National Electric Power Regulatory Authority
Islamic Republic of Pakistan

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No. NEPRA/TRF-365/NTDC-2016/15914-15916
September 25, 2017

Subject: **Decision of the Authority in the matter of Motion for Leave for Review filed by National Transmission & Despatch Company Ltd. (NTDC) against Decision Dated April 11, 2017 with respect to Transfer/Wheeling Charges – [Case No. NEPRA/TRF-365/NTDC-2016]**

Dear Sir,

This is in continuation of this office letter No. NEPRA/TRF-365/NTDC-2016/5040-5042 dated April 11, 2017 whereby Determination of the Authority in the matter of Petition filed by National Transmission & Despatch Company Ltd. (NTDC) for Determination of Transfer/Wheeling Charges for the FY 2015-16 and FY 2016-17 was communicated to the Federal Government for notification in the official Gazette.

2. Enclosed please find herewith subject Decision of the Authority along with Annex-I & II (20 Pages) in the matter of Motion for Leave for Review filed by National Transmission & Despatch Company Ltd. (NTDC) against Determination Dated April 11, 2017 with respect to Transfer/Wheeling Charges.

3. The Decision is being intimated to the Federal Government for the purpose of notification in the official gazette pursuant to Section 31(4) of the Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of 1997) and Rule 16(11) of the National Electric Power Regulatory Authority Tariff (Standards and Procedure) Rules, 1998.

4. The Order Part along with Annex-I & II will be notified in the Official Gazette.

Enclosure: As above

25.09.17
(Syed Safeer Hussain)

Secretary
Ministry of Energy
'A' Block, Pak Secretariat
Islamabad

CC:

1. Secretary, Cabinet Division, Cabinet Secretariat, Islamabad.
2. Secretary, Ministry of Finance, 'Q' Block, Pak Secretariat, Islamabad.

DECISION OF THE AUTHORITY IN THE MATTER OF MOTION FOR LEAVE FOR REVIEW FILED BY NATIONAL TRANSMISSION & DESPATCH COMPANY (NTDC) AGAINST DETERMINATION DATED APRIL 11, 2017 WITH RESPECT TO TRANSFER / WHEELING CHARGES

Background:

1.1 National Transmission and Dispatch Company, hereinafter referred as petitioner, had filed a tariff Petition on 13th June 2016 for determination of its transfer/ wheeling charges for FY 2015-16 & 2016-17. The petition was admitted by the Authority on 20th July 2016 and after fulfillment of due procedure provided under the law, a detailed determination on the subject was given by the Authority on 11th April 2017 which was intimated to the Federal Government for the purpose of notification in the official gazette pursuant to section 31(4) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 read with rule 16(11) of the NEPRA Tariff (Standards and Procedure) Rules, 1998.

2. Motion for Leave for Review:

2.1 Being aggrieved with the Determination of the Authority dated 11th April 2017 (hereinafter referred as impugned determination), the petitioner has filed the subject motion for leave for review in respect of the following items of impugned Determination:

- Overstated Account Loans
- Calculation of WACC
  - Under assessment of Risk Factor (Beta)
  - Cost of Debt
- Review to Include Bonus in Establishment Cost
- Prior Year Adjustments
- Review the basis for MDI Calculation
- Review the Allowed Level of T&T Losses Target

2.2 The Petitioner has requested that the amounts disallowed by the Authority in the impugned tariff determination may be allowed. The table below summarizes the amount claimed by the petitioner as per tariff petition and the amounts allowed by the Authority:-

Description	Petition		Determination	
	FY 2015-16	FY 2016-17	FY 2015-16	FY 2016-17
Revenue Requirement – (Rs. in M)	41,417	45,351	29,247	31,413
Avg. MDI – MW	19,095	17,175	19,243	19,243
Rs. / kW / M	**180.75**	**220.05**	**126.66**	**136.04**

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2.3 In order to meet with the ends of natural justice, the Authority considered it just and appropriate to provide an opportunity of hearing to the Petitioner as well as other parties of the impugned determination and accordingly hearing into the matter was conducted on Jun 13, 2017 at NEPRA Head Tower, Islamabad which was attended by the representative of the petitioner and other stakeholders.

2.4 Arguments heard and record perused. Respective submissions of the petitioner and findings of the Authority on the points raised in the motion for leave for review are discussed as under:-

3. <u>Overstated Account of Loans</u>

3.1 The petitioner has submitted that in the impugned determination, it was allowed Return on Equity based on the loan amount of Rs. 80,849 million and Rs. 113,107 million for FY 2015-16 and 2016-17 respectively. The petitioner referred the relevant portion of the impugned tariff determination which is reproduced as under:-

"The petitioner has not provided any break-up of its long term loans in terms of their current - maturity portion in its provisional financial statements for the FY 2014-15, therefore, the entire amount has been considered under the head of long term loans. The Authority is of the view that even if such break-up was applicable, the portion of current maturity of long term loans would have been deducted while working out the capital base since the same has been used to finance the long term assets of the Petitioner."

3.2 As per the petitioner, net long term loans may be considered while calculating the Return on Equity (ROE) instead of gross loans. The petitioner referred that the net loan amount has been reflected after deducting current maturity of gross loans amount. The petitioner further submitted that current maturity also includes K-Electric receivable adjustment against NTDCL loans to the tune of Rs. 19.3 Billion. The Petitioner also submitted that while making the assessment, the Authority had excluded the impact of long term loan repayments, which are necessary to arrive at the net outstanding balance of long term loans. The Petitioner submitted following table for the above referred claim and referred the differential amount being claimed:

Particulars	NTDC FY 2014-15	NTDC FY 2015-16	NEPRA FY 2015-16	NTDC FY 2016-17	NEPRA FY 2016-17
					Rs. in Million
Opening	58,912	63,452	63,452	48,569	80,850
GOP Adjusted Loan		(19,279)			
Addition	6,164	12,265	17,398	22,000	32,258
Repayment	(1,625)	(7,689)		(7,385)	
Closing	**63,452**	**48,569**	**80,850**	**63,184**	**113,108**
Difference Rs. in Million			32,281		49,924

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3.3 As depicted above, the Petitioner submitted that the net difference of Rs. 32,281 million in FY 2015-16 and Rs. 49,294 million in FY 2016-17 arose due to the above mentioned aspects, which resulted in reducing the assessment of capital asset base as well as the return thereof.

3.4 The Authority considered the submissions of the Petitioner for the above claims. The Authority observed that the Petition was not accompanied with the corroborative documentary evidence i.e. audited accounts for which the Petitioner was directed to provide detailed information. Despite directions, the Petitioner was unable to provide the audited accounts for the FY 2014-15 and FY 2015-16. Accordingly the Authority had to rely upon the provisional information for the FY 2014-15 while issuing the determination dated 11th April 2017.

3.5 The justification of claimed costs in the review motion was required to be substantiated through provision of corroborative documentary evidence. With review motion the audited accounts for the FY 2014-15 has been submitted however, the Petitioner was unable to provide audited accounts for the FY 2015-16 and FY 2016-17.

3.6 The Authority observed that the amount of closing fixed assets in operation which was earlier assessed as Rs. 149,436 million based on the provisional accounts of the FY 2014-15 needs to be as Rs. 149,044 million on account of adjustment made in the assets transferred to the CPPA-G based on the audited accounts of the FY 2014-15 provided by the Petitioner. Accordingly adjustment on this account has been made. Similarly, according to available audited accounts for the FY 2014-15; long-term loan repayment of Rs. 1,624.917 million has been made therefore the same has been adjusted.

3.7 The request of the Petitioner for adjustment of the receivable amount of Rs. 19,279 million against GOP adjusted loan and Rs. 7,689 million on account of loan repayment has been considered by the Authority. The Authority observed that the claim has not been substantiated through credible documentary evidence. The request of adjustment of the K-Electric receivables of Rs. 19,279 million against GOP adjusted loan is not in line with the earlier determination of the Authority for the petitioner dated 22nd January 2016 which stated that:

"... justification by the Petitioner that the current portion of long term loans includes Rs. 20,203.92 million which is against loans adjustment of KESC receivables as per ECC Decision in 2009 also does not stand valid as the amount has not been duly accounted for as yet by either or it did not issue any credit note for adjusted loans against such receivable amount."

3.8 Similarly the Petitioner did not provide documentary evidence with respect to repayment of Rs. 7,689 million. Due to non-availability of corroborative documentary evidence in support thereof, the Authority has decided to maintain its earlier decision.

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4. Calculation of Weighted Average Cost of Capital (WACC)

4.1 The Petitioner submitted that the Authority in the tariff determination dated April 11, 2017 of NTDCL for FY 2015-16 & FY 2016-17 has worked out WACC based on a 70:30 debt-equity structure. According to the Petitioner due to overstatement of loan the ROE has been affected therefore, over statement of loan and ROE may be reviewed. The petitioner submitted that in the impugned determination, the Beta factor of 1.1 as assessed by the Authority in the matter of XWDISCOs has been reduced to 0.8621 on account of Commercial Risk associated. While justifying its claim, the Petitioner submitted that it is also engaged in the wires business, hence exposed to the same commercial risk since the Company's invoice recovery has direct bearing on XWDISCOs revenue collection. Therefore Petitioner requested that the Beta factor should be the same for the NTDC also. It also referred that WAPDA has been allowed a ROE of 17%.

4.2 The petitioner also submitted that while assessing the Market Premium, the Authority in its determination, considered KSE-100 index 8 years average return of 16.5% and has also accounted for Analysts' consensus/research houses estimates in arriving at a market premium of 7%. The Petitioner therefore submitted that this assessment seems to be conservative and arbitrary in nature with no break-up or methodology referred.

4.3 It is a matter of record that the petitioner had requested the return of 16.83% in its tariff petition on the same grounds which has already been considered and deliberated in detail in the impugned determination. The Authority has considered that the beta is tendency of risk assessment in order to arrive at return to be allowed. Moreover, the expected return of an investment is the sum of the risk-free rate and an extra return to compensate for the risk associated. This extra return or "risk premium" is the difference between market rate of return and risk free rate. The Authority has also considered that the particular risks associated with the Distribution Business including theft, administrative losses, recovery etc are much higher as compared to that of Transmission Business. Furthermore, the commercial risk associated with NTDCL has been significantly reduced with separation of power purchase function now being carried out by CPPA-G. Similarly other operational and commercial risk needs to be effectively managed and reduced by the NTDCL with better corporate governance and better management practices. Keeping all these aspects the Authority has decided that the return of 15% is adequate and no justification for modification in the same has been provided.

4.4 As regards the cost of debt, the petitioner submitted that the Authority has taken into consideration the average 6-month KIBOR rate over the last six years which comes to 9.49% along with a 2.5% spread bringing the Cost of Debt to 12% as opposed to NTDCL's actual Cost of Debt i.e. 14.93%. It was submitted that NTDCL is an infrastructure based company, which mostly manages its investment program through relent loans from GoP following the GoP relent arrangement whereas a minor portion is financed through local financing institutions comprising of 15-20 years repayment tenure, for construction of 500kV/220kV Grid Stations and Transmission Lines for meeting the ever expanding transmission system across the country. It also submitted that most of the equipment involved in NTDCL projects has to be procured from foreign

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vendors, therefore procurement involves large sums of foreign exchange. By using the GoP relent arrangement those foreign exchange payments are carried out without directly effecting the State Bank's Foreign Exchange Reserves. The loans which have been presently obtained by NTDCL through GoP relent arrangement carry the rate of 15%, however this rate has been recently revised to 12% for new loans, for which no loan has been serviced yet. It therefore is requested that the Authority while determining the Cost of Debt may consider NTDC's unique situation since the heavy Investment Program makes foreign loans inevitable for the Company, hence the Cost of Debt may be allowed on actual basis. It also submitted that since these loans have already been obtained therefore reduction in Cost of Debt would cause liquidity issues in honoring the loan commitments.

4.5 As per existing practice, Return on Equity is allowed to the Petitioner considering reasonable rate of return in line with Tariff Standards & Procedure Rules – 1998 and financial charges are allowed as per actual. The Petitioner in the original petition submitted that most of its loans are taken from donors like World Bank, ADB, RCA etc. which are available to NTDCL through relent arrangement of the GoP at the rate 15% consisting 95% relent loan and 5% from local banks. The Authority considered the request of the Petitioner and actual financial charges was allowed in determination dated 11th April 2017.

4.6 As per the Authority's principle decision the equity beyond 30% is treated as debt. Accordingly the Authority has allowed 15% ROE on 30% equity. Beyond 30% equity was considered as debt. This approach of the Authority was consistent with earlier cases wherein debt equity ratio of 70:30 has been taken. For assessment of reasonable cost of debt, the Authority has analyzed trend of 6 months KIBOR over the last six years. Accordingly based on the average 6 years KIBOR of 9.49% and spread of 2.5% the cost of debt was allowed.

4.7 Based on the closing fixed assets operations of Rs. 149,044 million, the average RAB amount for the FY 2015-16 & FY 2016-17 has been assessed as Rs. 160,314 million and Rs. 193,008 million. For 30% of equity of Rs. 48,094 million and Rs. 57,902 million the return of 15% amounting to Rs. 7,214 million and Rs. 8,685 million has been assessed. For remaining equity beyond 30% of Rs. 42,879 million and Rs. 41,107 million the rate of 12% has been applied. Accordingly the amount of Rs. 5,145 million and Rs. 4,933 million has been assessed. Total return on equity works out as Rs. 12,360 million and Rs. 13,618 million for the FY 2015-16 and FY 2016-17 respectively. Based on closing fixed asset operation of Rs. 149,044 million the adjustment in the RAB has been made the details of which are as under:

Description		FY 2015- 16	FY 2016-17
Calculation of Capital Base			
Opening fixed assets in operation		149,044	166,569
Add: Assets Transferred during the year		16,762	22,339
Closing Fixed Assets in Operation		**165,806**	**188,145**

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Less: Accumulated Depreciation		62,781	69,492
Net Fixed Assets in operation		**103,025**	**118,653**
Add: Capital Work in Progress (Closing)		82,570	110,041
Fixed Assets Inc. WIP	A	**185,594**	**228,694**
Stores & Spares (3% GFA)		4,974	5,644
Accounts Receivables (30 Days of R.R)		2,393	2,574
*Cash & Bank Balance		1,086	1,204
Current Assets	B	**8,453**	**9,422**
Long Term Loans (Non Current + Current Portion)		**80,849**	**113,107**
Deferred Credits (Consumer Contribution)		5,039	5,039
Deferred Liabilities		9,097	9,097
*Current Liabilities (2/3rd of current assets)		5,636	6,281
Non-Current Liabilities + Current Liabilities	C	**100,621**	**133,524**
Capital Asset Base (A+B+C)		**93,427**	**104,592**
Avg. Capital Base	D	**90,973**	**99,009**
Calculation of RAB			
Fixed Assets Net + Work In Progress		185,594	228,694
Deferred Credits + Deferred Liabilities		14,136	14,136
RAB		171,459	214,558
Avg. RAB	E	***160,314***	***193,008***
Equity Portion (E*30%)	F	**48,094**	**57,902**
Return On Equity (F*15%)	G	**7,214**	**8,685**
Remaining Equity Portion (D-F)	H	**42,879**	**41,107**
Return @ 12% (H*12%)	I	**5,145**	**4,933**
Total Return On Equity (G+I)		**12,360**	**13,618**
* (1/12th of sum of cash and bank balance whether deposits at the end of each month of the year subject to the maximum of 1/6th of annual operating expenses other than non-cash items)			

4.8 In view thereof the contentions of the petitioner on the subject are not correct and accordingly, the Authority decided to maintain its earlier decision.

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5. Review to include Bonus in Establishment Cost:

5.1 NTDCL in its tariff Petition had requested an amount of Rs. 283 million and Rs. 293 million for FY 2015-16 and FY 2016-17 respectively in the head of Bonus under the head of Pay and Allowances. However, the Authority had disallowed this amount claimed under employees benefits as part of O&M expenses, and the Authority referred that if NTDCL intends to pay bonus then it should be out of profits.

5.2 Being aggrieved with the said decision of the Authority, the Petitioner in its motion for leave for review dated April 11, 2017 submitted that bonus is granted to employees is as part of pay package in order satisfy the employee and maintain their morale, as opposed to dividends which as per Section 249 of the Companies Ordinance 1984,

"Dividend to be paid only out of profits. - No dividend shall be paid by a company otherwise than out of profits of the company".

5.3 The Petitioner during the hearing held on 13th June 2017 classified that the amount claimed is not a performance bonus as the bonus being claimed is for Eid Bonus given to the employees. The Petitioner in support of its claim also submitted that the Board Resolution reflecting that relevant formalities have also been met on the bonus duly approved by the NTDCL board as per applicable corporate laws. The Authority considered the request of the Petitioner and decided to allow the requested amount of Rs. 283 million and Rs. 293 million for the FY 2015-16 & FY 2016-17 to the Petitioner equivalent to the basic pay scale as Eid bonus earlier approved by the Board of Directors of NTDCL.

6. Prior Year Adjustments (PYA):

6.1 The Petitioner in its motion for leave for revenue date April 11, 2017 submitted that the Authority of tariff determination has worked out PYA for FY 2014-15 and FY 2015-16 as reflected in the table below;

Description	Rs. in Million	Rs./kW/M	MDI	Rs. in Million
FY 2014-15				
Determined		126.75	18,150	27,606
Recovery		102.43	18,150	22,309
				5,297
Other Income				
Determined	(1,320)			
Actual	(2,353)			(1,033)
PYA				4,264
Impact of Losses				8
			Total PYA for FY 2014-15	**4,271**

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6.2 The Petitioner submitted that apparently it seems that Authority has assessed "Other Income" as Rs. 2,353 million whereas the actual figure of other income attributable to NTDCL is Rs. 1,520 million as per draft audited accounts for FY 2014-15, which needs to be corrected as the assessed amount includes CPPA-G portion of actual income. According to the Petitioner, a revised calculation of PYA for FY 2014-15 after correcting the other income is given below;

Description	Rs. in Million	Rs./kW/M	MDI	Rs. in Million
FY 2014-15				
Determined		126.75	18,150	27,606
Recovery		102.43	18,150	22,309
				5,297
Other Income				
Determined	(1,320)			
Actual	(1,520)			(200)
			Total PYA for FY 2014-15	**5,097**

6.3 The Petitioner in its review motion submitted a revised calculation of PYA for FY 2015 -16 after the adjustment in RoE, incorporation of actual MDI for FY 2015-16 as per CPPA-G billing and including bonus in the O&M cost. The Petitioner's request is summarized below:

Description	Rs./kW/M	MDI	Rs. in Million
FY 2015-16			
Requested	157.16	19,243	36,292
Determined for CPPA-G			118
Total Requested			**37,094**
Recovery			
July 2015 – December 2015	102.43	19,190	11,794
January 2016 – June 2016	126.75	19,190	14,594
Total Recovered			26,338
		Total PYA for FY 2015-16	**10,021**

6.4 The Authority considered the request of the Petitioner with respect to adjustment of "Other Income" and it may be observed that the actual other income for the FY 2014-15 is Rs. 1,520 million as against the assessed amount of Rs. Rs. 2,353 million. Now based on the final audited accounts for the FY 2014-15 submitted by the Petitioner the revised PYA claim has been approved which referred in the table below:

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Description	Rs. in Million	Rs./kW/M	MDI	Rs. in Million
FY 2014-15				
Determined		126.75	18,150	27,606
Recovery		102.43	18,150	22,309
				5,297
Other Income				
Determined	(1,320)			
Actual	(1,520)			(200)
PYA				5,097
Impact of Losses				8
			Total PYA for FY 2014-15	**5,105**
FY 2015-16				
Determined		128.52	19,243	29,678
Determined for CPPA-G				118
Total Assessed				**29,796**
Recovery				30,195
July 2015- December 2015		102.43	19,330	11,880
January 2016 to June 2016		126.75	19,051	14,488
Total				**26,368**
Other Income				
Determined		(2,353)		
Actual		(2,353)		
PYA				3,428
Impact of Losses				327
			Total PYA for FY 2015-16	**3,755**

7. <u>Review the Basis for MDI Calculation</u>

7.1 The petitioner submitted that the Authority in its determination has directed NTDC to file the next tariff petition on the basis of calculation of MDI on co-incidental basis and also directed to share the latest progress on the implementation of system for recording of MDI on coincidental basis with the Authority.

7.2 During the hearing held on 13th June 2017, the Petitioner submitted that at this point in time it is not possible for NTDCL to calculate MDI on coincidental basis. They also expressed that as reported by consultants engaged by NTDCL that at present, the system installed in Al-Khwarizmi Institute UET Lahore cannot accurately calculate MDI on coincidental basis. The Petitioner also invited the NEPRA officials to visit its Common Delivery Points (CDPs) to physically see the position. Later a meeting was held on 21st July 2017 in NTDC Lahore head office and it was informed by NTDC that although the coincidental demand may be recorded and noted at NTDC

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Common Delivery Points with DISCOs, however such procedures and directives are not in place to undertake this activity. It was further pointed out that DISCOs are not reporting their respective demands on coincidental basis, therefore, for a coherent approach DICCOs also need to be taken on board. NTDC also pointed out that under another activity NEPRA has engaged NTDC and DISCOs to review allocation of 132 kV assets afresh, which may result in different number of CDPs. NEPRA professionals also visited CDPs to know the capabilities of the metering system and possibility of recording coincidental demand. It was noted that the equipment at CDP has adequate flexibility and sophistication to record a `demand` at any instant in time. NTDC agreed that it would be able to streamline all the procedural requirement and file its 2017-18 petition on coincidental demand basis.

7.3 The Authority while dissatisfied with the efforts by NTDCL, acknowledged that there are certain issues, necessitating participation by DISCOs. The Authority allows NTDC and directs it to file its 2017-18 petition on coincidental demand basis. NTDC is however directed to start recording and collecting data about monthly demand on coincidental basis forthwith and provide it to NEPRA on every month.

8. <u>Review the Allowed Level of T&T Losses Target</u>

8.1 The Petitioner submitted that the Authority in tariff determination has reduced the capped level of 3% T&T losses allowed to 2.8%. Being aggrieved with the said decision of the Authority, the petitioner submitted that as per direction of the Authority, the calculation of T&T losses of 500 kV and 220 kV network of NTDCL was entrusted to M/s Powers Planners International (PPI), who, after long studies, calculated the loss @ 3%. The report was submitted to NEPRA on 13.11.2014 by M/s PPI and NTDCL on 07.06.2015. According to the report the following were the results.

No.	Year	Losses of only 500kV and 220kV System
1	2011-12	3.494%
2	2012-13	3.816%

The results support the argument of NTDC that the threshold of 3% T&T loss is reasonable.

8.2 The Petitioner further submitted that with the expansion in the network this figure may ultimately increase. It was also submitted that NTDCL has a longitudinal transmission network and the transportation of power from North to South and vice versa cast huge difference in losses, so, to fix a number, far less than the reported, the Authority was therefore requested that threshold of NTDCL losses at 3 % be maintained.

8.3 The issue of T&T losses has been discussed in the determination dated 11th April 2017. The Authority capped the level of T&T Losses of NTDC at 3% in the determination pertaining to the FY 2014-15. NTDC requested the Authority to review the benchmarks of T&T in the light of the technical study carried out by the M/s Power Planner International (PPI) for FY 2011-12 & FY 2012-

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13 submitted to the Authority vide letter dated April 05, 2016. Although, NTDC in its petition for the FY 2015-16 & FY 2016-17 did not raise the issue of losses, however, the Authority, in order to have a fair assessment of the losses level, made an issue in this regard for the hearing. During hearing, NTDC presented that Power system of Pakistan is Longitudinal and power flows from South to North in winter. Moreover, the Power generation is being added in the south so for the time being the target may be fixed up to 3%. NTDC further, based on study carried out by M/s PPI, claimed that due to the benchmark losses set by NEPRA, certain amounts are withheld by NEPRA as indicated in the following table:

Sr. No.	Financial Year	500 kV and 220 KV Losses as per PPI study	Losses Allowed by the Authority	Amount withheld by NEPRA
1	2011-12	3.49%	3%	Rs. 2.3 billion
2	2012-13	3.82%	3%	Rs. 4.7 billion

8.4 PPI in its study also recommended certain measures to be undertaken by NTDC for the reduction of T&T losses and improvement of metering system. Some of the remedial measures recommended by PPI regarding loss mitigation are reproduced below:

- Proper reactive power compensation in distribution networks to avoid using NTDC Network for Reactive Power import to allow 500 kV and 220 kV Lines to be operated at a lower voltage than required for reactive power flows
- Construction of new lines of 500 kV and 220 kV using low-resistance and high capacity conductors.

8.5 The Authority also considered the actual losses presented by one of the intervener APTMA which are as under:

Year	NTDC Actual T&T Losses at 500 / 220 KV	DISCOs Actual T&T Losses at 132 / 66 kV
2010-11	3.00%	2.90%
2011-12	2.80%	2.90%
2012-13	3.01%	2.40%
2013-14	2.43%	2.50%
2014-15	2.70%	2.40%
2015-16	2.60%	2.30%

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8.6 The Petitioner during the hearing submitted that the energy being purchased by the Petitioner should allowed to be added as energy purchased and sold regardless of the voltage level. The Petitioner further submitted that since DISCOs are not directly involved in signing PPAs as a party, therefore, the associated losses of that system have been claimed by NTDC.

8.7 The Authority on the submissions made by the Petitioner and decided not to accept the stance of the Petitioner and accordingly the margin of Transmission losses being allowed to the Petitioner was only allowed to the extent of 500 kV and 220 kV networks. The Authority further decided that the energy generated at 132 kV level would not be allowed the margin for NTDC losses.

8.8 In view of the foregoing discussion, actual results of the Petitioner's T&T losses and addition of the new transmission components, the Authority has considered the following actual results of the FY 2014-15, FY 2015-16 & FY 2016-17:

Description	Unit	FY 2016-17	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17
Generation	GWh	107,015	10,992	10,766	10,207	8,666	6,935	7,200	6,914	6,383	7,628	8,842	11,024	11,458
Transmission Losses	GWh	(2,456)	(282)	(324)	(175)	(172)	(84)	(213)	(269)	(151)	(211)	(220)	(123)	(233)
Transmission Losses	%	-2.30%	-2.56%	-3.01%	-1.72%	-1.99%	-1.21%	-2.95%	-3.89%	-2.36%	-2.76%	-2.48%	-1.11%	-2.04%

Description	Unit	FY 2015-16	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16
Generation	GWh	101,500	11,005.15	10,519.25	9,619.47	8,297.10	6,722.13	6,879.77	6,770.54	6,397.43	6,735.20	7,813.97	10,003.30	10,736.85
Transmission Losses	GWh	(2,692)	(281.81)	(293.37)	(296.06)	(185.93)	(173.98)	(199.65)	(256.43)	(189.85)	(149.89)	(180.09)	(220.30)	(264.47)
Transmission Losses	%	-2.65%	-2.56%	-2.79%	-3.08%	-2.24%	-2.59%	-2.90%	-3.79%	-2.97%	-2.23%	-2.30%	-2.20%	-2.46%

Description	Unit	FY 2014-15	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15
Generation	GWh	96,996	10,353.00	10,340.71	9,125.65	8,326.37	6,655.93	6,784.72	6,186.43	5,859.07	6,541.10	7,341.51	9,554.39	9,926.91
Transmission Losses	GWh	(2,087)	(117.20)	(104.14)	(181.54)	(196.99)	(118.70)	(202.73)	(173.67)	(87.09)	(193.59)	(160.68)	(254.39)	(295.96)
Transmission Losses	%	-2.15%	-1.13%	-1.01%	-1.99%	-2.37%	-1.78%	-2.99%	-2.81%	-1.49%	-2.96%	-2.19%	-2.66%	-2.98%

8.9 In view of the above information, the Authority is of the view that the revision of maximum capped level of 3% T&T losses to 2.8% is realistic and needs no revision. The aforesaid losses are only for 500 KV and 220 KV transmission lines only in accordance with the Authority's decision to not cater for the energy generated and supplied at 132 KV directly to the respective Distribution Companies. In the review submissions no new ground, evidence / rationale / justification was provided by the Petitioner. In view thereof the Authority has decided to maintain its earlier decision.

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9. Revenue Requirement

9.1 Based on the assessment decision referred in the preceding paragraphs, the revenue requirement for FY 2015-16 and FY 2016-17 has been assessed as under:

	Description	[illegible]	[illegible]
	Revenue Requirement	29,678	31,446
	Avg. MDI – MW	19,243	19,243
	Rs. /kW/M	**128.52**	**136.18**
A	**General Establishment Costs – Rs. in Million**	**5,008**	**5,580**
	Pay & Allowances & Other Benefits (Rs. in Million)	3,754	4,031
	Pay & Allowances - Vacant posts (Rs. in Million)	69	245
	Employer's Share in Fund Contributions (Rs. in Million)	928	1,021
	Wages of Contractual Labour (Rs. in Million)	258	284
B	**Administrative Costs** (Rs. in Million)	**393**	**411**
	Rent Rate & Taxes (Rs. in Million)	61	68
	Power Light etc. (Rs. in Million)	90	93
	Communication (Rs. in Million)	17	17
	Office Supplies & Other Expenses (Rs. in Million)	24	27
	Travelling Expenses (Rs. in Million)	164	169
	Professional Fee (Rs. in Million)	13	13
	Management Fees (Rs. in Million)	6	6
	General Misc. Expenses (Rs. in Million)	17	18
C	**Repair & Maintenance** (Rs. in Million)	**993**	**1,110**
	R&M of Fixed Assets (Rs. in Million)	825	937
	Vehicle Maintenance & Running Expenses (Rs. in Million)	168	174
D	**Insurance** (Rs. in Million)	**121**	**121**
E	**Depreciation** (Rs. in Million)	**5,099**	**5,994**
F	**Finance Charges** (Rs. in Million)	**2,952**	**3,208**
G	**Return on Equity** (Rs. in Million)	**12,359.58**	**13,618.19**
H	**Prior Year Adjustment** (Rs. in Million)	**5,104.70**	**3,754.71**
I	**Less: other income** (Rs. in Million)	**(2,353)**	**(2,353)**

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10. The order part and the Terms & Conditions of the determination are intimated to the Federal Government for notification in the official gazette under Section 31(4) of the NEPRA Act, 1997.

11. <u>ORDER</u>

The upshot of the above discussion is that the review petition is partly allowed to the extent of "other income", "establishment of bonus" and adjustment in closing fixed assets in operation. Accordingly, the earlier tariff determined is hereby modified and now the National Transmission and Dispatch Company Limited (NTDCL) is allowed to charge following tariff with terms and conditions as provided hereunder:

I. Use of System Charges

i. The FY 2015-16 has already lapsed, therefore, the Authority has incorporated the impact of difference in the tariff determined for the FY 2015-16 of 128.52/kW/Month and the tariff actually charged by the Petitioner during this period of Rs. 126.75 /kW/Month in the assessed revenue requirement for the FY 2016-17 as Prior Year Adjustment (PYA).

ii. The Petitioner shall pay Rs.117.79 million to CPPA-G on account of market Operation fee of CPPA-G for the FY 2015-16, which has been included in the revenue requirement of NTDCL while working out the PYA for the FY 2015-16.

iii. Accordingly, NTDCL shall charge its users for provision of transmission and allied services the following two-part tariff i.e. a fixed and variable charge for the FY 2016-17:

Fixed charge (USCF)	=	**Rs.136.18/kW/Month**
Variable charge (USCV)	=	**Rs.0.163363/kWh x LAL Factor**

Where;

LAL Factor is a factor for Adjustment of Losses and Load imposed on the transmission system by user. LAL Factor of unity will be applied till benchmarks are defined by NEPRA.

iv. For DISCOs, the charge by NTDCL shall be only the fixed charges i.e. Rs. 136.18/kW/Month. The variable charge shall only be applicable to the energy in kilowatt-hours (kWh) transmitted / delivered during the billing period. Recording of the maximum demand in kW and energy delivered in kWh shall be carried out at meters installed at the common delivery metering points i.e. inter-connection point between:

a) NTDCL transmission system (NTDCL System) and the bulk power consumer.

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b) NTDCL system and the transmission system of a special purpose transmission licensee.

c) NTDCL system and the transmission system of another country connected under an arrangement approved by the Federal Government.

d) NTDCL system and a distribution company receiving power in bulk either for sale to its own consumers or on behalf of another distribution company or a Bulk Power Consumers (BPC) located in another distribution company.

II. Terms and Conditions:

i. Definitions:

a) Bulk Power Consumer (BPC) means a Bulk Power Consumer as defined in NEPRA Act, 1997.

b) Billing Period means a period determined by NEPRA for the purpose of charging the transfer charge to DISCOs or BPC or any other user of transmission system in respect of power delivered. The billing period for the purpose of applying a transfer charge shall be on a one month basis (starting 00:00 hrs of the 1st day of the month and ending 24:00 hrs on the last day of the month) till a shorter billing period is specified by NEPRA through a Competitive Trading Arrangement Transitional Order.

c) Competitive Market Operation Date means the date Defined under article 7(2) of the License granted to NTDCL.

d) CPPA-G means Central Power Purchasing Agency Guarantee Limited as defined in the Commercial Code

e) Delivery metering point means the interconnection point at the grid stations where power is delivered by NTDCL to DISCOs, BPCs connected directly to the transmission system or other users of the transmission system and where relevant meters are installed to measure such power delivered.

f) IPPs means Independent Power Producers established under the Federal Government's Power Policy of 1994 or under any other relevant policy.

g) System Peak Demand means The highest system peak demand recorded during a billing period measured over successive periods of 30 minute interval at the receiving metering point of the DISCOs or user of the transmission system. Maximum demand measuring apparatus used for recording the maximum system peak demand during a billing period shall be based on a 30 minutes interval reset basis.

h) Month means a calendar month according to the Gregorian calendar.

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i) Power Factor: the rate expressed as a percentage of the kilowatt hours to the kilovolt hours consumed during a billing period.

j) Use of System Charge means any charge (fixed or variable) payable by a Distribution Company, BPC or any other user of the transmission system for Transportation of Power from Generator to Delivery Metering Point and delivery to a distribution company, BPC or any other user and as required under Article 13 and 14 of the NTDC License.

ii. **Other Terms and Conditions (Power Factors)**

The DISCOs shall maintain an average power factor during a billing period at the delivery metering point of at least 85% lagging. In the event of the said Power Factor falling below 85% in a billing period the concerned DISCO shall pay to NTDCL and claim a penalty as determined by the Authority for general applicability on the recommendation of NTDCL and after consultation with the relevant generation and distribution licensees.

III. **Directions of the Authority**

i. In view of the costs and return on asset base being allowed in this decision, following directions are being given to the Petitioner along with the tariff being approved;

a) To provide detail evacuation plan in term of all upcoming Power Projects by Oct 31, 2017. This should incorporate an updated progress on dispersal of power from major power plants, wind corridors, solar parks, hydel projects. Subsequently this information is to be provided on a quarterly basis.

b) To apprise the Authority about the progress of 500 KV and 220 KV Grids Stations along-with allied transmission lines across the Country by Oct 31, 2017. Later, provide on a quarterly basis the information on grids completed, progress made in quarter on the in-progress grids and also on new approved grids across the Country along with estimated completion time.

c) To ensure reliability indices for all its future transmission projects.

d) To submit a report by Oct 31, 2017 regarding the reasons determined for major incidents of brownouts and blackouts during the FY 2015-16 & FY 2016-17.

e) To provide summary by Oct 31, 2017 about the actions taken for improvements in networks to prevent and overcome transmission system breakdowns, black outs and tripping that has occurred in recent years.

f) To provide on a quarterly basis the loading position of its 500kV and 220kV grids and transmission lines. The latest position to be submitted by Oct 31, 2017

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g) To ensure installation of Secured Metering System (SMS) on remaining Common Delivery Points (CDPs). A report in this regard to be submitted to the Authority by Dec 31, 2017.

h) To submit particulars and outcomes of international consultant engaged for the capacity building of NTDCL.

i) To ensure all associated responsibilities of Petitioner are efficiently and effectively carried including right of way acquisition for earliest completion of HVDC / all HVAC transmission lines aiming a reliable and robust transmission grid exists for upcoming power generation projects.

j) To apprise the progress made on import of electricity with TAVANIR Iran and to submit the outcome (if any) of the Joint Working Group formed in this regard by Oct 31, 2017.

ii. Following are the directions for next tariff petition(s) to be filed with the Authority:

a) Timely file next tariff petition and ensure availability of latest audited accounts that will be due at that time as per relevant corporate legislation.

b) To negotiate re-lending rates with GOP and rationalize it to lessen the borrowing cost impacts on the tariff.

c) To ensure timely completion of its planned and ongoing work-in-progress being allowed as part of assets base in this tariff determination for improving and expanding existing transmission infrastructure.

d) To complete the process of establishing a separate retirement/pension funds per applicable laws before the submission of next tariff petition.

e) To ensure all financial and corporate issues with the CPPA-G are resolved and settled before filing the next tariff petition NEPRA.

f) To ensure that a third party independent actuarial evaluation is timely carried for the deferred liabilities (retirement benefits etc.) to be considered in next tariff determination.

g) The HR cost to be claimed in next tariff petition to be segregated for fresh hiring against newly created posts, and hiring against existing posts and posts that are or will remain vacant.

h) To timely file next tariff petition on the basis of calculation of MDI on coincidental basis and to share the progress on a quarterly basis on the implementation of system for recording of MDI on coincidental basis.

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12. The order part along with two Annexures is recommended for notification by the Federal Government in the official gazette in accordance with Section 31(4) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997.

AUTHORITY

21/9

(Syed Masood-ul-Hassan Naqvi)
Member

(Himayat Ullah Khan)
Member

22/9/17

(Major (R) Haroon Rashid)
Member

(Saif Ullah Chattha)
Vice Chairman

22.9.2017

(Briq (R) Tariq Saddozai)
Chairman

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Annex-I

	Description	
	Revenue Requirement(Rs. in Million)	29,678
	Avg. MDI – MW	19,243
	Rs. /kW/M	**128.52**
A	**General Establishment Costs – Rs. in Million**	**5,008**
	Pay & Allowances & Other Benefits (Rs. in Million)	3,754
	Pay & Allowances - Vacant posts (Rs. in Million)	69
	Employer's Share in Fund Contributions (Rs. in Million)	928
	Wages of Contractual Labour (Rs. in Million)	258
B	**Administrative Costs** (Rs. in Million)	**393**
	Rent Rate & Taxes (Rs. in Million)	61
	Power Light etc. (Rs. in Million)	90
	Communication (Rs. in Million)	17
	Office Supplies & Other Expenses (Rs. in Million)	24
	Travelling Expenses (Rs. in Million)	164
	Professional Fee (Rs. in Million)	13
	Management Fees (Rs. in Million)	6
	General Misc. Expenses (Rs. in Million)	17
C	**Repair & Maintenance** (Rs. in Million)	**993**
	R&M of Fixed Assets (Rs. in Million)	825
	Vehicle Maintenance & Running Expenses (Rs. in Million)	168
D	**Insurance** (Rs. in Million)	**121**
E	**Depreciation** (Rs. in Million)	**5,099**
F	**Finance Charges** (Rs. in Million)	**2,952**
G	**Return on Equity** (Rs. in Million)	**12,359.58**
H	**Prior Year Adjustment** (Rs. in Million)	**5,104.70**
I	**Less: other income** (Rs. in Million)	**(2,353)**

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Annex-II

	Description	
	Revenue Requirement (Rs. in Million)	31,446
	Avg. MDI – MW	19,243
	Rs. /kW/M	**136.18**
A	**General Establishment Costs – Rs. in Million**	**5,580**
	Pay & Allowances & Other Benefits (Rs. in Million)	4,031
	Pay & Allowances - Vacant posts (Rs. in Million)	245
	Employer's Share in Fund Contributions (Rs. in Million)	1,021
	Wages of Contractual Labour (Rs. in Million)	284
B	**Administrative Costs** (Rs. in Million)	**411**
	Rent Rate & Taxes (Rs. in Million)	68
	Power Light etc. (Rs. in Million)	93
	Communication (Rs. in Million)	17
	Office Supplies & Other Expenses (Rs. in Million)	27
	Travelling Expenses (Rs. in Million)	169
	Professional Fee (Rs. in Million)	13
	Management Fees (Rs. in Million)	6
	General Misc. Expenses (Rs. in Million)	18
C	**Repair & Maintenance** (Rs. in Million)	**1,110**
	R&M of Fixed Assets (Rs. in Million)	937
	Vehicle Maintenance & Running Expenses (Rs. in Million)	174
D	**Insurance** (Rs. in Million)	**121**
E	**Depreciation** (Rs. in Million)	**5,994**
F	**Finance Charges** (Rs. in Million)	**3,208**
G	**Return on Equity** (Rs. in Million)	**13,618.19**
H	**Prior Year Adjustment** (Rs. in Million)	**3,754.71**
I	**Less: other income** (Rs. in Million)	**(2,353)**

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