regard is tabulated as under: -

	TS Circle	Total No. of feeders with defective LA, GO switches and improper earthing	No. feeders where defective Las replaced/Total No. of feeders with defective las	% Feeders where defective LAs replaced	No. feeders where defective GO switches repaired or replaced/Total no. of feeders with defective GO switches	% feeders where defective GO switches repaired/ replaced	No. feeders where improper earthing set right/Total no. of feeders with improper earthing	% feeders where improper earthing
1	Panchkula	968	241/502	48%	188/393	47.84%	46/119	38.66%
2	Karnal	573	129/461	27.98%	276/424	65.09%	415/573	72.42%
3	Rohtak	627	105/537	19.55%	102/252	45:33%	96/242	3966%
4	Faridabad	750	47/748	6.28%	310/664	46.68%	426/686	62.10%
5	Gurugram	1091	7/886	0.79%	0/577	0%	15/297	5.05%
6	Hisar	776	34/563	6%	50/388	12.88%	29/384	7.55%
	Total	4785	563/3700	15.22%	926/2698	34.32%	1027/2301	44.63%

HVPNL has submitted as under:

1. HVPNL has identified 231 no. '11 kV feeders, which are required to be shifted to nearby 33 kV substations from existing 132/11 kV transformers to avoid overloading. The information has been shared with concerned officers of the DISCOMs for taking necessary action as per details given below: -

Sr. No.	TS Circle	No. of HVPNL grid Substations	No. of transformers	No.of 33 KV substations	No. of 11 KV feeders to be shifted
1	Kamal	23	36	41	72
2	Rohtak	21	24	33	43
3	Hisar	37	49	58	112
	Total	81	109-	132	227

2. HVPNL has decided in principle to replace the CTs with tan delta more than 10% and has identified 84 such CTs. The defective CTs are being replaced. The CTs with tan delta more than 0.7% and with increasing trend would also be considered for replacement during the year 2019-20.

3. HVPNL has decided in principle to replace all LAs with leakage current beyond permissible limits during the year 2019-20.

4. 25 Nos. substations having earth resistance more than 1 ohm were identified and necessary action has already been taken to improve the earth resistance
5. Preventive maintenance and inspection schedule for transmission works has already been issued and implemented by HVPNL since 2014. However, in order to monitor the regular maintenance of the transmission works, the "Substation Module under ERP" has now been implemented in HVPNL. All SSEs are now uploading the data of the annual maintenance of the power transformers, oil test results and M&P observations on the "Substation Module".
6. General guidelines for Shift Duty Operators have been issued by the Nigam on 25.07.2019. All XENITS have been instructed to ensure that all Shift Duty Operators in HVPNL are well conversant with these guidelines for proper operation & maintenance of substation.

The Commission observes that both discoms and the transmission licensee needs to work in tandem and the close coordination. Further directs the licensee to pursue **vigorously with UHBVNL and DHBVNL to ensure that these defects are removed within three months of the order and a certificate be recorded by the offices concerned that the defects identified**

have been rectified. Further the work of shifting of 11 KV feeders from the overloaded power transformers in HVPNL substation to the 33 KV substations be completed in a time bound manner under the close monitoring of a coordination committee. The progress of above works be intimated to the Commission after three months. Action plan to replace 84 CTs with tan delta more than 10% and LAs with more than permissible leakage current be intimated to avoid outage of system and give more reliable output current.

M. PROVISION OF POLYMER INSULATORS

In order to avoid the problem of tripping of transmission lines due to dense foggy conditions in winter season, the licensee 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.

N. FATAL AND NON-FATAL ACCIDENTS

HVPNL has supplied data for fatal and Non-Fatal accidents to human beings in respect of HVPN for the year FY 2017-18, FY 2018-19 and FY 2019-20 (up to Oct. 2019) as under:

Fatal and Non-Fatal Accidents

Category	2017-18	2018-19	2019-20 (up to Oct. 2019)
(A) Fatal			
Human beings	2	2	1
Non-human beings	0	0	0
(B) Non-Fatal			
Human beings	7	17	2
Non-human beings	0	0	0

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	2013-14	3	4	7
2	2014-15	-	4	4
3	2015-16	1	10	11
4	2016-17	3	3	6
5	2017-18	2	7	9
6	2018-19	2	17	19
7.	2019-20 (up to 31.10.2019)	1	2	3

The Commission observes that during FY 2018-19, 19 fatal/ nonfatal accidents has occurred in HVPNL transmission system. The license has been directed time again to investigate the causes of these accidents and take the preventive action to ensure that such accidents do not occur in future.

HVPNL has submitted that the Nigam has framed safety rules. 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. Safety Manual has been issued in Hindi as well. Proper (T&P) have been provided to the field technical staff. Regular Training is being imparted to implement the safety standards from time to time. Workshops on safety are being organized in the field to increase awareness about Safety Regulation & Safety Measures to be adhered while working on electrical equipment and lines.

The Commission further observes that in FY2019-20 till Oct. 2019, fatal accident to one human being and two nonfatal accidents have taken place which is a matter of serious concern. The accident rate of human beings is alarmingly high in FY2018-19 and again in FY2019-20 the fatal accident has occurred which cannot be tolerated. The commission observes that had the licensee taken the above preventive action in true spirit and sincerely, the fatal accident could have been avoided.

Needless to mention that specially the officers of the Nigam ought to take this challenge and create awareness among the work force to make it a habit that before starting the work on an electric line or an equipment, the supervisor in charge must take stock of safety precautions first and then start the work only.

O. PLANS FOR IMPROVING REACTIVE POWER COMPENSATION

As per requirement of the Haryana Grid code for the transmission licensee, 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.

SLDC shall continuously monitor voltage at strategic 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 VArs compensation/ generation such that they do not draw VArs from the grid, particularly under low-voltage condition

HVPNL has installed 4078.241 MVAR capacitors (as on 31.03.2019) on 220kV, 132 kV, 66 KV and 66kV network to improve the power factor in the HVPN System. During current year 2019-20, HT Capacitors of 43.200 MVAR Capacity have been added in the Transmission system up to September-2019. 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.

The Capacitor Banks installed in HVPNL System is as under: -

Sr.no.	Name of Circle	Total capacitors in MVAR installed as on 31.03.19	Total capacitors in MVAR installed as on 30.09.19
1.	TS Zone HVPNL, Panchkula	2238.843	2282.043
2.	TS Zone HVPNL, Hisar	1839.398	1839.398
Total of HVPNL		**4078.241**	**4121.441**

The Commission vide its last order dated 07.03.2019 on ARR of Transmission licensee had directed the licensee 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 was required to be submitted.

The Commission observes that HVPN has added 43.200 MVAR capacitor banks in its system in TS Zone Panchkula. However, no new capacitor bank has been added in Hisar Zone during FY2019-20.

The Commission feels that capacitors bank installed in no. of sub stations are not fully functional and directed the licensee to expedite the repair of defective capacitor banks in its substations and ensure the healthiness of the capacitor banks installed in the

system. HVPNL is directed to provide the progress of repair/rehabilitation of the capacitor banks with name of substation within three months of the order.

P. ENERGY ACCOUNTING

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, HVPNL respectfully submits that there are 1177 interface locations between HVPNL and the DISCOMs (UHBVNL & DHBVNL) and Railways. At all 1115 locations Special Energy Meters (SEMs) of 0.2s class accuracy 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 each Power Transformer feeding the distribution area. In addition, the energy fed directly from the Sub Stations of HVPNL at 66kV and above to the consumers of DISCOMs and Railway as per the list given below is accounted for in the monthly energy accounts.

It is further added that HVPNL has decided to install SEMs at new interface points as under:

a) Interface between HVPNL and DISCOMs: -

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

b) 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 31.10.2019:

Sr. No.	Name of the Location	Sr. No.	Name of the Location
1	132 kV NFL Ckt-I, Panipat	28	66 kV MUL, Ckt-I Gurgaon
2	132 kV NFL Ckt-II, Panipat	29	66 kV MUL, Ckt-II Gurgaon

3	132 kV IOC TDLTPS, Panipat	30	132 kV Grasim Textile Bhiwani
4	132kV Allied Strips, Bahadurgarh	31	66 kV Honda scooters, Gurgaon
5	132 KV HNG Bahadurgarh	32	66 kV RICO, Gurgaon
6	66 kV Railway workshop, Jagadhari	33	66kV Bharti realty, Manesar
7	66 kV MES, Ambala Cantt.	34	66 kV Ambience Mall feeder, Gurugram
8	66 kV Air Force, Ambala	35	220 kV Railway Traction Ckt-1 from 400kV, Abdulapur, PGCIL
9	66 kV IOC, Ambala	36	220 kV Railway Traction Ckt-II from 400kV, Abdulapur, PGCIL
10	66 kV Munjal Kiriu, Manesar	37	132 kV Railways-DiwanaCkt-I, Panipat
11	66 kV Sunbeam, Gurgaon	38	132 kV Railways-DiwanaCkt-II, Panipat
12	132 kV Asahi India, Narnaul	39	132kV Railway AsaudhaCkt-I,
13	220 kV Jindal Strips, Hisar	40	132kV Railway AsaudhaCkt-II,
14	66 kV BSL Casting Faridabad	41	66 kV Railways Ckt-I, Faridabad
`15	66 KV Escort Line Faridabad	42	66 kV Railways Ckt-II, Faridabad
16	66 KV JCB Feeder Faridabad	43	66 kV Laser Shaving Blade, Faridabad
17	66 kV DMRC, Ckt-1 Faridabad	44	66 kV Star Wire, Faridabad
18	66 kV DMRC, Ckt-2 Faridabad	45	66 kV Star Wire, Chhainsa
19	66 kV DMRC, Ckt-1,Gurgaon	46	66 KV Punjab General industries Faridabad
20	66kV Rapid Metro,sec-28, Gurgaon	47	66 kV DMRC, Ckt-2 Gurgaon
21	66kV Rapid Metro, Sec-56, Gurgaon	48	66 kV ESIC Medical College & Hospital, Faridabad
22	66 kV DMRC, Ckt-1, Bahadurgarh	49	132 kV Uchana Railway CKT-1
23	66 kV DMRC, Ckt-1, Bahadurgarh	50	132 kV Bhuna-Uklana Railway Line
24	132kV Munak IOCL Ckt. Karnal	51	132 KvBadliBadsaCkt.-I, Rohtak
25	66kV Info space Limited, Gurugram	52	132 KvBadliBadsaCkt.-II, Rohtak
26	66kV Good Year, Faridabad	-	----------
27	66kV Candoor, Gurugram	-	----------

Q. INADEQUATE OR DEFECTIVE METERS

HVPN has 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 1177 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 31.10.2019 is as under: -

Description	DHBVNL	UHBVNL	Railways	Total
Total no. of interface points between licensees i.e. UHBVNL, DHBVNL & Railways	596	572	9	1177
No. of interface points between licensees i.e. UHBVNL, DHBVNL & Railways where SEMs are commissioned	596	572	9	1177

The interface points 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	4	4	4
No. of Metering Points where SEM have not been installed and ECMs are installed	0	0	0	0	0	0

Name of Renewable Energy Generating Plant	**Shahabad Sugar Mill**	**Star wire**	**Gemco**	**Sri Jyoti**	**Narayangarh Sugar Mill**
Total No. of Interface Points	1	1	1	1	2
No of interface points where SEMs are commissioned	1	1	1	1	2
No. of Metering Points where SEM have not been installed and ECMs are installed	0	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 31.10.2019, SEMs has been installed at all the interface points with distribution licensees i.e. UHBVNL, DHBVNL, Railways & Generating points.

The Commission reiterates that no transmission element forming interface point with any utility is energized without installation and commissioning of SEMs as per CEA Regulations. The main meter/check meter/standby meter shall be installed by HVPN at feeders emanating from HVPN substation as well as at Discoms' end.

3.8 EMPLOYEE RECRUITMENT AND RETIREMENT

The total number of employees being retired and recruitment envisaged by the licensee for the year FY 2019-20 and the control period from FY 2020-21 and FY 2024-25 are provided in the table below: -

Retirements and Recruitments (Nos)

Particulars	Retirement	No. of Employees Added	Effective	Cumulative
Employees To be added in FY 2019-20	158.00	235.00	77.00	77.00
Employees To be added in FY 2020-21	152.00	490.00	338.00	415.00
Employees To be added in FY 2021-22	163.00	70.00	(93.00)	322.00
Employees To be added in FY 2022-23	143.00	70.00	(73.00)	249.00
Employees To be added in FY 2023-24	135.00	70.00	(65.00)	184.00
Employees To be added in FY 2024-25	122.00	70.00	(52.00)	132.00

The Commission observes that with advancements in technology, a proper long-term manpower planning / budgeting, re-skilling / re-deployment including those from other Power Utilities ought to be undertaken in order to ensure that human resources are gainfully utilized and the overall employees cost in the power sector in Haryana is reined in.

3.9 OPERATION & MAINTENANCE EXPENDITURE

In line with the Commission Order dated 07th March 2019 for determination of transmission tariff, the O&M cost for the FY 2019-20 approved was Rs. 4115.37 million. However, HVPN has prayed for the revision in ARR for FY 2019-20 as under:

3.10 EMPLOYEE COST

HVPN has submitted revised Employee cost considering Inflation factor of 3.40% on each of the cost item as recorded in the FY 2018-19. HVPNL has also computed the average cost of employee after taking into consideration recruitment and retirements as per the details provided below: -

Average Cost per Employee

Particulars	Amount	
Employee cost for 2018-19	3,536	Rs. Million
Employees Beginning of 2018-19	6,808	Nos
Employees Closing of 2018-19	7,000	Nos
Average Employees for FY 2018-19	6,904	Nos
Average Employee cost for FY 2018-19 per Employee	0.5122	Rs. Million

3.11 AGGREGATE REVENUE REQUIREMENT

Based on revised estimates of individual items, the licensee has proposed to revise the ARR for the FY 2019-20 from Rs. 13277.15 million to Rs. 15007 million as tabulated below: -

Proposed Transmission ARR for FY 2019-20 (Rs. Million)

Particulars	Approved by HERC	Revised Estimate	Gap Surplus/(Deficit)
Expenditure			
O&M Expenses	**4,115.36**	**4,460.39**	**(345.03)**
R&M Expenses	438.13	457.66	(19.53)
Employee Expenses	3,465.67	3,682.47	(216.80)
Terminal Expenses	(14.10)	(14.10)	
A&G Expenses	225.66	334.36	(108.70)
Depreciation	3,948.56	3,906.69	41.87
Interest on Loans	1,983.36	3,079.97	(1,096.61)
Interest on Uday Bonds		23.38	(23.38)
Interest on PF Fund			

Particulars	Approved by HERC	Revised Estimate	Gap Surplus/(Deficit)
Expenditure			
Interest on Working capital	181.91	201.87	(19.96)
Total Expenditure	**10,229.19**	**11,672.30**	**(1,443.11)**
Return on Equity	2,276.59	3,313.05	(1,036.46)
Revenue Gap for FY 2017-18	608.04	608.04	
Revenue Gap for FY 2018-19		(697.64)	697.64
Carrying Cost for FY 2017-18 and FY 2018-19		86.6	(86.60)
Less: Non-Tariff Income	246.04	384.71	(138.67)
Total ARR	**12,867.78**	**14,597.64**	**(1,729.86)**
Transmission Share of SLDC	5.7	5.7	
Unitary Charges	513.17	513.17	
Transmission Charges	**13,386.65**	**15,116.51**	**(1,729.86)**
Less: YTC for Lines-ISTS	109.5	109.5	
Total Transmission Charges	**13,277.15**	**15,007.01**	**(1,729.86)**

The Petitioner has requested the Commission to approve the revised Aggregate Revenue Requirement for the FY 2019-20 as proposed by them.

The Commission has examined the proposal and observes that the revision is mainly on account of interest cost of HVPNL bonds and higher return on Equity and the same is not in accordance with principles adopted while determining the ARR for the FY 2019-20 vide Order dated 07.03.2019. It needs to be noted that regulation 11.6, on the principles for true up provides as under: -

"11.6 The Commission shall review/consider, during the control period, the application made under this Regulation as also the application for truing up of the ARR of the previous year, as per provision of the Regulation 13, on the same principles as approved in the MYT order on the original application for determination of ARR and tariff. The review / true–up for FY 2018-19 and FY 2019-20 shall, however, be done on the same principles as approved in the tariff order for FY 2018-19 and for FY 2019-20. Upon completion of such review/truing up, either approve the proposed modification with such changes as it deems appropriate, or reject the application for the reasons to be recorded in writing. The Commission shall afford opportunity of being heard to the affected party in case it considers rejecting the application."

The Commission has examined the half yearly accounts up to September 2019, submitted by the petitioner and observes that the capital expenditure and O&M expenditure incurred in the first six month of the APR period does not warrant any upward revision in the ARR for the FY 2019-20. Accordingly, the Commission is of the considered view that it would not be appropriate to replace one set of estimated figures with another set of estimates for a small amount. Further, in view of the fact that the year is over now and it would be appropriate to examine the financial impact at the time of true-up of the ARR.

3.12 REVIEW OF ARR OF STATE LOAD DISPATCH CENTRE

The Petitioner has sought revision in the Capex for the FY 2019-20 and intends to revise Interest on Loan, Return and Equity as well for FY 2019-20 and has prayed that the Commission may approve the revised ARR as submitted below: -

Proposed ARR for FY 2019-20 (Rs. Million)

SLDC Business	2019-20
Employees Cost	42.25
Interest on Capex	10.87
Depreciation	40.20
A&G expenses	6.57
R&M	5.55
Non-Tariff Income	1.45
Interest on working Capital	21.47
Return on equity	18.38
Total	**143.84**

The summary of approved and revised estimates for SLDC business along with Surplus/ (Deficit) is provided below:

Summary of Surplus/ (Deficit) of SLDC Business (Rs. Million)

SLDC Business	Approved by HERC	Revised Estimates	Surplus/ (Deficit)
TOTAL	**71.29**	**143.84**	**(72.55)**

The Petitioner has requested that the Commission may approve the deficit of **Rs. 72.55 Million** and allow the recover the same along True-up Gap for FY 2018-19 with the ARR of FY 2020-21.

The Commission has examined the proposal submitted by the licensee and observes that the ARR for the FY 2019-20 was approved vide order dated 07.03.2019 as proposed by the licensee. The Commission further observes that the licensee has neither submitted any justification for the much higher ARR now submitted nor has given any details for the near ten-fold increase in the working capital cost and depreciation. It may also be noted that the R&M expenses have shown a decrease while depreciation and interest on Capex are estimated to increase even though the base for the three expenses is the same i.e. the GFA. **In view of these aberrations in projections, the Commission does not find it appropriate to revise the ARR for the SLDC for the FY 2019-20 and the same shall be taken up for true up on the close of the financial year as per the enabling provisions and terms of the MYT Regulations, 2019.**

CHAPTER 4

ANNUAL REVENUE REQUIREMENT FOR CONTROL PERIOD FY 2020-21 TO 2024-25 AND ANNUAL TRANSMISSION CHARGES & SLDC CHARGES FOR FY 2020-21

4.1. BRIEFBACKGROUND

In line with the HERC Regulations 2019, the petitioner has submitted the Annual Revenue Requirement for control period FY 2020-21 to 2024-25 and annual transmission charges & SLDC charges for FY 2020-21 as presented below.

4.2. OPERATION & MAINTENANCE EXPENSES

A. EMPLOYEE COST

For employee cost, actual employee cost of FY 2018-19 as per audited accounts has been considered. The growth due to inflation factor has been considered as per methodology approved by the Commission in the MYT Regulations and computed for the FY 2019-20 as presented in the earlier chapters i.e. 4.60%. In addition to the employee cost for the MYT control period arrived at after considering the inflation factor, the petitioner has also factored in the cumulative impact of fresh recruitment of employees during the FY 2019-20 and the FY 2020-21. It has been submitted that the terminal benefits estimate for the MYT control period is based on the actuarial valuation report annexed in the petition.

Proposed Employee Cost for FY 2020-21 to 2024-25 (Rs. Million)

Particulars	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY24-25
Salaries and Wages	2,617.29	2,706.20	2,798.14	2,893.20	2,991.49
Other Staff Cost	1,092.55	1,129.67	1,168.04	1,207.72	1,248.75
Staff Welfare Expenses	97.52	100.83	104.26	107.8	111.46
Benefit from Staff Loans	3.12	3.23	3.34	3.45	3.57
Add: Employee Cost for Additional Employees	212.57	164.94	127.54	94.25	67.61
Less: Employee Benefit For SLDC	43.68	45.17	46.7	48.29	49.93
Total Employee Cost	3,979.37	4,059.70	4,154.62	4,258.13	4,372.95
Terminal Benefits	(20.90)	(81.60)	(81.60)	(81.60)	(81.60)
Total Employee Cost Incl Terminal Benefits	3,958.47	3,978.10	4,073.02	4,176.53	4,291.35

The petitioner has submitted that the Terminal Liability for FY 2019-20 & FY 2020-21 has been claimed on the basis of projection made by actuary and may change at time of actual valuation due to change in assumptions/other parameters and also due to GOH circular on return of pension w.e.f. 1.4.79 and is requested that the same may allowed based on the audited accounts at the time of True-up.

The Commission has examined the projected employee cost filed by the licensee for the MYT Control Period under consideration and observes that the petitioner has failed to take into account the impact of ongoing normal retirement of current employees, though the impact of fresh recruitment has been incorporated in the projections. The Commission, assuming that normal retirees will be replaced by fresh employees in the same number, approves the projected employee cost for the MYT control period as proposed by the licensee.

B. REPAIR AND MAINTENANCE (R&M) EXPENSES

In the MYT Regulations 2019, the R&M expenses have been approved as percentage of GFA with K factor being 0.5% for the entire control period. The R&M expenses for FY 2020-21 to 2024-25 have been proposed by HVPNL considering the revised opening GFA for FY 2019-20 as under.

Proposed R&M Cost for FY 2020-21 to 2024-25 (Rs. Million)

Particulars	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY24-25
Opening GFA	96,915.11	1,06,207.86	4,325.53	1,16,831.39	1,20,535.95
Closing GFA	1,06,207.86	1,12,821.87	1,16,831.39	1,20,535.95	1,23,982.55
Average GFA	1,01,561.48	1,09,514.87	1,14,826.63	1,18,683.67	1,22,259.25
% of GFA for R&M Expenses	0.50%	0.50%	0.50%	0.50%	0.50%
R&M Expenses	507.81	547.57	574.13	593.42	611.30
Revised R&M Expenses (vide filing dated 24.01.2020)	511.41	561.06	596.41	621.71	644.15

The Commission has examined the R&M calculations proposed by the Licensee and finds the same in accordance with the MYT Regulations. The Commission, however, observes that the actual R&M expenses continue to be much lower than normative for the past many years, even when the availability of the transmission system is much above the normative. **The Commission directs the licensee to examine the factor used for calculation of normative R&M expenses and submit a proposal to the Commission for rationalizing the same after taking into account both predictive and preventive maintenance.** As the HERC approved Capex for the FY 2020-21 is lower than that proposed by HVPNL, the resultant R&M expenses as approved by the Commission for the MYT Control Period has been re-worked and approved as per that details provided in the table that follows:

HERC Approved R&M Expenses for the MYT Period (Rs. Million)

Particulars	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Opening GFA	96,915.11	1,06,447.74	1,14,100.06	1,19,383.10	1,24,060.57
Closing GFA	1,06,447.74	1,14,100.06	1,19,383.10	1,24,060.57	1,28,376.33
Average GFA	1,01,681.42	1,10,273.90	1,16,741.58	1,21,721.84	1,26,218.45
% of GFA for R&M Expenses	0.50%	0.50%	0.50%	0.50%	0.50%
R&M Expense	508.41	551.37	583.71	608.61	631.09

C. ADMINISTRATIVE & GENERAL (A&G) EXPENSES

In line with the MYT Regulations 2019, the Petitioner has projected the A&G expenses for the FY 2020-21 to 2024-25 as per the details provided below with an inflation factor as specified by the Commission. It is been submitted that the proposed A&G expenses may be allowed by the Commission as these reflect the A&G expenses likely to be incurred.

Proposed A&G Expenses for FY 2020-21 to 2024-25 (Rs. Million)

Particulars	**FY 20-21**	**FY 21-22**	**FY 22-23**	**FY 23-24**	**FY24-25**
Administration expenses					
Rent (including Lease rent)	2.03	2.1	2.17	2.24	2.32
Insurance	3.74	3.86	3.99	4.13	4.27
Rates and Taxes	62.71	64.84	67.04	69.32	71.68
Telephone Charges, Postage, Telegram and Telex charges	5.45	5.64	5.83	6.03	6.23
Mobile sets Charges	0.51	0.53	0.54	0.56	0.58
Legal and professional	42.27	43.71	45.19	46.73	48.31
Payments to auditors (including out of pocket expenses)	0.79	0.81	0.84	0.87	0.9
Consultancy charges	5.51	5.7	5.89	6.09	6.3
Professional Charges	5.22	5.4	5.58	5.77	5.97
Service Charges for computerisation	0.44	0.45	0.47	0.49	0.5
Conference Expenses					
Training Expenses	12.3	12.72	13.15	13.59	14.06
Travelling and conveyance	90.49	93.56	96.74	100.03	103.43
Other Expenses	100.78	104.21	107.75	111.41	115.19
Sub-Total of Administrative Expenses	332.24	343.53	355.18	367.26	379.74
Other Charges					
Material Related Expenses	18.51	19.13	19.78	20.46	21.15
Expenses on Photostat on Contract Basis	1.77	1.83	1.89	1.96	2.03
Sub-Total of other Charges	20.28	20.96	21.67	22.42	23.18
Less: A&G Expenses against SLDC	6.8	7.03	7.27	7.51	7.77
Total charges	345.72	357.46	369.58	382.17	395.15

The Commission has examined the projected O&M expenses filed by the licensee for the MYT Control Period under consideration and finds the same in accordance with the MYT Regulations. However, due to the changes in the approved R&M expenses, the approved O&M expenses for the MYT Control Period have been re-worked and approved as under: -

HERC Approved O&M Expenses for the MYT Period

Particulars	**FY 2020-21**	**FY 2021-22**	**FY 2022-23**	**FY 2023-24**	**FY 2024-25**
R&M Expenses	508.41	551.37	583.71	608.61	631.09
Employee Expenses	3,979.37	4,059.70	4,154.62	4,258.14	4,372.96
Terminal Benefit	(20.90)	(81.60)	(81.60)	(81.60)	(81.60)
A&G Expenses	345.72	357.46	369.58	382.17	395.15
Total O&M Expenses	4,812.60	4,886.93	5,026.31	5,167.32	5,317.61

4.3. DEPRECIATION

The Petitioner has proposed depreciation for the FY 2020-21 to FY 2024-25 considering the existing assets and assets likely to be added in the year and the revised Capitalization schedule. The capitalization is computed at 60% of the outstanding CWIP and 40% of CWIP added in the year.

Proposed Depreciation for FY 2020-21 to FY 2024-25 (Rs. Million)

Particulars	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25
Depreciation	4,320.15	4,642.42	4,845.89	5,032.70	5,197.34
Revised filing dated 24.01.2020	4,343.73	4,756.08	5,040.51	5282.67	5489.33

The Commission has examined the projected depreciation filed by the licensee for the MYT Control Period and observes that the licensee has adopted a uniform rate of depreciation of 4.60% whereas the average rate of depreciation of transmission assets as per the Audited Accounts in the FY 2018-19 works out to 4.38% on the opening balance of transmission assets. Hence the Commission, for estimating eligible depreciation amount, has considered the rate of deprecation as 4.38%. The additions to the Fixed Assets are based on the Capex approved by the Commission for the FY 2020-21 and those proposed by HVPNL for the remaining years of the MYT Control Period.

The depreciation approved by the Commission is given in the table below: -

HERC Approved Depreciation for the MYT Period (Rs. Million)						
Particulars	**2018-19**	**2020-21**	**2021-22**	**2022-23**	**2023-24**	**2024-25**
Transmission Assets						
Opening balance of Fixed Assets	81,994.17	96,915.11	1,06,447.74	1,14,100.06	1,19,383.10	1,24,060.57
Rate of depreciation	4.38%	4.38%	4.38%	4.38%	4.38%	4.38%
Depreciation	3,593.90	4,247.90	4,665.73	5,001.14	5,232.70	5,437.72

4.4. INTEREST & FINANCE CHARGES

The interest charges, in line with the computation of Interest on Loans, has beenworked out by the Petitioner as per the methodology specified in the Regulations with the combination of interest on the existing loans on prevailing rates and new loans at SBI base rate + 1.5% on 70% of the capitalized assets for each year as below: -

Proposed Interest and Finance Charges for MYT Period (Rs. Million)

Particulars	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25
	ARR	MYT	MYT	MYT	MYT
Interest and Finance Charges on Long Term Loans / Credits from the FIs/banks/organisations approved by the State Government					
Rural Electrification Corp. Interest on Medium Term Loan from REC Power Finance Corp. Interest on loan from National Capital Region Plg Board Interest on World Bank Loan through State Govt. (WB) Interest on loan from NABARD Interest on loan from Market Committee Loan Processing Fee-World Bank Loan	2,546.60	2,546.60	2,546.60	2,546.60	2,546.60
Interest on Loan on New Capex (Net of Repayments)	1,089.96	1,438.94	1,524.32	1,521.43	1,492.62
Net Interest on Loan	**3,636.56**	**3,985.54**	**4,070.92**	**4,068.03**	**4,039.22**

The Interest amount computed on New Loans is net of repayments made i.e. the loan component of newly capitalized assets are reduced by the repayments of loans expected during the respective years.

The Commission has examined the calculations of interest on new term loans and agrees with the methodology adopted by the licensee. However, the repayment is required to be considered to be equal to the depreciation in accordance with regulation 21.1 (VIII) of the MYT regulations 2019 and the interest on new loans is required to be calculated considering that the same are received uniformly throughout the year. Also, the licensee has not reduced the amount of IDC (Interest During Construction) from the gross interest cost while calculating the interest to be recovered in the ARR. The practice of capitalizing interest cost incurred on term loan borrowing before commissioning of a particular asset is in accordance with the approved accounting standards and is being followed by the licensee as evident from the Audited Accounts for the FY 2018-19. The Petitioner has not provided any justification for not considering the same. The Commission, accordingly has reduced IDC from the gross interest on term loans in the same ratio as per the audited accounts for the FY 2018-19. Further, the licensee has assumed that 30% of new capital expenditure will be funded by equity and the balance will be funded through new loans. However, in view of actual trend of equity support / infusion made available to the licensee in recent years, the Commission has assumed that only 20% of new capital expenditure will be funded by equity and the balance will be funded by loans after excluding Rs. 50 million per year on account of consumer contribution. The revised calculation of approved interest on term loan borrowings after considering the above adjustments is presented below: -

HERC Approved CWIP Additions and Funding of such Additions to CWIP

	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25
CWIP (Including SLDC)					
Opening Balance	10400.04	9710.02	7253.48	4897.82	4567.29
Approved additions	9250.00	5615.79	3327.38	4346.93	3938.47
Less Transfer to Fixed assets (GFA)	9940.02	8072.33	5683.04	4677.46	4315.76
Closing Balance	**9710.02**	**7253.48**	**4897.82**	**4567.29**	**4190.00**
Funding of CWIP					
Equity	1850.00	1123.16	665.48	869.39	787.69
Loan	7350.00	4442.63	2611.90	3427.54	3100.78
Consumer contribution/ Grants	50.00	50.00	50.00	50.00	50.00
Total	**9250.00**	**5615.79**	**3327.38**	**4346.93**	**3938.47**
Depreciation	4332.07	4777.16	5140.68	5399.01	5604.03
New loans (net of Depreciation)	**3017.93**	**-334.53**	**-2528.77**	**-1971.46**	**-2503.25**

HERC Approved Interest and Finance Charges for MYT Period (Rs. Million)

Interest on term Loans HERC	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25	Rate
Interest on World bank (WB)Loans	366.82	366.82	366.82	366.82	366.82	2.82%
Interest on borrowings other than WB Loans	1,915.23	1,915.23	1,915.23	1,915.23	1,915.23	9.65%
Interest on new loans (net of repayment)	521.44	650.89	512.76	295.65	347.94	9.65%
Total	2803.49	2932.94	2794.81	2577.70	2629.99	
Less IDC	(273.36)	(285.99)	(272.52)	(251.35)	(256.45)	-9.75%
Net Interest to be recovered through ARR	2530.12	2646.96	2522.29	2326.35	2373.55	

4.5. INTEREST ON WORKING CAPITAL

The interest on Working Capital proposed by the licensee, based on the principles set out in the MYT Regulations 2019, for FY 2020-21 to 2024-25 is as under.

Proposed Interest on Working Capital for MYT Period (Rs. Million)

S. No	Particulars	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25
1	O&M for 1 month	401.00	406.93	418.06	429.34	441.48
2	Maintenance spares	721.80	732.47	752.47	772.82	794.67
3	Receivables	1,366.34	1,442.26	1,487.26	1,522.57	1,553.76
4	**Total**	2,489.14	2,581.66	2,657.79	2,724.73	2,789.91
5	Interest Rate	8.95%	8.95%	8.95%	8.95%	8.95%
6	Interest on Working Capital	222.78	231.06	237.93	243.86	249.70
7	Interest on Working Capital as per filing dated 24.01.2020	224.27	235.26	244.33	251.77	258.81

The Commission has examined the methodology adopted by the licensee for calculating interest on working capital and finds the same in accordance with the MYT Regulations. However, the individual items as proposed by the licensee have been approved by the Commission with certain changes. Further, in view of COVID-19 pandemic, the Reserve Bank of India has reduced the repo rate on 27.03.2020. Resultantly, State Bank of India reduced its 1 year MCLR rate to 7.40%, w.e.f. 10.04.2020. Accordingly, in order to pass on the benefit of reduced rate of interest to the ultimate consumers, the rate of interest on working capital requirement has been taken @ of MCLR (7.40%) and a margin of 125 basis point i.e. 1.25%. Resultantly, the allowed rate of interest, for the purpose of working out interest amount, has been considered @ 8.65%.

The calculation of approved interest cost on working capital, based on the interest rates as worked out above, is as under.

HERC Approved Interest on Working Capital for MYT Period (Rs. Million)

S. No	Particulars	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25
1	O&M for 1 month	401.05	407.24	418.86	430.61	443.13
2	Maintenance spares	721.89	733.04	753.95	775.10	797.64
3	Receivables	962.35	1,013.59	1,043.22	1,058.28	1,092.32
4	**Total**	**2,085.29**	**2,153.88**	**2,216.03**	**2,263.99**	**2,333.10**
5	Interest Rate	8.65%	8.65%	8.65%	8.65%	8.65%
6	**Interest on Working Capital**	**180.38**	**186.31**	**191.69**	**195.84**	**201.81**

4.6. RETURN ON EQUITY (TRANSMISSION BUSINESS)

The revised return on equity has been estimated by the Petitioner based on the expected equity contribution on the new capex proposed to be incurred. The rate of return considered by the petitioner for the return on equity is 14% in line with the MYT Regulations, 2019. New Equity is computed on 30% of the capitalized assets for each year and are provided as below:

Proposed RoE for the MYT Period (Rs. Million)

Particulars	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY24-25
Equity to be considered for transmission business (Opening)	25,279.31	28,067.13	30,051.34	31,254.19	32,365.56
Add: Equity portion of GFA added	2,787.82	1,984.20	1,202.86	1,111.37	1,033.98
Closing equity for RoE	28,067.13	30,051.34	31,254.19	32,365.56	33,399.54
Rate of return	14%	14%	14%	14%	14%
Average Equity	26,673.22	29,059.24	30,652.77	31,809.88	32,882.55
RoE- Proposed	3734.25	4068.29	4291.39	4453.38	4603.56

The RoE calculation has been revised by HVPNL for the MYT Control Period, vide their filing dated 24.01.2020 as under: -

Revised RoE for the MYT Period (Rs. Million)

Particulars	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25
Equity to be considered for Transmission business (Opening)	25,225.63	28,565.37	31,171.49	32,807.37	34,206.99
Add: Equity portion of GFA added	3,339.74	2,606.12	1,635.88	1,399.63	1,293.28
Closing equity for RoE	28,565.37	31,171.49	32,807.37	34,206.99	35,500.28
Rate of Return	14.00%	14.00%	14.00%	14.00%	14.00%
Average Equity	26,895.50	29,868.43	31,989.43	33,507.18	34,853.63
RoE - Proposed	**3,765.37**	**4,181.58**	**4,478.52**	**4,691.01**	**4,879.51**

The Commission has considered the submissions made by the licensee and observes that as per the MYT Regulations, 2019, ROE upto 14% can be allowed on the eligible Equity Capital in use. The Commission, taking a holistic view of the power sector in Haryana including the tariff payable by the electricity consumers had traditionally restricted the RoE to 10% in order to cushion the tariff shock to the consumers. In FY 2020-21, given the unprecedented situation emanating from the COVID-19 pandemic and the resulting restriction/lockdown ordered by Central Government/State Government, all economic activities came to a standstill. Resultantly, the ability to pay of all categories of consumers has been significantly reduced. The pandemic has impacted income, earnings and employment of all categories of consumers be it domestic consumers, industrial/commercial consumers. As far as Government connections are concerned i.e. Public Water Works, Street Light, Lift Irrigation as well as general connections in Government Offices and building, it is also a fact that due to significant reduction in revenue from direct/indirect taxes and levies, their ability to pay, has also been impaired. Hence, the Commission, after due deliberations, has considered not to allow any RoE in the FY 2020-21. Consequently, RoE has not been determined.

4.7. NON-TARIFF INCOME

The petitioner has submitted that the non-tariff income has been considered in line with the actual non-tariff income during FY 2018-19. **The Commission has examined the proposal of the licensee and finds the same in order, hence, approves the same**. The details are provided in the table below: -

Non-Tariff Income for MYT Period (Rs. Million)

Particulars	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY24-25
Non- Tariff income	222.8	222.8	222.8	222.8	222.8

4.8. ARR FOR THE MULTI YEAR PERIOD

Based on the above parameters the revenue requirement proposed for each year of the control period by the licensee is presented in the following table: -

***Proposed ARR for MYT Period(Rs. Million)**

Particulars	2020-21	2021-22	2022-23	2023-24	2024-25
Expenditure					
O&M expenses	4,815.70	4,896.63	5,039.04	5,180.41	5,330.66
R&M Expenses	511.51	561.06	596.41	621.71	644.15
Employee Expenses	3,979.37	4,059.70	4,154.62	4,258.14	4,372.96
Terminal Benefits	(20.90)	(81.60)	(81.60)	(81.60)	(81.60)
A&G Expenses	345.72	357.46	369.61	382.17	395.15
Depreciation	4,343.73	4,756.08	5,040.51	5,282.67	5,489.33
Interest on term Loans	3,636.56	3,985.54	4,070.92	4,068.03	4,039.22
Interest on working Capital	224.27	235.26	244.33	251.77	258.81
Share of SLDC Charges	23.24	12.91	14.25	14.18	15.13
Total Expenditure	**13,043.50**	**13,886.42**	**14,409.06**	**14,797.06**	**15,133.16**
Return on Equity	3,765.37	4,181.58	4,478.52	4,691.01	4,879.51
Less: Non Tariff Income	(222.80)	(222.80)	(222.80)	(222.80)	(222.80)
Annual Transmission Charges	**16,586.06**	**17,845.20**	**18,664.77**	**19,265.26**	**19,789.86**

* Filing dated 24.01.2020

The Commission, after analyzing each item of the ARR and recording the reasons for any change from the proposed figures, approves the revenue requirement for each year of the MYT Control Period as under: -

HERC Approved ARR for Control Period (Rs. Million)

Particulars	2020-21	2021-22	2022-23	2023-24	2024-25
Expenditure					
O&M expenses	4,812.60	4,886.93	5,026.31	5,167.32	5,317.61
R&M Expenses	*508.41*	*551.37*	*583.71*	*608.61*	*631.09*
Employee Expenses	*3,979.37*	*4,059.70*	*4,154.62*	*4,258.14*	*4,372.96*
Terminal Benefits	*(20.90)*	*(81.60)*	*(81.60)*	*(81.60)*	*(81.60)*
A&G Expenses	*345.72*	*357.46*	*369.58*	*382.17*	*395.15*
Depreciation	4,247.90	4,665.73	5,001.14	5,232.70	5,437.72
Interest on term Loans	2,530.12	2,646.96	2,522.29	2,326.35	2,373.55
Interest on working Capital	180.38	186.31	191.69	195.84	201.81
Share of SLDC Charges	9.99	12.17	13.62	13.58	14.50
Total Expenditure	**11,780.99**	**12,398.10**	**12,755.05**	**12,935.79**	**13,345.19**
Return on Equity	-	-	-	-	-
Less: Non Tariff Income	(222.80)	(222.80)	(222.80)	(222.80)	(222.80)
Annual Transmission Cost	**11,558.19**	**12,175.30**	**12,532.24**	**12,712.99**	**13,122.38**

In addition to the annual transmission cost as above, other components forming part of computation of aggregate revenue requirement for the FY 2020-21 are discussed hereunder.

4.9. UNITARY CHARGES

The Commission has granted project specific transmission License (set up under Public Private Partnership (PPP) mode) to M/s Jhajjar KT Transco Private Ltd on 26th October, 2010. The above transmission works stands completed and the Concessionaire has achieved Commercial Operation on 12th March 2012.

As per Transmission Service Agreement (TSA Clause 26.8.2); the applicable monthly Unitary Charges is being paid by HVPNL to Concessionaire. The base Unitary Charge for the Accounting Year, in which COD occurs (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 the escalation to reflect 40% of the variation in WPI in accordance with the provisions of the TSA approved by the Commission.

The computation of monthly Unitary Charges for the FY 2020-21 as estimated by HVPNL is presented below: -

Proposed Unitary Charges (FY 2020-21)

S.No	Description	**Amount**
1	Monthly Base Unitary Charge as per Clause 26.2.1 of TA for 2011-12	4,50,00,000
2	Yearly reduction (%)	3%
3	Monthly base Unitary charge for 2018-19	3,52,68,435
4	WPI for April 2010 (Base Accounting Year)	135.2
5		(Published by the Ministry of Industry Office of Economic Advisor), GOI
6	WPI for April 2019 preceding the Accounting Year	190.48
8	Increase in WPI (%)	40.89%
9	WPI Index (40% of WPI increase) (%)	16.36%
10	Increase in Base Unitary Charge linked with WPI	57,68,163
11	Indexed Unitary Charge (Rs) (SI.No.5+10)	**4,10,36,598**
12	System Availability (%)	99.78
13	Normative Availability (%)	98%
14	Incentive due to System Availability	7,45,358.62
15	incentive due to less Transmission Losses	1,94,937
16	Unitary Charge + Incentives (SI.No. 11+14+15)	4,13,31,535
17	Monthly Unitary Changes (Rs. Million)	41.23

As estimated by the licensee, the expected Unitary Charges for the FY 2020-21 is likely to be around **Rs 41.23 Million** per month (approx.) keeping in view the expected increase in WPI and yearly reduction of Base Unitary Charge by 3%. HVPNL has prayed that the Commission may approve the same as part of annual transmission charges for the FY 2020-21.

The Commission has considered the aforementioned submissions and finds the proposed calculation in order. Hence, Rs. 41.23 Million per month is approved for the FY 2020-21. However, the incentive component may be checked and verified by HVPNL w.r.t the actual system availability and transmission loss including the methodology adopted for calculating and claiming the same.

4.10. YEARLY TRANSMISSION CHARGES (YTC) FOR TRANSMISSION LINES INCIDENTAL TO INTER-STATE TRANSMISSION (ISTS) OF ELECTRICITY

It has been submitted that the Commission in its Order dated 31st March 2016 had adjusted YTC charges for the corresponding years. It is also to be noted that, in line with the methodology applied by the CERC in its Order dated 17.09.2015, the petitioner has also calculated and included Yearly Transmission Charges for FY 2020-21 based on tentative line lengths (ckm.) to be added in 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 2020-21.

ISTS Charges for FY 2020-21 (Rs. Million)

Name of lines	Length	YTC 2020-21
220 kV S/C Bhiwadi-Rewari line Rajasthan- Haryana))	23.76	28.87
220 kV D/C Madanpur Panchkula)- Kunihar (HP) line	65.00	68.03
Total		96.90

In view of the above, the Petitioner has prayed that the Commission may allow the above YTC for intra-state lines operating as ISTS.

Additionally, it has also been submitted that the connectivity of above ISTS lines have been modified. The 220kV S/c Bhiwadi-Rewari line is modified to 220 kV D/c Bhiwadi-Rewari Line (Rajasthan-Haryana) and 220 kV D/c Madanpur (Panchkula) – Kunihar (HP) line with LILO of 1 ckt at 220 kV substation Baddi (HP) is changed to 220 D/c Pinjore (Haryana) – Kunihar (HP) line with LILO of 1 ckt at 220 kV substation Baddi (HP). The petition for tariff determination fromthe FY 2015-16 onwards is in the process of being filed in the Central Electricity Regulatory Commission. **The Commission has considered the above submissions and finds the proposed calculation in order. Hence, approves the same.**

4.11. AGGREGATE REVENUE REQUIREMENT

As per the foregoing discussions, the proposed ARR of HVPN for the FY 2020-21, as filed by them and that approved by the Commission is presented in the table below.

Transmission ARR for FY 2020-21 (Rs. Million)

Particulars	**2020-21**	**2020-21**
Expenditure	**Proposed**	**Approved**
O&M Expenses	4,815.70	4,812.60
R&M Expenses	*511.51*	*508.41*
Employee Expenses	*3,979.37*	*3979.37*
Terminal Expenses	*(20.90)*	*(20.90)*
A&G Expenses	*345.72*	*345.72*
Depreciation	4,343.73	4247.90
Interest on term Loans	3,636.56	2530.12
Interest on working Capital	224.27	180.38
Share of SLDC Charges	23.24	9.99
Total Expenditure	**13,043.50**	**11,780.99**
Return on Equity	3,765.37	0.00
Less: Non Tariff Income	222.80	222.80
Annual Transmission Cost	**16,586.07**	**11,558.19**
Carrying cost on Revenue Gap of 2017-18 & 18-19	86.60	0.00
Revenue Gap for FY 2019-20	1,702.77	(485.16)
Carrying cost on above	200.81	(65.13)
Aggregate Revenue Requirement	**18,576.25**	**11,007.89**
Transmission Share of SLDC Charges	23.24	0.00
Unitary Charges for JKTPL	494.78	494.78
Less: YTC for Lines Operating As ISTS Lines FY 19-20	97.03	96.90
Total Transmission Charges	**18,997.24**	**11,405.77**

The Commission observes that the licensee has included the SLDC charges twice in their calculation. Hence, and the same has been corrected in the Commission's estimation.

4.12. SLDC ARR

The licensee has submitted that the computation of expenses for SLDC business has been done in accordance with the MYT Regulations 2019. The Revenue Gap claimed in the FY 2020-21 is without any carrying cost. The Aggregate Revenue Requirement of SLDC for the control period FY 2020-21 to FY 2024-25 has been projected as under: -

Proposed SLDC ARR for MYT Period (Rs. Million)

SLDC Business	2020-21	2021-22	2022-23	2023-24	2024-25
Employees Cost	43.68	45.17	46.7	48.29	49.93
Interest on Capex	13.85	16.92	19.85	19.85	19.85
Depreciation	41.41	42.66	43.94	45.27	46.63
A&G expenses	6.77	6.97	7.18	7.4	7.62
R&M	6.29	6.48	10.42	12.42	12.42
Non-Tariff Income	1.45	8.32	1.45	8.32	1.45
Interest on Working Capital	22.12	22.79	23.47	24.18	24.91
Return on Equity	18.93	19.5	20.09	20.7	21.32
Add: Revenue Gap/ Surplus Refund/ Int	123.5				
TOTAL	**275.11**	**152.17**	**170.23**	**169.79**	**181.25**

At the onset the Commission observes that, as per the existing arrangement, SLDC functions have been entrusted to the State Transmission Utility i.e. HVPNL. The Commission, from time to time beginning with its Order dated 18th May, 2009, has expressed its views regarding the necessity of functional autonomy to the SLDC i.e. not only in financial terms but also in decision making. It is reiterated that the Ministry of Power, Government of India, constituted a Committee on "Manpower Certification and Incentives for System Operation and Ring-Fencing Load Despatch Centres" to ensure functional autonomy for Load Despatch Centres. The Committee in its report dated 11thAugust, 2008 observed that functional autonomy would mean taking decisions without being adversely influenced by extraneous issues originating from the Company Management or any of the market players, which can be ensured through: -

a) Independent governance structure
b) Separate accounting
c) Adequate number of skilled manpower having high ethical standards and driven by altruistic values
d) Adequate logistics / infrastructure.

For implementation of the recommendations of the Committee the Ministry of Power, Government of India created a Task Force vide notification No. 6 / 2 / 2008 – Trans dated 13th October, 2008. The action plan formulated by the Task Force was forwarded to Government of Haryana and HVPNL vide Commission's letter No. 2256-58 / HERC / 2008 dated 19.12.2008 for implementation of the same in the prescribed manner.

Although the accounts of SLDC business stands separated by HVPNL and the Commission has been giving separate order on ARR and tariff applications of SLDC business of HVPNL since FY 2006-07 yet other aspect such as independent governance structure, adequate skilled manpower and adequate logistics / infrastructure are still to be provided to SLDC. Therefore, it becomes utmost important that the action plan recommended by the Task Force is implemented in letter and spirit. The Commission had directed HVPNL to submit detailed action taken report for implementation of the recommendations of the Committee within 30 days from the date of the Order dated 18th May, 2009. However, as per the record available in the Commission no progress has been made regarding this important matter. **The Commission, once again, directs HVPNL to take up the issue with the State Government and submit a report to the Commission within one month from the date of this Order.**

The Commission has examined the proposed ARR for the SLDC Business as presented above and finds the same in order except RoE and calculations of the Interest on Working Capital. The MYT Regulations clearly provides that only the equity capital deployed in the transmission business is eligible for RoE and not for the SLDC business. Additionally, the amount of approved Working Capital is arrived at based on the parameters specified by the Commission in the MYT Regulations. The rate of interest, on eligible Working Capital, has been considered as already discussed earlier in the present Order. Accordingly, the calculation of approved Interest on Working Capital for the MYT Control Period is as under: -

Particulars	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25
O&M for 1 month	4.73	4.89	5.36	5.68	5.83
Maintenance spares (15% of O&M Expenses)	8.51	8.79	9.65	10.22	10.50
Receivables (One month)	9.38	9.32	10.74	10.60	11.45
Total	22.62	23.00	25.75	26.49	27.78
Interest Rate	8.65%	8.65%	8.65%	8.65%	8.65%
Interest on Working Capital	1.96	1.99	2.23	2.29	2.40

The resultant figures for the approved ARR for the second control period for the SLDC business approved by the Commission are given in the following table: -

HERC Approved ARR of SLDC for MYTPeriod (Rs. Million)

S. No	Particulars	2020-21	2021-22	2022-23	2023-24	2024-25
1	Employees Cost	43.68	45.17	46.70	48.29	49.93
2	Terminal benefit	-	-	-	-	-
3	A&G expenses	6.77	6.97	7.18	7.40	7.62
4	R&M	6.29	6.48	10.42	12.42	12.42
5	Interest on Capex	13.85	16.92	19.85	19.85	19.85

6	Depreciation	41.41	42.66	43.94	45.27	46.63
7	Interest on working Capital	2.05	1.99	2.23	2.29	2.40
8	Return on Equity	-	-	-	-	-
9	Less: Non-Tariff Income	1.45	8.32	1.45	8.32	1.45
	Add: Revenue Gap/ Surplus Refund/ Int	12.26	-	-	-	-
	TOTAL	**124.86**	**111.87**	**128.89**	**127.20**	**137.42**

True up of Rs. 12.26 million, as approved by the Commission, is allowed to be recovered along with the SLDC charges for the FY 2020-21. However, no holding cost is allowed since the petitioner, in its petition, has proposed to forgo the holding cost on the revenue gap for the FY 2020-21 for the SLDC business.

CHAPTER 5

5.1. ANNUAL TRANSMISSION CHARGES AND SLDC CHARGES

The annual transmission charges is determined as per the provisions of Regulation 50 of the MYT Regulations 2019 i.e. *"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 licensee is summarized in the table below: -

Proposed Annual Transmission Charges for FY 2020-21 (Rs. Millions)

Annual Revenue Requirement for FY 2020-21	**Rs. Million**	**16396.04**
Carrying Cost on Rev Gap of FY 2017-18 & FY 2018-19	Rs. Million	86.6
Revenue Gap for FY 2019-20	Rs. Million	1729.85
Carrying Cost on above	Rs. Million	202.02
Aggregate Revenue Requirement	Rs. Million	18414.51
Transmission Share of SLDC Charges	Rs. Million	22.01
Unitary charges for JKTPL	Rs. Million	494.78
Less: YTC for Lines Operating As lines FY 19-20	Rs. Million	96.9
Total Transmission Tariff	Rs. Million	18834.39
Monthly Transmission Tariff	Rs. Million	1569.53
Monthly Transmission Charges UHBVNL	46.1352%	724.11
Monthly transmission charges DHBVNL	53.1178%	833.7
Monthly transmission charges TPTCL	0.5053%	7.93
Monthly transmission charges NTPC	0.0204%	0.32
Monthly transmission charges CRPCPL	0.0030%	0.05
Monthly transmission charges Northern Railways	0.2183%	3.43

The licensee has submitted that the transmission charges are waived off for the companies M/s Marino Power and M/s Orbit as per the applicable regulations of HERC for the captive Solar Power Plants. In case of any addition of new beneficiary, the transmission charges would be charged in proportion of the allotted capacity.

The petitioner has submitted that the contracted capacity for Northern Railways has been considered at 59.52 MVA. As per the submission made to the Commission in Case No. 11 of 2017, HVPN intended to charge Annual Transmission charges for 97.8 MVA. Since the matter is still sub-judice, the apportionment of charges is still computed at contracted capacity of Northern Railways at 59.52 MVA and the same shall be altered accordingly in line with the order pronounced by the HERC as when applicable.

The Commission observes that though the above petition is yet to be decided, it is imperative that the licensee recovers the transmission charges from its beneficiaries, strictly in accordance with the relevant orders and regulations.

Based on the Commission's approved true up for the FY 2018-19 and the approved ARR for the first year of the MYT Control Period, the approved transmission tariff for the FY 2020-21, to be recovered in the ratio of transformation capacity provided by the Licensee is as under: -

		HVPNL Proposal	HERC Approval
Total Transmission Charges to be recovered in FY 2020-21	Rs. Million	18882.51	11405.77
Monthly Transmission Tariff	Rs. Million	1573.54	950.48
Monthly Transmission Charges UHBVNL	46.1352%	725.96	438.507
Monthly Transmission Charges DHBVNL	53.1178%	835.83	504.874
Monthly Transmission Charges TPTCL	0.5053%	7.95	4.803
Monthly Transmission Charges NTPC	0.0204%	0.32	0.194
Monthly Transmission Charges CRPCPL	0.0030%	0.05	0.029
Monthly Transmission Charges Northern Railways	0.2183%	3.43	2.075

5.2. SHARE OF SLDC CHARGES AS PER HERC MYT REGULATIONS 2019

As per the HERC MYT Regulations 2019. "The annual charges of SLDC is determined 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*

In line with the above and HERC MYT Regulation 2019, petitioner has apportioned the SLDC Charges for FY 2020-21 amongst the different beneficiaries as per the table below:

Proposed SLDC Charges for FY 2020-21 (Rs. Million)

Beneficiaries		**Amount (in Rs Million)**	**Total (Rs millions) FY 2020-21**
HVPN @ 8%		**Amount**	**22.0085**
Generating Companies & sellers @ 46%	**Installed capacity/ capacity (in MW)**	**Sub-Amount**	**126.5491**
HPGCL	2,782.40		76.7827
Faridabad Gas Power Plant	432		11.9214
Mahatma Gandhi Super Thermal Power Station	1320		36.4265
Gemco Biomass	8		0.2208
Star Wire India Ltd.	9.9		0.2732

Sri Jyoti	9.5		0.2622
Shahbad co-operative Sugar mills	24		0.6623
Distribution Licensees and buyers @ 46%	**Transformation ratio (in %)**	**Amount**	**126.5491**
UHBVNL	46.11185	Sub-Amount	58.354
DHBVNL	53.09%		67.1859
TPTCL	0.51%		0.6391
NTPC	0.02%		0.0258
Merino Power	0.20%		0.0258
CRPCPL	0.00%		0.0038
Northern Railways	0.22%		0.2761
Orbit	0.03%		0.0387
Total (HVPN + GENERATING COMPANIES+ DISTRIBUTION LICENSEES)			**275.1067**

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

The petitioner has prayed that the Commission may approve the apportionment of SLDC Charges for FY 2020-21 among the different beneficiaries as stated above.

The Commission, based on the approved SLDC ARR for the FY 2020-21 as per para 4.16 above, approves the indicative SLDC charges for the Transmission Licensee, generating companies and the Distribution Licensees and Buyers as per table given below. It may be noted that the installed capacity and the transformation capacity used for these calculations is as provided by HVPNL in its MYT Petition.

Beneficiaries		Amount (in Rs Million)	Total (Rs. Millions) FY 2020-21
HVPN @ 8%	-	**Amount**	**9.9888**
Generating Companies & Sellers @ 46%	**Installed Capacity / Capacity (in MW)**	**Amount**	**57.4356**
HPGCL	2,782.40	Sub-Amount	34.8486
Faridabad Gas Power Plant	432.00		5.4106
Mahatma Gandhi Super Thermal Power Station	1,320.00		16.5325
Gemco Biomass	8.00		0.1002
Star Wire India Ltd	9.90		0.1240
Sri Jyoti	9.50		0.1190
Shahbad Co-operative Sugar Mills	24.00		0.3006
Distribution Licensees and Buyers @ 46%	**Transformation Ratio (in %)**	**Amount**	**57.4356**
UHBVNL	46.1118%	**Sub-Amount**	26.4845

DHBVNL	53.0907%		30.4930
TPTCL	0.5050%		0.2901
NTPC	0.0204%		0.0117
Merino Power	0.0204%		0.0117
CRPCPL	0.0030%		0.0017
Northern Railway	0.2182%		0.1253
Orbit	0.0305%		0.0175
TOTAL (HVPN + GENERATING COMAPANIES+DISTRIBUTION LICENSEES			**124.8599**

5.3. PROSPECTIVE SHORT-TERM OPEN ACCESS CHARGES (STOA)

Transmission Charges from Short Term Consumers shall be recovered as per Regulation 50 of the HERC MYT Regulations 2019 as may be amended from time to time i.e. "….. 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 transmitted by the transmission licensee during the previous year."

In accordance with the Regulation, the total volume of energy transmitted by the HVPNL in FY 2018-19 is 51514.63 MU (at the time of filing FY 2019-20 was not complete). The computation of proposed short-term transmission charges is presented below: -

HVPNL Proposed STOA

STOA Charges (Rs. Mn)	Amount
Total Transmission Charges for FY 2020-21	18,997.22
The total energy transmitted by HVPNL for FY 2018-19 (MU)(Annexure-L)	51,514.63
Proposed Charges (Rs. /kWh)	0.37

The Commission approves the Transmission charges payable by the short-term Open Access Consumers as per the details provided in the table below. Due to the impact of COVID-19 on expected sales of Discoms and energy to be transmitted by HVPNL, the Commission has considered FY 2020-21 expected energy to be transmitted by HVPNL instead of FY 2019-20 figures as per the relevant Regulations.

Approved STOA Charges (Rs. Mn)	Amount
HERC Approved Transmission Cost for FY 2020-21	10,997.90
Unitary Charges	494.78
Total	11,492.68
Total Energy expected to be transmitted by HVPNL for the FY 2020-21	47,207.0
STOA Charges (Rs. / Unit)	0.24

5.4. RECOVERY OF SLDC CHARGES FROM SHORT TERM OPEN ACCESS CONSUMERS

The short-term open access consumers shall pay composite SLDC charges as provided in HERC (Terms and conditions for grant of connectivity and open access for intra–State transmission and distribution system), Regulations, 2019 as may be amended from time to time.

5.5. REACTIVE ENERGY CHARGES:

The reactive energy charges are payable by the Discoms as per Regulation 48 of the HERC MYT Regulations which provides that '*the reactive energy charges shall be as provided in the Haryana Grid Code as amended from time to time'* . Clause 5.5 of the HERC Haryana Grid Code (HGC) Regulations, 2009 govern the charges for the reactive energy drawl/injection from/to State Transmission System i.e. for VAR exchanges with the State Transmission System. The relevant part of the Clause 5.5 is reproduced below: -

"5.5 REACTIVE POWER MANAGEMENT

a) 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. To discourage VAr drawals by beneficiaries, VAr exchanges with State transmission system shall be priced as follows:-

a)

- *the beneficiary pays for VAr drawal when voltage at the metering point is below 97% ;*
- *the beneficiary gets paid for VAr return when voltage is below 97%*
- *the beneficiary gets paid for VAr drawal when voltage is above 103% ;*
- *the beneficiary pays for VAr return when voltage is above 103%;*

It has further been provided in clause 5.51 of HGC that rate of reactive energy charges shall be as provided by CERC in the Indian Electricity Grid Code as amended from time to time. According to Clause-6.6(2) of Indian Electricity Grid Code, the reactive energy charges shall be @ 10 paise per kVArh w.e.f. 01.04.2010. The above charges are to be escalated at the rate of 0.5 paise per kVArh per year thereafter. Accordingly, HVPN has been raising reactive energy bills on Discoms at rate of 14.5 paise/kVArh in the FY2019-20 and for the FY 2020-21, HVPNL is supposed to charge UHBVN and DHBVN at a rate of 15 paise /KVArh from 01.04.2020 onwards on the basis of VAr exchanges as per recording made by the SEMs installed at the interface points with Discoms.

Besides recovering reactive energy charges from the Discoms, reactive energy charges for VAR exchanges at the State Periphery, i.e. VAR exchanges with interstate transmission system, received from PGCIL-NRLDC are also being collected by HVPNL and retained with it and any reactive energy charges payable to PGCIL-NRLDC are also paid by HVPNL out of this amount. Because of positive profile of reactive energy drawl of Discoms from Regional Grid, the net reactive energy charges for VAR exchanges with interstate transmission system during the year are mostly receivable. In its Order dated 18.08.2015 on the Review Petition of HVPNL against ARR/Tariff Order dated 31.03.2015, followed by ARR/ Tariff Orders for the FY 2016-17 and FY2017-18, Commission had directed that HVPNL shall keep the balance amount of reactive energy charges received from NRLDC in the State Reactive Energy Pool Account. The relevant part of the ARR/ Tariff Order 30.05.2017 for FY 2017-18 is reproduced below: -

"3.3.10 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 <u>the balance is to be kept in the State Reactive Energy Pool Account</u>, 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*"

Further, the Commission in its order dated 31.03.2016 had advised the Licensee that the reactive energy charges are to be met through the State reactive energy Pool account as ordered by the Commission in its earlier order.

Subsequently, vide its ARR/Tariff Order dated 31.10.2018, the Commission directed the HVPNL '*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*' in response to which HVPNL have submitted the Draft Regulations presently under consideration of the Commission.

The Commission observes that the Discoms, in the past, have been objecting to the HVPNL retaining the net amount of reactive energy charges received from NRLDC with itself and not passing on the same to the Discoms. The argument advanced by Discoms has been that until Intrastate ABT Regulations are notified by the Commission, there is no need for the

HVPNL to have any State Reactive Energy Pool Account and that any reactive energy charges payable to /receivable from NRLDC for reactive energy drawl/injection at State Periphery are payable /receivable by the Discoms. It has been submitted that HVPNL should not have any claim over these reactive energy charges received from NRLDC. The objection raised by the UHBVNL in respect of reactive energy charges vide its observations on the ARR Petition of HVPNL for FY 2018-19 submitted to the Commission, Reply furnished by HVPNL and Commission's view, as it is recorded in the ARR/Tariff Order of HVPNL for FY 2018-19, are reproduced as under: -

"Objection raised by UHBVNL

***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."

"HVPNL REPLY

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
<u>Balance in Bank as on 30.06.2016: Rs. 29,09,46,414.40</u>
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."

*"**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'

During the hearing held by the Commission on the Draft Regulations submitted by the HVPNL, UHBVNL submitted that reactive energy charges received from NRLDC belonged to Discoms and strongly opposed HVPNL retaining the same with itself. It was submitted that as per the provisions of clause 6.6 of the Indian Electricity Grid Code, the reactive energy charges receivable/payable from NRLDC are receivable/ payable by Discoms and not by HVPNL and HVPNL have no claim over these charges.

Although draft Regulations submitted by the HVPNL are under consideration of the Commission, In view of position brought out above, it has been considered appropriate by the Commission to have a look on clause 6.6 of the Grid Code, relevant part of which is reproduced below:-

"6.6 Reactive Power and Voltage Control

1. *Reactive power compensation should ideally be provided locally, by generating reactive power as close to the reactive power consumption as possible. The Regional Entities except Generating Stations are therefore expected to provide local VAr compensation/generation such that they do not draw VArs from the EHV grid, particularly under low-voltage condition. To discourage VAr drawals by Regional Entities except Generating Stations, VAr exchanges with ISTS shall be priced as follows:*

- *The Regional Entity except Generating Stations pays for VAr drawal when voltage at the metering point is below 97%*
- *The Regional Entity except Generating Stations gets paid for VAr return when voltage is below 97%*
- *The Regional Entity except Generating Stations gets paid for VAr drawal when voltage is above103%*
- *The Regional Entity except Generating Stations pays for VAr return when voltage is above 103%"*

From perusal of this clause it is clear that the reactive energy charges for VAR exchange with the Regional Grid are payable/receivable by the Regional Entities. The definition of the Regional Entity as per the Grid Code is as under: -

kkk) "Regional Entity" means such persons who are in the RLDC control area and whose metering and energy accounting is done at the regional level;"

From above definition, it infers that the Regional Entities are the entities whose energy accounting is done at regional level which implies that the entities who have share in the interstate generating stations. So obviously, HVPNL cannot be a regional entity. To have further clarity, Commission has referred to the following definition in the Grid Code.

"Net Drawal Schedule" means the drawal schedule of a Regional Entity after deducting the apportioned transmission losses (estimated);"

In view of the above provisions of Grid Code, Commission is inclined to accept that the reactive energy charges for VAR exchanges with the interstate system are payable/receivable by Discoms. The HVPNL may receive or pay these charges in the first instance being representative of the Haryana State for NRLDC, but these should ultimately need to be passed on to the Discoms.

This issue will be deliberated again while finalizing the Draft Regulations submitted by HVPNL but until then the recovery/payment of reactive energy charges shall be regulated as under with immediate effect:-

I. The HVPNL shall not recover any reactive energy charges-interstate from Discoms. Any reactive energy charges payable to NRLDC, shall be paid by HVPNL from the State Reactive Energy Pool Account. Any reactive energy charges received from NRLDC, shall be passed on to the Discoms.

II. In view of substantial amount lying with HVPNL in the State Reactive Energy Pool Account, HVPNL will also not recover or pay any reactive energy charges from Discoms for VAR exchanges with the State Transmission System.

5.6. DIRECTIVES GIVEN IN THIS ORDER

i) Tariff Based Competitive Bidding

The Commission does not agree with the contention of the Petitioner i.e. HVPNL that this section is not under the purview of HVPNL's Petition. The Commission, on several occasion in its ARR / Tariff Order(s), has pointed out the significant gap in execution, both financial and physical, of Capital Works by the Licensee. Hence, in Order to optimize investments in the Transmission System with associated quantified benefits, it would be worthwhile to explore the competitive bidding options including PPP model implemented in Haryana in the power sector for the first time in the country. Resultantly, the Commission, before taking a view on the suggestions of the intervener, may prepare a staff paper in the matter for consultation with the Stakeholders before taking a final view.

iii) Additional Information

The Commission has taken note of the comments filed by the intervener and HVPNL's reply thereto. At the onset the Commission observes that any additional data / information regarding the petition filed by HVPNL should also be placed on the website so that the public / Stakeholders are also aware of the same.

iv) Contribution to Pension Trust

The Commission 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 Commission further directs the Licensee to ensure that any payment approved by the Commission in its order towards terminal benefits is duly paid within time and before the close of the relevant financial year.

V) **Intrastate Transmission Losses**

The month wise energy drawl by the Discoms and the corresponding intra state losses in the FY 2019-20 do not strictly correlate e.g. in the month of April the total drawl of the Discoms has been reported as 36955.67 LU and the corresponding inter-state transmission losses has been shown as 2.109% while during the immediate next month the total energy drawl by the Discoms increased to 48118.77 LU and the intra-State Losses decreased to 1.642%. HVPNL may analyze such aberrations as the technical losses vis-à-vis energy transmitted ought not to defy the law of physics unless the same can be explained by way of other intervening factor(s) including system improvement flowing from Capex undertaken for the purpose.

vi) **Transmission System Availability**

The Commission reiterate that the Licensee ought to maintain target availability as per the norms specified for the purpose. All out efforts be made to achieve the target availability by closely monitoring the transmission system at division level and carry out the preventive maintenance of the transmission elements, the lines and the substations in time as per schedule.

vii) **Power Transformer**

The Commission directs the licensee to provide the action plan and the action taken to replace/rehabilitate sick power transformers working in the field, circle wise with the detail of the transformers declared sick during FY 2018-19 and FY 2019-20.

viii) **Protection Audit Norms**

The licensee is directed to take immediate steps to ensure the field staff attends these observations expeditiously without any further loss of time and report compliance.

ix) The Commission observes that both Discoms and the transmission licensee needs to work in tandem and the close coordination for replacement of defective geo switches and earthing of first H pole. Further directs the licensee to pursue vigorously with UHBVNL and DHBVNL to ensure that these defects are removed within three months of the order and a certificate be recorded by the offices concerned that the defects identified have been rectified. Further the work of shifting of 11 KV feeders from the overloaded power transformers in HVPNL substation to the 33 KV substations be completed in a time bound manner under the close monitoring of a coordination committee. The progress of above works be intimated to the Commission after three months. Action plan to replace 84 CTs with tan delta more than 10% and LAs with more than permissible leakage current be intimated to avoid outage of system.

x) **Capacitor Bank**

The Commission feels that capacitors bank installed in no. of sub stations are not fully functional and directs the licensee to expedite the repair of defective capacitor banks in its substations and ensure the healthiness of the capacitor banks installed in the system. HVPNL is directed to provide the progress of repair/rehabilitation of the capacitor banks with name of substation within three months of the order.

xi) **Special Energy Meter**

The Commission reiterate that no transmission element forming interface point with any utility is energized without installation and commissioning of SEMs as per CEA Regulations. The main meter/check meter/standby meter shall be installed by HVPN at feeders emanating from HVPN substation as well as at Discom’s end.

xii) **Employees Cost**

The Commission observes that with advancements in technology, a proper long-term manpower planning / budgeting, re-skilling / re-deployment including those from other Power Utilities ought to be undertaken in order to ensure that human resources are gainfully utilized and the overall employees cost in the power sector in Haryana is reined in.

xiii) **Ringfencing of SLDC**

The Commission, once again, directs HVPNL to take up the issue with the State Government and submit a report to the Commission within one month from the date of this Order.

The Licensee shall implement the tariff and charges determined / approved by the Commission w.e.f. 01.04.2020. However, STOA charges shall become effective from the date of this Order i.e. 21.05.2020.

This Order is signed, dated and issued by the Haryana Electricity Regulatory Commission on 21st May, 2020.

Date: 21.05.2020	**(Naresh Sardana)**	**(Pravindra Singh)**	**(D.S. Dhesi)**
Place: Panchkula	**Member**	**Member**	**Chairman**