BIHAR ELECTRICITY REGULATORY COMMISSION

Case No. 40 of 2017

Tariff Order

Truing-up for FY 2016-17,

Annual Performance Review (APR) for FY 2017-18,

Aggregate Revenue Requirement (ARR)

and

Determination of Tariff for FY 2018-19

of

NORTH BIHAR POWER DISTRIBUTION COMPANY LIMITED

(NBPDCL)

Issued on 21st March, 2018

(with effect from 1st April, 2018)

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ABBREVIATIONS

A&G	Administration and General Expenses
ACT	Electricity Act. 2003
ARR	Aggregate Revenue Requirement
BERC	Bihar Electricity Regulatory Commission
BSHPCL	Bihar State Hydro Power Company Ltd.
BSEB	Bihar State Electricity Board
BSPHCL	Bihar State Power (Holding) Company Limited
BSPTCL	Bihar State Power Transmission Company Limited
BTPS	Barauni Thermal Power Station
CAGR	Compounded Annual Growth Rate
CAPEX	Capital Expenditure
CEA	Central Electricity Authority
CERC	Central Electricity Regulatory Commission
CGS	Central Generating Station
CoS	Cost of Supply
CKM	Circuit Kilometre
CTU	Central Transmission Utility
CWIP	Capital Work in Progress
DISCOM	Distribution Company
DDUGJY	Deen Dayal Upadhyay Grameen Jyoti Yojana
ERLDC	Eastern Region Load Despatch Centre
ERPC	Eastern Region Power Committee
FC	Fixed Charges
FPPCA	Fuel and Power Purchase Cost Adjustment
FY	Financial Year
GFA	Gross Fixed Asset
GSS	Grid Sub-Station
IPDS	Integrated Power Development Scheme
KBUNL	Kanti Bijlee Utpadan Nigam Limited
KV	Kilo Volt
KVA	Kilo Volt Ampere
KVAH	Kilo Volt Ampere Hour
KWH	Kilo Watt Hour
MoP	Ministry of Power
MU	Million Unit
MVA	Mega Volt Ampere
MW	Mega Watt
MYT	Multi-Year Tariff
NBPDCL	North Bihar Power Distribution Company Limited
NHPC	National Hydro Power Corporation
NTPC	National Thermal Power Corporation
O&M	Operation and Maintenance
PGCIL	Power Grid Corporation of India Limited
PTC	Power Trading Corporation
R&M	Repair and Maintenance
RE	Revised Estimates
REA	Regional Energy Accounting

RLDC	Regional Load Despatch Centre
RGGVY	Rajeev Gandhi Grameen Vidyutikaran Yojan
RoE	Return on Equity
SAC	State Advisory Committee
SBPDCL	South Bihar Power Distribution Company Limited
SERC	State Electricity Regulatory Commission
ToD	Time of Day
TPS	Thermal Power Station
UDAY	Ujjwal DISCOM Assurance Yojana
UI	Unscheduled Interchange

Bihar Electricity Regulatory Commission
Ground Floor, Vidyut Bhawan – II
Jawahar Lal Nehru Marg,
Patna – 800 021

Case No.40 of 2017

In the matter of:

Determination of revised Aggregate Revenue Requirement (ARR) and Retail Tariff for sale of electricity by the North Bihar Power Distribution Company Limited to the consumers for the Financial Year 2018-19 in the State of Bihar.

And

North Bihar Power Distribution Company Limited (NBPDCL) ------------------ Petitioner

Present:

S K Negi - Chairman
Rajeev Amit - Member
R.K.Choudhary - Member

ORDER

(Passed on 21st March, 2018)

Background

The North Bihar Power Distribution Company Ltd. came into being on 01.11.2012 after restructuring of erstwhile Bihar State Electricity Board vide Notification No. 17 dated 30.10.2012 issued by Energy Department, Government of Bihar.

In exercise of the powers vested in Bihar Electricity Regulatory Commission (hereinafter referred as the 'Commission') under section 62 (1) (d) read with Section 62 (3) and Section 64 (3) (a) of the Electricity Act, 2003 and Bihar Electricity

Regulatory Commission (Multi Year Distribution Tariff) Regulations, 2015 and other enabling provisions in this behalf, the Commission issues this order for approval of True up of Annual Revenue Requirement (ARR) for FY 2016-17, Annual Performance Review (APR) for FY 2017-18 and approval of ARR and determination of the Retail Tariff for FY 2018-19 for supply of electricity by the North Bihar Power Distribution Company Limited to its consumers.

The NBPDCL had filed the petition for True up of ARR for FY 2016-17 on the basis of the audited annual accounts of FY 2016-17, APR for FY 2017-18, ARR for FY 2018-19 and determination of Tariffs for FY 2018-19 on 05.12.2017. The Commission admitted the petition on 18.01.2018 after seeking rectification of the petition and additional information from the NBPDCL.

Public Notice and Consultation Process

Clause 12.9 & 12.10 of the BERC (Multi Year Distribution Tariff) Regulations, 2015 provides for giving adequate opportunities to all stakeholders and general public for making comments, suggestions and objections on the tariff petition as mandated under section 64(3) of the Electricity Act, 2003. Accordingly, the Commission directed NBPDCL to publish a public notice showing the ARR and tariff petition in an abridged form in newspapers having wide circulation in the State of Bihar inviting comments, suggestions and objections on the tariff petition. The NBPDCL issued the public notice of the tariff petition in an abridged version in various newspapers and the same was also placed on the website of the Commission and the NBPDCL. The last date of submission of comments, suggestions and objections was scheduled on 20.02.2018.

The Commission, in order to ensure transparency in the tariff determination process and for affording convenient opportunity to wide section of stakeholders and general public for offering their comments, suggestions and objections on the tariff petition held the public hearing at Begusarai on 07.02.2018, Katihar on 08.02.2018, Madhubani on 12.02.2018, Supaul on 13.02.2018, Siwan on 15.02.2018, Motihari on 16.02.2018 and the Commission office at Patna on 20.02.2018

The proposals of NBPDCL were also placed before the State Advisory Committee (SAC) in the meeting held on 06.02.2018 and various aspects of the petition were discussed by the Committee. The Commission took the advice of the SAC on ARR and tariff petition of NBPDCL during the meeting of the Committee.

The Commission, after taking into consideration the facts presented by the NBPDCL in its petition and various subsequent filings, the comments, suggestions and objections received from across all section of stakeholders, consumer organizations, general public, SAC and response of the NBPDCL to those comments, suggestions and objections, has trued up the ARR for FY 2016-17, reviewed the APR for FY 2017-18, approved the ARR for FY 2018-19 and determined the tariff for retail sale of electricity for FY 2018-19 for NBPDCL in its jurisdiction.

True up for FY 2016-17

The NBPDCL has claimed ARR of Rs. 5205.04 Crore and net revenue gap of Rs. 950.09 Crore for FY 2016-17, considering revenue from sale of power and resource gap grant from the State Government. The Commission based on prudence check has approved net ARR of Rs. 3871.25 crore and net revenue surplus of Rs. 6.51 crore in the truing up process after considering the revenue from sale of power and resource gap grant from the State Government for FY 2016-17. The net revenue surplus has been carried forward in the ARR of FY 2018-19 with carrying cost as per regulatory provision.

APR for FY 2017-18

The NBPDCL has projected revised APR of Rs. 6229.15 crore and the net ARR gap of Rs. 1930.40 Crore of FY 2017-18. The Commission based on prudence check has approved revised ARR of Rs. 5426.40 crore and net revenue surplus of Rs.681.21 crore which includes Rs. 346.59 Crore pertaining to trued up revenue surplus for FY 2015-16 in standalone review for FY 2017-18. However, the Commission in accordance with the Regulation 14 (E) of BERC (Multi Year Distribution Tariff) Regulations 2015, has considered it appropriate not to carry forward this revenue surplus of Rs.681.21 crore of FY 2017-18 in the ARR for FY 2018-19 as the gap arrived in review for FY 2017-18 is based on estimates submitted by the Petitioner and may vary with reference to audited accounts for FY 2017-18, while truing up.

ARR for FY 2018-19

NBPDCL has projected net revenue requirement of Rs. 7207.62 crores for FY 2018-19 and after considering the revenue at the existing tariff rate has projected Net gap of Rs.2356.32 Crore. While computing the ARR of 2018-19, the NBPDCL has chosen not to carry forward the net gap (with carrying cost) of truing up FY 2016-17 in the ARR of FY 2018-19.

The Commission taking into consideration the comments, objections and suggestions of the stakeholders and general public and prudence check of revenue, expenses and submission of the petitioner, determined the net revenue requirement (ARR) of Rs.7039.03 crore for FY 2018-19 (including trued up revenue surplus of FY 2016-17 with carrying cost) for NBPDCL and after considering the revenue (Rs. 6681.26 crore) from sale of power at the existing tariff, the net gap is arrived at Rs.357.77 crore for FY 2018-19. This revenue gap has been arrived without taking into consideration the resource gap grant from the State Government.

Consolidated ARR of both the Discoms for FY 2018-19

The Commission has approved total ARR for the two power distribution companies together at Rs. 16240.41 Crore for FY 2018-19 including net trued up revenue surplus along with carrying cost of FY 2016-17. The consolidated net revenue gap approved for both the DISCOMs is at Rs. 660.76 Crore after considering the revenue from sale of power at the existing tariff as against the proposed combined net ARR gap of Rs. 5120.77 crore.

Retail Tariff for 2018-19

On the basis of the net consolidated ARR gap projected by the DISCOMS, they had proposed around 44% increase in the tariff rate for 2018-19 to bridge the proposed Net ARR gap. However the Commission, having regard to its ARR gap arrived after prudent check and examination, has increased the existing overall retail electricity tariff by 5% i.e. by increasing the existing energy charges rate by 7% only across all categories of consumers except HTSS category keeping fixed charge unchanged.

In case of HTSS category with increase of 7% in existing energy charge the ABR comes to Rs 5.66/kWh which is only 77% of approved average cost of supply. The Tariff Policy, 2016 provides that:

> *"For achieving the objective that the tariff progressively reflects the cost of supply of electricity, the Appropriate Commission would notify a roadmap such that tariffs are brought within ±20% of the average cost of supply*".

Therefore, in order to make the tariff of HTSS category at least 80% of average cost of supply the Commission has decided to increase existing energy charge by 11.2% and approves energy charge of Rs4.15/kWh w.e.f 01.04.2018.

After tariff increase, there is a revenue surplus of Rs.55.97 Crore combinedly for both the Discoms. It has often been experienced by the Commission that the financial performance of the Discoms vary with reference to actuals as reported through audited accounts, hence, the Commission, has decided to retain the projected surplus subject to true up based on audited accounts for FY 2018-19. A schedule of revised tariff for different categories of consumers in Chapter 9 of the Order.

Uniform Retail Tariff Rates for Both Discoms

The Commission has approved the same tariff for two distribution companies, so that there is uniform tariff for same category of consumers in the entire state of Bihar.

ARR and Retail Tariff without Resource Gap Assistance

The State Government has been giving resource gap assistance to DISCOMs till the FY 2016-17 which was being used for reducing the revenue requirement of DISCOMs. The resource gap assistance provided was being utilised first for compensating the financial loss incurred by DISCOM on account of disallowed power purchase due to difference in the actual distribution loss and the distribution loss as approved by the Commission and the balance amount of resource gap assistance was being used towards subsidizing the tariff of the Kutir Jyoti, Rural Domestic, Rural Non-domestic and agricultural consumers.

However, the Discoms had not proposed any resource gap assistance from State Government in their ARR of FY 2017-18. The State Government vide its letter पत्रांकः–प्र02 / बोर्ड विविध–21 / 2010(खंड–1) 981 / पटना, दिनांकः– 20.03.2017 had also clarified that the tariff for sale of electricity for FY 2017-18 shall be carried out by the Commission without considering the resource gap assistance from State Government. Therefore the Commission for the first time determined the ARR for FY 2017-18 without considering resource gap assistance from the State and determined cost reflective tariff for the FY 2017-18 resulting in sudden increase in tariff of retail sale of electricity.

Similarly the Discoms have filed their tariff petition for 2018-19 without considering State Govt. resource gap assistances. As the information regarding subsidy from State Government is not available and decision on declaration of subsidy to consumer and extending resource gap assistance being Policy issue is to be taken by the State Government, the Commission has no option but to proceed with determination of ARR and cost reflective tariff for FY of 2018-19 without considering resource gap assistance in terms of clause (a) of Regulation 35 of BERC (Multi Year Distribution Tariff) Regulations, 2015 and Section 65 of the Electricity Act, 2003.

<u>Open access charges</u>

The Commission has determined the wheeling charges for FY 2018-19 as given below:

1. Wheeling charges at 33 kV voltage level - 27 paisa/kWh
2. Wheeling charges at 11 kV voltage level - 31 paisa/kWh

To encourage the consumers to avail power under 'Open Access' from other sources, the Commission has reduced the cross subsidy surcharge to 20% of average billing rate of the relevant HT category as per the Revised Tariff Policy 2016.

Miscellaneous Charges

In the wake of quantum jump in the tariff hike in 2017-18, decision on the proposal of the DISCOMs to increase the Miscellaneous charges such as Meter Rent, Fees for New Connection / reduction of load / enhancement of load / disconnection, testing / inspection of installations, meter testing fees, removing/fixing of meters, reconnection / disconnection charge, supervision & labour and installation charge had been deferred. The Discoms have again submitted the proposal for revision in monthly meter rent in the tariff petition of FY 2018-19. The Commission after thorough deliberation has revised the monthly meter rent, details of which are mentioned in Chapter 9.

Power Purchase Cost and Average Cost of Supply

The Average Power Purchase cost for both Discoms (including PGCIL and POSOCO charges) for FY 2018-19 is Rs. 4.45 /kWh.

The Average Cost of Supply (ACoS) for both Discoms for FY 2018-19 is Rs. 7.35/kWh.

The Average Revenue Realisation with proposed tariff for both Discoms in FY 2018-19 is Rs. 7.38/kWh.

Abolition of Unmetered Categories of NDS-I and IAS-II

The Commission had taken a path breaking decision in 2017-18 tariff order regarding drastic reduction in categories/sub-categories/slabs of consumers in the interest of simplification of tariff structure. The Commission with minor modification has decided to retain the same tariff categories and sub-categories for 2018-19 as well.

The Commission has decided to abolish the categories of unmetered connection of NDS-I (Rural Commercial) and IAS-II (Govt. Irrigation, Tubewell) w.e.f. 01.04.2018. The Commission has further sounded the Discoms to be ready for abolition of remaining unmetered categories by the end of FY 2018-19. From 01.04.2019 there will be no unmetered connection and the Discoms shall take preparatory steps accordingly.

Distribution Losses (T&D Losses)

The NBPDCL and SBPDCL have proposed distribution losses trajectory from 2016-17 to 2018-19, as agreed in the MoU of Ujjwal DISCOM Assurance Yojana (UDAY). However, the Commission, keeping in view the order passed on 08.03.2017 in the case remanded by the Hon'ble APTEL has decided to retain the distribution loss trajectory for 2016-17 in line with Commission approved trajectory and aligned the distribution losses from 2017-18 onwards to that of UDAY which is as under :

Distribution Loss (T&D) Targets for Discoms :

Name of DISCOM	FY 2016-17	FY 2017-18	FY 2018-19
SBPDCL	19.25%	30%	22%
NBPDCL	19.25%	24%	20%

Losses incurred over and above the approved trajectories will not be passed on to the consumers and the same will be borne by the respective Discoms.

Renewable Power Purchase Obligation (RPO)

To promote renewable energy, the clause (e) of section 86 of the Electricity Act, 2003 casts responsibility on the Commission to specify a percentage of renewable energy to be purchased by the distribution companies. The New Tariff Policy dated 28th January, 2016 also stipulates that;

"within the percentage so made applicable, to start with, the SERCs shall also reserve a minimum percentage for purchase of solar energy from the date of notification of this policy which shall be such that it reaches 8% of total consumption of energy, excluding Hydro Power, by March 2022 or as notified by the Central Govt. from time to time."

The Commission, in pursuance to New Tariff Policy 2016 and the provision of the Electricity Act 2003 has reset the Renewable Purchase Obligation (RPO) for Discoms. The Discoms will have to achieve minimum 3.25% on solar RPO and 6.00% non-solar RPO for FY 2018-19 as per the amended BERC (Renewable Purchase Obligation)

Regulations. The Commission has been observing that the Discoms have not been meticulous in fulfilling the targets of RPO. Commission has directed them to take all necessary steps to fulfill the same.

Fuel and Power Purchase Cost Adjustment (FPPCA)

The Commission has notified Regulations on Fuel and Power Purchase Cost Adjustment (FPPCA) on 31.03.2012 and the formula given in the regulations has to be applied to arrive at FPPCA. The generation and distribution companies may claim Fuel and Power Purchase Cost Adjustments, if any as provided in chapter 10 in this order with prior approval of the Commission on a monthly basis.

Compliance of Directives

The Commission has reviewed the directives issued in its earlier Tariff Orders and noted that some of these directives have been complied and some are partially attended to. Accordingly, the Commission has decided to drop directives that are fully or substantially complied with and have further directed the Discoms to comply the remaining directions along with fresh ones are added in the instant order. The Commission will monitor the compliance of the directives quarterly.

General

If the State Government announces any direct subsidy to any category of consumers after the announcement of retail tariff for FY 2018-19 by the Commission, the DISCOMs shall immediately bring the same to the notice of the Commission and also shall intimate the tariff rates at which the DISCOMs proposes to bill the energy charges for such category of consumers and also ensure wide publicity of the same. Further, in the electricity bill to be served to the consumers the details such as the energy charges as per the tariff rates, reduction of energy charges due to government subsidy and net energy charges to be paid by the consumers shall be clearly exhibited.

Both the DISCOMs Orders are of 13 chapters each which include True-up of FY 2016-17, Review for FY 2017-18 and detailed analysis of the Annual Revenue Requirement (ARR) and determination of retail Tariff for FY 2018-19.

The Petitioner should ensure implementation of the order from the effective date after issuance of a Public Notice, in such a font size which is clearly visible, in two daily news paper having wide circulation in the various parts of State within a week and compliance of the same shall be submitted to the Commission by the Petitioners.

This Order shall be effective from 1st April 2018 and shall remain in force till 31st March, 2019 or till the next Tariff Order of the Commission.

This order will be placed on the website of the Commission and copies will be sent to BGCL, BSPHCL, BSPGCL, BSPTCL, NBPDCL, SBPDCL, Department of Energy of Government of Bihar, Central Electricity Regulatory Commission and Central Electricity Authority.

Pronounce in the open Court on the day of 21st March, 2018.

Sd/-	**Sd/-**	**Sd/-**
(R.K.Choudhary)	**(Rajeev Amit)**	**(S.K.Negi)**
Member	Member	Chairman

1. Introduction

1.1 Bihar Electricity Regulatory Commission (BERC)

The Bihar Electricity Regulatory Commission (hereinafter referred to as "Commission" or "BERC") was constituted by the Government of Bihar under Section 17 of the Electricity Regulatory Commission Act, 1998 vide Government of Bihar notification No.1284 dated 15th April, 2002. The Electricity Regulatory Commission Act, 1998 along with Indian Electricity Act, 1910 and Electricity (Supply) Act, 1948 was repealed by Section 185 (1) of the Electricity Act, 2003 (hereinafter referred to as the "Act"). The first proviso of Section 82 (1) has ensured continuity of the Bihar Electricity Regulatory Commission by laying down that the State Electricity Regulatory Commission established by the State Government under Section 17 of Electricity Regulatory Commission Act, 1998 and functioning as such, immediately before the appointed date, shall be the State Electricity Regulatory Commission for the purpose of the Act.

1.2 Functions of BERC

As per Section 86 of the Electricity Act 2003, the State Commission shall discharge the following functions, namely:

a. Determine the tariff for generation, supply, transmission and wheeling of electricity, wholesale, bulk or retail, as the case may be, within the State. Provided that where open access has been permitted to a category of consumers under section 42, the State Commission shall determine only the wheeling charges and surcharge thereon, if any, for the said category of consumers;
b. Regulate electricity purchase and procurement process of distribution licensees including the price at which electricity shall be procured from the generating companies or licensees or from other sources through agreements for purchase of power for distribution and supply within the State;
c. Facilitate intra-state transmission and wheeling of electricity;

d. Issue licenses to persons seeking to act as transmission licensees, distribution licensees and electricity traders with respect to their operations within the State;
e. Promote co-generation and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person, and also specify, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licensee;
f. Adjudicate upon the disputes between the licensees, and generating companies and to refer any dispute for arbitration;
g. Levy fee for the purposes of this Act;
h. Specify State Grid Code consistent with the Indian Electricity Grid Code specified with regard to grid standards;
i. Specify or enforce standards with respect to quality, continuity and reliability of service by licensees;
j. Fix the trading margin in the intra-state trading of electricity, if considered, necessary; and
k. Discharge such other functions as may be assigned to it under this Act.

1.3 North Bihar Power Distribution Company Limited (NBPDCL)

The Government of Bihar under the provision of Bihar Electricity Reforms Transfer Scheme 2012 notified vide Notification No.17 dated 30.10.2012 of the Energy Department, Govt. of Bihar restructured the Bihar State Electricity Board with effect from 1st November 2012. The Generation, Transmission and Distribution Businesses of the erstwhile Bihar State Electricity Board were transferred to four successor companies with one Holding Company as listed below:

1) Bihar State Power Holding Company Limited (BSPHCL)
2) Bihar State Power Generation Company Limited (BSPGCL)
3) Bihar State Power Transmission Company Limited (BSPTCL)
4) North Bihar Power Distribution Company Limited (NBPDCL)
5) South Bihar Power Distribution Company Limited (SBPDCL)

The Government of Bihar vide notification dated 30th October 2012, notified the provisional opening assets and liabilities of the transferee companies based on the audited account of erstwhile BSEB as on 1st April, 2011. The value of assets and liabilities stand transferred from the erstwhile Bihar State Electricity Board to the transferee companies, including the North Bihar Power Distribution Company Limited.

Assets and liabilities (gross block, loans and equity), as on the date mentioned in the notification, have been considered by the Commission in line with the Financial Restructuring Plan (FRP) as approved by the Government of Bihar.

1.4 Profile of NBPDCL

NBPDCL is a company registered under the provision of Companies Act 1956 and is a fully owned subsidiary company of BSPHCL.

NBPDCL is providing power to 21 districts of the state. For the ease of operation NBPDCL has 7 No's Electric Supply Circles and 30 No's Electric Supply Divisions and 92 sub divisions. The Table below provides some details of the current status of the power sector in NBPDCL area of operations.

Sl. No	Particulars	Unit	As on 30.03.2017
1	Electricity Consumers	No	6296205
2	Length of 33 kV Line	KM	5657
3	Length of 11 kV Line	KM	59651
4	Length of LT Line	KM	118713
5	Electrified Villages	No	19816
6	33/11 KV Power Sub Stations	No./MVA	354/5218.7 MVA
7	11/0.4 KV Distribution Sub Stations	No./MVA	74075/5076.82 MVA

1.5 Commission's Orders issued earlier to NBPDCL

NBPDCL has filed the Petition for approval of Business Plan for the Second Control Period FY 2016-17 to FY 2018-19 and also filed the MYT Petition for approval Truing up for FY 2014-15, APR for FY 2015-16, ARR for the Second Control Period FY 2016-17 to FY 2018-19 and for determination of Tariff for Retail sale of electricity for FY 2016-17. The Commission approved the MYT Tariff Order on 21st

March, 2016 approved Business Plan , True up for FY 2014-15, APR for FY 2015-16 and ARR for the period FY 2016-17 to FY 2018-19.

Subsequently, NBPDCL has filed the petition on 6th December, 2016 for truing up for FY 2015-16, Annual Performance Review (APR) for FY 2016-17 and Annual Revenue Requirement (ARR) and determination of Tariff for Retail sale of electricity for FY 2017-18. The Commission issued the Tariff Order on 24th March, 2017 approving true up for FY 2015-16, APR for FY 2016-17 and ARR and Tariff for FY 2017-18.

1.6 Admission of Current Petition and Public Hearing Process

NBPDCL has filed the current petition on 5th December 2017 for Truing-up for FY 2016-17, Annual Performance Review (APR) for FY 2017-18, and Annual Revenue Requirement (ARR) and determination of Tariff for Retail sale of Electricity for FY 2018-19 under Section 62 of the Electricity Act 2003 read with Bihar Electricity Regulatory Commission (Multiyear Distribution Tariff) Regulations, 2015.

On preliminary verification of the petition, the Commission has admitted the petition on 18.01.2018 under Case No.40/2017. In accordance with section 64 of the Electricity Act, 2003, and sub clause 12.10 of BERC (Multi Year Distribution Tariff) Regulations, 2015, the Commission vide letter no.BERC-Case no.40/2017-84 dated 18.01.2018 directed NBPDCL to publish the petition in the abridged form in atleast two Hindi and one English daily newspapers having wide circulation in the State inviting comments/objections and suggestions from its stakeholders on the ARR and Tariff Petition filed by it.

NBPDCL was also directed to publish the schedule for Public Hearings along with the public notice inviting objections/suggestions/comments.

The public notices were published in the following newspapers as given below:

Sl. No	Name of the News Paper	Language	Date of First Publication
1	Times of India	English	25.1.2018
2	Hindustan	Hindi	31.1.2018
3	Hindustan	Hindi	1.2.2018
4	Dainik Jagran	Hindi	7.2.2018
5	Hindustan	Hindi	7.2.2018

The tariff petition along with additional submission of data etc., was also placed on the website of NBPDCL for inviting objections and suggestions on the petition and copies of the petition along with Annexure were also made available for sale in the office of the Chief Engineer (Commercial), NBPDCL. The interested parties/stakeholders were asked to file their objections/ suggestions on the Petition on or before 20.02.2018. The Commission also uploaded the petition along with additional data submission on its website.

The Commission has received 20 written objections/suggestions from consumers/ consumer organizations. The Commission directed the Petitioner to submit the replies/response to the suggestions/ objections to the Commission vide Letter Nos. as mentioned below. Petitioner NBPDCL submitted reply/responses to the Commission vide letter no. and dated are also mentioned below.

BERC Letter No	Date	No. of objections/ suggestions received from the objectors and sent to NBPDCL	Letter no. and Date of submission of reply by NBPDCL
BERC-Case no.40/2017-189	17.02.2018	4	171 / 28.02.2018
BERC-Case no.40/2017-190	19.02.2018	1	167 / 28.02.2018
BERC-Case no.40/2017-204	21.02.2018	14	170 / 01.03.2018
BERC-Case no.40/2017-205	21.02.2018	1	168 / 01.03.2018

The proposal of NBPDCL was also placed before the State Advisory Committee (SAC) in its meeting held on 06.02.2018 and various aspects of the petition were discussed by the Committee. The Commission sought the advice of the State Advisory Committee on the petition filed by NBPDCL during the meeting of the Committee. The minutes of the meeting are given in **Annexure-I**.

The public hearings were conducted as scheduled as indicated below:

Sl. No.	Place	Date
1	Begusarai	07.02.2018
2	Katihar	08.02.2018
3	Madhubani	12.02.2018
4	Supaul	13.02.2018
5	Siwan	15.02.2018
6	Mothihari	16.02.2018
7	Patna	20.02.2018

The names of consumers/consumer organizations who filed their objections and the list of objectors participated in the public hearings for presenting their objections/ suggestions are given in **Annexure – II**.

A note on the main issues raised by the objectors in the written submissions and also in the public hearings in respect of the petition, along with the response of NBPDCL and the Commission's views on the response, are given in Chapter-3.

1.7 Approach of this order

The BERC (Multi Year Distribution Tariff) Regulations, 2015 provides for truing up of previous year (FY 2016-17), Review of current year (FY 2017-18) and determination of Annual Revenue Requirement and Tariff for retail supply of electricity for ensuing year i.e. FY 2018-19.

The NBPDCL has now approached the Commission with the present petition for Truing-up for FY 2016-17, Annual Performance Review for FY 2017-18, Annual Revenue Requirement and determination of Tariff for Retail Sales of Electricity for FY 2018-19.

The Commission has examined the petition and observed that certain additional data/information and clarifications are required for conducting detailed analysis of the Petition. The Commission directed the Petitioner to submit the additional data/ information and clarifications vide the following letters:

1. Letter No. BERC-Case No.40/2017-1469 dated 26.12.2017.
2. Letter no. 5 dated 1.1.2018

3. Letter no. 33 dated 10.1.2018
4. Letter No. BERC-Case No.40/2017-148 dated 02.02.2018.
5. Letter No. BERC-Case No.40/2017-150 dated 02.02.2018.
6. Letter No. BERC-Case No.40/2017-210 dated 22.02.2018.
7. Letter No. BERC-Case No.40/2017-230 dated 24.02.2018.

The Petitioner has submitted additional information/data/clarifications vide following letters:

1. Letter no.37 dated 9.1.2018
2. Letter No.42 dated 12.1.2018.
3. Letter No.53 dated 18.1.2018
4. Letter No. 61 dated 19.1.2018.
5. Letter No. 69 dated 23.1.2018.
6. Letter no.165 dated 28.2.2018
7. Letter no.174 dated 28.2.2018
8. Letter no.180 dated 5.3.2018
9. Letter no.181 dated 5.3.2018
10. Letter no.186 dated 7.3.2018
11. SBPDCL Letter no.207 dated 14.03.2018 (on behalf of NBPDCL)

After submission of the additional information's / data by the petitioner, Commission provided an opportunity to the Petitioner vide letter no. BERC-Case No.40/2017-33 dated 10.01.2018 for technical validation of information and data. Accordingly, technical validation session was held on 17.01.2018 with the officers of the petitioner and the officers of the Commission and compared the data and wherever necessary corrections were carried out.

The Commission has undertaken Truing-up for FY 2016-17, Annual Performance Review (APR) for FY 2017-18 and determination of Annual Revenue Requirement (ARR) and Tariff for Retail Sale of electricity for FY 2018-19, based on the BERC (Multi Year Distribution Tariff) Regulations, 2015.

1.8 Proposal for creation of Regulatory Asset by the Petitioner

NBPDCL has submitted that it has filed an Appeal before Hon'ble APTEL against the order of BERC dated 8th March, 2017 vide Appeal No. 154/2017 and 155/2017 of FY 2016-17 on 24th April, 2017 and since, the whole matter is sub-judice before Hon'ble APTEL till the time any judgement in the matter comes, the prevailing order of BERC shall stand effective. NBPDCL has submitted that it reserves the right to make the necessary changes in the present petition, depending on the outcome of above Appeal Nos.154/2017 and 155/2017 of FY 2016-17 and sought appropriate directions from the Commission.

NBPDCL has also suggested that the amount recoverable for past period gap / (surplus) by the two Discoms and the gap / (surplus) for FY 2017-18, be created into a Regulatory Asset and not passed on to consumer tariffs for the ensuing year. This amount may be allowed to be recovered by the Petitioner as Regulatory Surcharge at a rate as allowed by the Commission in the subsequent years. Only the revenue gap for FY 2018-19 may be passed on to consumer tariffs for FY 2018-19. This shall enable the Petitioner to recover from the cascading effect of the carrying cost and the consumers shall also be benefited by comparatively reduced tariffs.

The Commission rules that appropriate decision will be taken when the judgement in the above matter comes, since the subject is sub-judice before Hon'ble APTEL.

1.9 Contents of this order

The order is divided into Thirteen (13) chapters as detailed below:

1. The **First Chapter** provides a background of NBPDCL, Commission's Orders in earlier years, the Petition, details of public hearing process, and the approach adopted for this order.
2. The **Second Chapter** contains a summary of Tariff petition.
3. The **Third Chapter** provides a brief account of the public hearing process, objections raised by stakeholders, Petitioner's response and Commission's views on the same.
4. The **Fourth Chapter** deals with the Truing-up for FY 2016-17.
5. The **Fifth Chapter** deals with the Annual Performance Review for FY 2017-18.
6. The **Sixth Chapter** deals with the Annual Revenue Requirement for FY 2018-19.
7. The **Seventh Chapter** deals with the Government grant/subsidy for FY 2018-

19.

8. The **Eighth Chapter** deals with the Voltage wise cost of supply.
9. The **Ninth Chapter** deals with the Tariff Principles, Design and Tariff Schedule for FY 2018-19.
10. The **Tenth Chapter** deals with the Fuel and Power Purchase Cost Adjustment.
11. The **Eleventh Chapter** deals with the Wheeling and Open Access Charges.
12. The **Twelfth Chapter** deals with the Compliance of Directives.
13. The **Thirteenth Chapter** deals with the Renewable Power Purchase Obligation.

2. Summary of Petition filed for Truing-up for FY 2016-17, Annual Performance Review for FY 2017-18 and Annual Revenue Requirement for FY 2018-19

2.1 Summary of the petition for Truing up for FY 2016-17, Annual Performance Review for FY 2017-18 and Aggregate Revenue Requirement (ARR) and Revenue Gap for FY 2018-19

The summary of truing up for FY 2016-17, Annual Performance Review for FY 2017-18 and Aggregate Revenue Requirement (ARR) and Revenue Gap projected for FY 2018-19 are as given in Tables below:

Table 2.1: ARR and Revenue Gap projected in Truing-up for FY 2016-17

S. No.	Particulars	Approved in MYT Order dated 21.03.2016	Approved in Review in Tariff Order dated 24.03.2017	Actual projected for FY 2016-17
1	Purchase of power	4,873.9	3,625.33	3,720.58
2	PGCIL & Other transmission charges	326.2	311.47	364.09
3	BSPTCL transmission charges	116.69	111.28	116.49
4	Discom to Discom purchases	41.17	118.88	0.00
5	**O & M Expenses (a+b+c+d)**	**277.25**	**319.52**	**328.77**
	a. Employee expenses	171.84	195.42	188.13
	b. R&M expenses	48.72	55.34	49.21
	c. A&G expenses	50.03	58.9	86.05
	d. Holding company expenses allocated	6.66	9.86	5.38
6	Depreciation	--	70.57	89.76
7	Interest on loans	71.54	163.3	215.81
8	Other finance charges	28.27	31.19	60.87
9	Return on equity	21.84	136.28	184.53
10	Interest on Security Deposit	19.41	16.97	19.58
11	Deposit for RPO obligation	35.44	70.76	75.85
12	Contingency Reserve	18.15	--	0.00
13	Net prior period Expense	--	--	281.09
14	**Less: IDC**	-36.21	-80.3	0.00
15	Interest on working capital	--	--	67.39
16	**Total Revenue requirement**	**5,793.65**	**4,895.24**	**5,524.80**
17	Less:: Non-tariff income	167.93	175.22	174.43
18	Less: Expenditure disallowed due to excess T&D losses	--	330.68	145.32
19	**Net Revenue requirement**	**5,625.72**	**4,389.34**	**5205.06**

S. No.	Particulars	Approved in MYT Order dated 21.03.2016	Approved in Review in Tariff Order dated 24.03.2017	Actual projected for FY 2016-17
20	Revenue from Existing tariff	3,220.3	2,324.31	2,221.22
21	Revenue from sale of power-Nepal	814.95	980.09	665.39
22	**Net Gap / (Surplus) before subsidy**	**1,590.47**	**1,084.94**	**2,318.44**
23	Subsidy from State Government	1,417.77	1,417.77	1,513.66
24	Subsidy used for disallowed power	--	330.68	145.32
25	Subsidy available for revenue gap	1,417.77	1,087.09	1,368.35
26	**Net Gap / (Surplus) after subsidy**	**172.7**	**-2.15**	**950.09**

Table 2.2: Unrecovered Gap for FY 2016-17

(Rs. Crore)

True up FY 2016-17 (All figures in INR Cr)	
Revenue gap approved in true up for FY 2016-17	950.09
Interest for FY 2016-17 (SBI Adv R @ 14.75%) for 6 months	70.07
Interest for FY 2017-18 (SBI Adv R @ 14.75%) for 12 months	140.14
Total unrecovered gap for FY 2016-17	1,160.30

Table 2.3: Annual Revenue Requirement and Revenue Gap projected for FY 2017-18

(Rs. Crore)

S. No.	Particulars	Current Year FY 2017-18
1	Power purchase cost	4,470.35
2	PGCIL & other transmission charges	325.48
3	State Transmission charges & BGCL	341.73
4	O&M Expenses	
i)	Employee Cost	237.63
ii)	R&M expenses	69.72
iii)	A&G expenses	103.27
5	Share of Holding Company expenses	5.92
6	Depreciation	145.21
7	Interest and Finance charges	389.04
8	Interest on working capital	82.77
9	Return on equity	225.11
10	Income Tax	-
11	Interest on security deposit	22.51
12	Bad debts (if any)	0
13	Contingency reserves (if any)	0
14	**Total Revenue Requirement**	6418.74
15	Less: Non-tariff income	189.59
16	**Aggregate Revenue Requirement**	6229.15
17	Add : Recovery of revenue gap / (Surplus) of past period, if any (FY 2016-17)	1,160.30
18	Total ARR	7,389.45

S. No.	Particulars	Current Year FY 2017-18
19	Less : Revenue from Existing Tariff	4,293.45
20	Total grant from State Govt.	1,165.60
21	Net Gap/(Surplus) at existing tariff (18–19-20)	1,930.40

Table 2.4: Unrecovered Revenue Gap projected for FY 2017-18

(Rs. Crore)

Deficit with carrying cost	Amount
Revenue gap in APR for FY 2017-18	1,930.40
Interest for FY 2017-18 (SBI Adv R @ 14.75%) for 6 months	142.37
Interest for FY 2018-19 (SBI Adv R @ 14.75%) for 12 months	284.73
Total unrecovered gap for FY 2017-18	2,357.50

Table 2.5: Annual Revenue Requirement (ARR) projected for FY 2018-19

(Rs. Crore)

S. No.	Particulars	Ensuing Year FY 2018-19
1	Power purchase cost	5070.89
2	PGCIL & other transmission charges	325.48
3	State Transmission charges & BGCL	341.73
4	O&M Expenses	
i)	Employee Cost	278.96
ii)	R&M expenses	97.64
iii)	A&G expenses	123.92
5	Share of Holding Company expenses	6.51
6	Depreciation	212.54
7	Interest and Finance charges	530.46
8	Interest on working capital	90.20
9	Return on equity	312.42
10	Income Tax	0.00
11	Interest on security deposit	25.43
12	Bad debts (if any)	0
13	Contingency reserves (if any)	0
14	**Total Revenue Requirement**	**7,416.17**
15	Less: Non-tariff income	208.55
16	**Aggregate Revenue Requirement**	**7,207.62**

Table 2.6: Revenue Gap projected for FY 2018-19 at existing Tariff

(Rs. Crore)

S.No.	Particulars	Amount
1	Aggregate Revenue Requirement (ARR)	7416.17
2	Less : Non-Tariff Income	208.55

S.No.	Particulars	Amount
3	Add : Recovery of revenue gap / (Surplus) of past period, if any	0.00
4	Net ARR	7207.62
5	Less : Revenue from Existing Tariff	4851.30
6	Less : Revenue from sale of power to other Agency	0.00
7	Gap (4–5–6)	2356.32
8	Total grant from State Govt. (Same per Unit Subsidy)	0.00
9	Net Gap/(Surplus) at existing tariff (8–11)	2356.32

Note: 1.The Petitioner has not considered the Revenue Gap of True up for FY 2016-17 and APR for FY 2017-18 during the computation of Net Revenue Gap for FY 2018-19.

2. It is suggested that the amount recoverable for past period gap / (surplus) by the two Discoms and the gap / (surplus) for FY 2017-18, be created into a Regulatory Asset and not passed on to consumer tariffs for the ensuing year. This amount may be allowed to be recovered by the Petitioner as Regulatory Surcharge at a rate as allowed by the Hon'ble Commission in the subsequent years. Only the revenue gap for FY 2018-19 be passed on to consumer tariffs for FY 2018-19. This shall enable the Petitioner to recover from the cascading effect of the carrying cost and the consumers shall also be benefited by comparatively reduced tariffs.

2.2 Request to the Commission

NBPDCL has requested the Commission to:

a) Admit this Petition;

b) Examine the proposal submitted by the petitioner in the petition for a favourable dispensation;

c) Approve the Annual Revenue Requirement (ARR) for FY 2017-18 and under Bihar Electricity Regulatory Commission (Multi Year Distribution Tariff) Regulations, 2015.

d) Pass suitable orders with respect to the True up for FY 2015-16, APR for FY 2016- 17 and ARR for FY 2017-18;

e) Approve the proposed tariff schedule along with open access charges and schedule of general and miscellaneous charges as proposed in this petition for different category of consumers to be applicable from 1st April 2017.

f) Pass separate order for the petitioner against the present petition;

g) Permit to propose suitable changes to the respective ARRs, prior to the final approval by the Commission. NBPDCL believes that such an approach would go a long way towards providing a fair treatment to all the stakeholders and may eliminate the need for a review or clarification.

h) Condone any inadvertent omissions/errors/shortcomings and permit NBPDCL to add/change/modify/alter this filing and make further submissions as may be required at a future date.

i) Pass such Order, as the Commission may deem fit and appropriate keeping in view the facts and circumstances of the case.

3. Stakeholder's Objections/Suggestion, Petitioner's Response and Commission's Observation

3.1 Introduction

The Tariff petition evoked objections/suggestions/comments from the general public/stakeholders in response to the public notice inviting objections/suggestions of the stakeholders on the petition. A number of consumers/consumer organizations filed their submissions in writing. Some of these stakeholders also participated in the public hearings held on the 07.02.2018, 08.02.2018, 12.02.2018, 13.02.2018, 15.02.2018, 16.02.2018 and 20.02.2018. Apart from this, some of the stakeholders also participated in the public hearings and put their suggestions/ objections/ comments orally without filing their written submissions. Submissions of the stakeholders and responses of the licensees pertaining to specific aspects of Tariff proposals have been taken into account in determination of ARR, formulation of tariff, balancing the interests of various stakeholders, even if they do not find place in the suggestions/objections of the stakeholders.

The public hearings were held at various locations across the State to ensure maximum public participation wherein stakeholders put forth their comments and suggestions before the Commission in the presence of the Petitioner. Altogether one hundred and fifty seven (157) members of the public including consumer organizations took part in the public hearing process. The list of the participants is attached as Annexure – II to this order.

Some of the objectors stated that the Tariff petitions of both DISCOMs are similar in nature, hence a combined objection will be able to present a complete picture and requested to combinedly accept the objections filed for both the DISCOMs jointly in Case No. 40/2017 (NBPDCL) and 41/2017 (SBPDCL).

The Commission has examined the issues and concerns voiced by various stakeholders in their written comments as well as in the public hearings and also the response of the Petitioner thereon. The comments/suggestions submitted by various stakeholders in response to the tariff petition, the replies given by the Petitioners and the views of the Commission have been summarized under various sub-heads as below:

Name of Objector/Stakeholder:

1. Bihar Industries Association, Patna
2. Bihar Chamber of Commerce & Industries, Patna
3. M/s. Kalyanpur Cements Limited, Patna
4. Bihar Steel Manufacturers Association
5. Shri Pramod Kumar Sharma
6. Shri Rajkumar Thakur

Issue 1: Distribution loss

Distribution loss is a major factor on which tariff rate for retail sale of electricity depends. The quantum of power purchase is worked out by adding distribution loss on the unit sold and cost of power will be more if distribution loss is higher. The cost of power purchase would be directly proportional to the distribution loss. The distribution loss was claimed at 42.64% in FY 2006-07 and even after spending huge amount for development of power infrastructure, the cumulative T&D loss has not decreased and still around 40%. The Discoms are claiming higher distribution losses against the distribution loss target approved by the Commission leading to higher power purchases. The inefficiency of the licensees is being fastened upon the consumers in the grab of T&D loss. The loss cannot be attributable only to line loss, rather it has to be on account of inefficiency of the Discoms either to bill or collect energy charges from consumers. Substantial component of tariff is attributable to distribution loss to the extent of 50% which is not only criminal wastage of energy rather wasting State's money for inefficiency on the part of its one of the wing.

Petitioner's response:

The Petitioners have submitted that after unbundling of the Bihar State Electricity Board (BSEB) in FY 2013-13, they are continuously striving to reduce the Distribution losses. The level of Distribution losses in a state also depends on the consumer mix. It is well known that losses at HT level are lower than that of LT level due to higher transformation and line loss. Thus, the Distribution loss of a utility having more HT consumers will be lower as compared to the utility having more of LT consumers. Apart from low HT: LT ratio, various schemes have been introduced by the Government like Har Ghar Bijli to electrify rural households which requires increase in the Distribution network in rural areas.

For reducing distribution Losses, the Petitioner is taking continuous measures. Recently, Discoms have signed MoU under UDAY which aims at reducing the Distribution Losses of the Distribution utilities by undertaking Feeder separation scheme, reducing ACS-ARR gap, achieving metering targets etc. The constant efforts put in by the Discoms have resulted in continuous decrease in the loss levels over the past years.

Commission's view:

The Commission has noted the concerns of the stakeholders and Petitioner's response on the issue. The Commission in Tariff Order for FY 2017-18 dated 24.03.2017 had elaborately deliberated the issue of Distribution loss. The Commission had been approving moderate loss reduction trajectory in the tariff orders issued year on year which the licensees could have achieved by regular monitoring and improving billing efficiency. However, no substantial reduction has been achieved by the Discoms. It is opined that the distribution loss is a controllable factor and the Discoms are responsible to bring down the loss. The Commission had issued number of directives to improve performance of Discoms, when implemented in true spirit the distribution loss could have been brought down considerably.

The Government of Bihar and Government of India have entered into a tripartite MoU under UDAY scheme indicating the loss trajectory and various other measures to reduce the losses.

The Commission had approved distribution loss trajectory in the range of 19.25% - 17.00% for MYT control period of FY 2016-17 to FY 2018-19 for both the Discoms. Having aggrieved by the approved loss trajectory, the Discoms had preferred Appeal no. 141 & 142 of 2016 before the APTEL. The APTEL vide order dated 25.11.2016 had remanded back the issue stating "*……… we would like to state only that the State Commission should have to relook and decide only to the extent that such numbers* *should not become unachievable but not on account of the inefficiencies of the Appellant, if the State Commission observes so*".

The Commission in its order dated 08.03.2017 in the above remand case observed as below:

"*since the Discoms are not able to achieve loss reduction targets set by the Commission due to various reasons, the gap between the actual and approved distribution losses has increased to unachievable level. After entering into MoU under UDAY, the Discoms are committed to bring down distribution loss to the level as specified in the UDAY Scheme. It has been submitted by the petitioner that as per the signed MoU under UDAY the State Govt. may provide assistance under Operational Funding Requirement (OFR). The Commission opines that if the distribution loss trajectory is not aligned to UDAY trajectory, the State Govt. assistance, if any, would not be available to Discoms to meet the differential losses between trajectory set by the Commission and the Distribution loss trajectory given in UDAY. It may incur additional financial losses which may jeopardize the financial performance of the Discoms ultimately adversely affecting the quality of service to the consumers also.*

Under the circumstances, the Commission thinks it appropriate to revise the distribution loss and accordingly the distribution loss trajectory has been realigned to the level of trajectory under UDAY".

The Commission does not think appropriate to allow the burden of higher distribution loss than what was approved by the Commission in its order dated 08.03.2017, to be passed on to the consumers.

Name of Objector/Stakeholder:

1. Bihar Industries Association, Patna

Issue 2: Demand charge and Contract Demand / Fixed charge

The large industrial consumers of the State are availing power at 11 kV and 33 kV from Discoms and for that two part tariff (i) demand charge Rs./KVA/Month and (ii) energy charge Rs./KVAh has been specified by BERC. The BIA has filed appeal before APTEL against the tariff orders for FY 2016-17 and FY 2017-18 and it would not be justified to enhance the tariff rates on the basis of parameters relied upon Discoms. The demand charge which is in the nature of minimum guarantee develops an attitude of complacency in Discoms, who instead of performing helps to cover up the distribution loss and inefficiency of the Discoms. The industries under HTSS category are using energy not more than 90% of the contracted demand, whereas the Discoms are generating revenue at 100% of the contracted demand/load. The terms and conditions for contract demand should be as per the requirement of the consumers and not on the basis of total contracted demand. Further, the demand based tariff has no relevance with contracted load and if the connected load is applied, minimum guarantee to the extent of 100% of the contract demand becomes impractical.

Petitioner's response:

The Petitioner has submitted that in the proposed tariff schedule for FY 2018-19, the Discoms have taken a step towards tariff rationalization by aligning the revenue from fixed charges and energy charges with the fixed and variable cost components of the Discom, in line with the MoP's report on tariff rationalization. The total gross ARR for FY 2018-19 for the two Discoms has been estimated at INR 17,152 crores, with a split of 57% as fixed costs and 43% as variable costs. The fixed costs include the following components: 1) Fixed tariff component of PPAs payable to generators (irrespective of actual drawl), 2) Network establishment costs (cost for developing the new infrastructure for enhancing access including the cost to finance and depreciation), 3) Network R&M, 4) Operations and Maintenance activities, and 5) the RoE.

On one hand wherein the cost structure of the two Discoms is heavily tilted towards fixed charges, the recovery of revenue through the existing tariff schedule approved by the Commission is tilted more towards energy tariffs (for FY 2018-19 at existing tariffs, the revenue from fixed charges is only 17% and the balance 83% is from energy charges). Due to this skewed nature of tariff recovery, the Discoms have limited revenue assurance and therefore face uncertainty. Further for some categories, the ratio of fixed and variable tariff is far low and only for those categories, the increase in fixed cost has been proposed. It is also to be noted that to avoid sudden surge in terms of increase in fixed cost the Discoms have proposed a ratio of 27:73 for fixed : variable revenue recovery, in place of the 57:43 proportion. Finally it is to be noted that this entire arrangement has been done keeping in mind that the average rate of billing from each consumer category is not impacted, thereby offsetting any increase in fixed charges with a corresponding reduction in variable charges. This is a progressive step and would benefit the consumers in the long run.

Commission’s view:

The Commission has noted the concerns of the stakeholders and Petitioner’s response on the issue. The Commission has discussed the issue aptly in the tariff principles, design and tariff schedule.

Name of Objector/Stakeholder:

1. Bihar Industries Association, Patna
2. Bihar Chamber of Commerce & Industries, Patna
3. M/s. Kalyanpur Cements Limited, Patna
4. Bihar Steel Manufacturers Association

Issue 3: Voltage-wise cost of supply

The voltage-wise cost of supply is being worked out on the sample data in contravention to the orders passed by APTEL in Appeal no.14 of 2011 BIA Vs BERC. The voltage-wise cost of supply should be worked out on the basis of normative losses specified for appropriate voltage level. There cannot be any tampering or direct tapping under 33 kV and 11 kV system and the extent of commercial loss at 33 kV and 11 kV voltage level is bound to burden such consumers, hence should be worked out on the basis of actual loss at different voltage level. The network cost should be separately calculated and voltage wise cost of supply should be worked out on KVAh basis. The existing tariffs are very high and as per the tariff policy the rate of cross subsidy may be not more than 20% and the tariff rates for 132 kV, 33 kV and 11 kV consumers be reduced.

Petitioner's response:

The Petitioner has submittd that in the Tariff Petition filed before the Commission detailed calculation along with projection has been submitted for due consideration.

Commission's view:

The Commission has noted the concerns raised by the stakeholders. The Commission has noticed that the Petitioner has committed many mistakes while computing the voltage wise cost of supply. However, the Commission has computed voltage wise cost of supply in the tariff order following the guidelines issued by APTEL in its order dated 10.05.2012 in Appeal no.14 of 2011 BIA Vs BERC and Appeal no.27 of 2011 Kalyanpur Cements Limited Vs BERC.

Name of Objector/Stakeholder:

1 . Bihar Industries Association, Patna

Issue 4: Cost of disallowed power purchase

The cost of disallowed power purchase shall be considered as per merit order dispatch and higher rate power shall be disallowed.

Petitioner's response:

The difference in the loss target and the actual loss levels is practically impossible to achieve in the given period, and therefore this shall add on to the burden of the Discom. Although the Commission has approved the losses for FY 2017-18 onwards as per the agreed UDAY MoU, it has not considered the same for FY 2016-17. It is therefore the request of the Petitioner that for FY 2016-17 as well, the distribution loss trajectory should be in synchronization of the MoU signed by the Discoms. The Commission is also requested to see the growth rates in consumer base of the Discoms and consider the challenging operating scenario of the Petitioner wherein most consumers being added are in rural and remote areas further adding to network losses, ongoing measures, and regulatory precedents to approve the actual distribution loss for FY 2016-17. Therefore the Commission is kindly requested to consider the actual loss of the Discoms and adopt the loss target as agreed in the UDAY MoU for calculation of disallowed power purchase cost.

Commission's view:

The Commission has noted the suggestion of the stakeholder. The Commission finds that the Petitioner has not furnished relevant reply to the concern of the objector. However, the Commission, in view of the fact that power purchase cost in the ARR for FY 2016-17 had not approved following merit order dispatch principle, has retained the same principle in true up for FY 2016-17 and shall consider high cost power following the merit order dispatch for disallowance of cost of power due to higher distribution loss than the target from FY 2017-18 as the merit order dispatch has been introduced from FY 2017-18. As regards the petitioners request to synchronise the loss trajectory of FY 2016-17 to around UDAY MoU also, it is clarified that Commission had passed a reasoned order on the issue in its order dated 08.03.2017 in the APTEL remand case.

Name of Objector/Stakeholder:

1. Bihar Industries Association, Patna
2. Bihar Steel Manufacturers Association

Issue 5: Late payment surcharge (LPSC) and Rebate received on payment of power purchase bills

The late payment charges and rebate allowed should be deducted from the power purchase cost.

Petitioner's response:

The prompt payment of bill to the generator, the rebate earned by the Petitioner is being passed on to the consumers.

It is due to the poor financial condition of the Petitioner, sometimes timely payment is not possible because of which it is liable to pay late payment surcharge. On the other hand, in order to make payment on time the Petitioner would have to arrange fund from some lending agency or bank which would have borne some interest and would have formed a part of ARR. Thus, in view of the same, the Commission is requested to allow the late payment surcharge as a pass through to the consumer.

Commission's view:

The Commission has been disallowing the LPSC and the rebate earned on prompt payment of power bills has been considering as non-tariff income consistently in the ARR in year on year tariff orders as per BERC (Multi Year Distribution Tariff) Regulations 2015.

Name of Objector/Stakeholder:

1 Bihar Industries Association, Patna

Issue 6: Intra state transmission charges

The Discoms have projected state transmission charges for BSPTCL and BGCL, however the quantum of energy to be handled by the two entities has not been provided. The transmission licensees are operating parallel in the State. The energy handled by BSPTCL and BGCL and energy transmitted to Discoms shall be separately determined. The transmission lines for which the licensees are charging transmission charges should be specified in the petition so that there may not be any chance of overlapping of transmission charges.

Petitioner's response:

The Petitioner has submitted that at the time of preparation of Tariff Petition the Petitioner had no clear bifurcation of the capacity to be handled by BSPTCL and BGCL. In absence of such information it was difficult to project the transmission charges for each utility, so the Petitioner considered the average monthly charge paid to BGCL as basis of projection. However, both the transmission utilities have filed Tariff Petition before the Commission for FY 2018-19.

Commission's view:

The Commission has noted the concerns raised by the objector and the Petitioner's response. The BSPTCL and BGCL are operating in parallel and all lines and substations are interconnected. The assets of the two transmission licensees are being maintained separately and accordingly the transmission charges in terms of BERC Tariff Regulations are being claimed. It will be the endeavour of the Commission to ensure that there is no overlapping and double charge on assets.

The Commission directs Discoms to set the composite diagram identifying the assets of BSPTCL and BGCL separately. If it is found that there is overlapping/double charge on assets, the same shall be accented for in true up for FY 2018-19.

Name of Objector/Stakeholder:

1 Bihar Industries Association, Patna
2 Bihar Chamber of Commerce & Industries, Patna
3 M/s Kalyanpur Cements Limited, Patna
4 Bihar Steel Manufacturers Association

Issue 7: Gross Fixed Assets, Depreciation and Return on Equity (RoE)

The Depreciation and RoE are being worked out on the basis of GFA the assets created by way of grant are also considered as equity of the Company. The value of GFA shall decrease year on year by the amount of depreciation allowed each year. The grants received for creation of assets should be deducted from value of GFA for working out depreciation. Further, the Discoms have adopted revised opening balances.

Petitioner's response:

The depreciation claimed in ARR for FY 2018-19 is computed as per the BERC MYT regulations, 2015. The depreciation is claimed on the capitalization estimated based on the various schemes approved by Central Government and State Government. The depreciation is claimed on the assets capitalized from equity and Loans and not Grants. Depreciation is an important element in a Distribution utility and same should be allowed as per the BERC MYT regulations.

The return on equity claimed in the Tariff petition is based on the regulation stating that 30% of the asset addition or actual equity, whichever is less, is to be considered for the computation of Return on equity. As the equity is infused in the books of the

Petitioner in FY 2016-17, the Petitioner has claimed the return on equity on the asset addition in FY 2016-17 and balance 70% of the asset addition is considered as financed through loans after deducting the amount of assets exclusively financed through grants.

Commission's view:

The Commission has noted the comments of the stakeholders and the Petitioners response. The BERC (Multi Year Distribution Tariff) Regulations 2015 specify that Debt Equity shall be considered in 70 : 30 based on the capital base/GFA provided the assets funded by consumer contribution, capital subsidies/grants shall not form part of the capital base. Accordingly, the capital base is considered based on net GFA (GFA less grants) for considering normative Equity and normative Loan and accordingly RoE and interest on normative loan allowed. In respect of depreciation, the Commission has been computing depreciation on GFA and depreciation on grants (assets created through grants) separately and net depreciation has been allowing in the ARR year on year tariff orders.

Name of Objector/Stakeholder:

1 Bihar Industries Association, Patna

Issue 8: Grants under UDAY and BRGF

Grants received under UDAY for repayment of project loan shall be considered as grant. The amount received as grant under BRGF scheme and other schemes has been considered as equity. It would not be proper and justified or reasonable to allow RoE on these funds.

Petitioner's response:

The Petitioner has not furnished its response on the issue.

Commission's view:

The Commission had considered the funding of BRGF schemes through equity in accordance with the letter no. 02/SBPDCL-35/2013 – 205 dated 30.01.2017 of the Energy Department, Govt. of Bihar in its order dated 08.03.2017. The Bihar

Industries Association (BIA), Patna has filed Appeals No.120 and 121 of 2017 before the APTEL. The case is posted for hearing on 03.05.2018.

The grant received under UDAY scheme for repayment of loans under FRP (Financial Restructuring Plan) is utilised for repayment of loans obtained for liquidation of power purchase liability and part of the grant was utilised for repayment of project loan from REC (Principal) which is considered as grant in the tariff order.

The Commission has aptly discussed the issue in the tariff order in the relevant paragraph.

Name of Objector/Stakeholder:

1. Bihar Industries Association, Patna
2. Bihar Chamber of Commerce & Industries, Patna
3. M/s. Kalyanpur Cements Limited, Patna

Issue 9: Interest on loan

The interest is claimed on normative basis and on higher opening balance of GFA.

Petitioner's response:

The interest is claimed on normative debt in the True – up for FY 2016-17 as per BERC MYT regulations 2015. This is calculated on 70% of the asset addition during FY 2016-17 reduced by value of assets funded through grants and equity. Computation of interest on normative debt is aligned with the regulations.

Commission's view:

The BERC (Multi Year Distribution Tariff) Regulations 2015 specify that Debt Equity shall be considered in 70 : 30 based on the capital base/GFA provided the assets funded by consumer contribution, capital subsidies/grants shall not form part of the capital base. Accordingly, the capital base is considered based on net GFA (GFA less grants) for considering normative loan and accordingly interest on normative loan allowed.

Name of Objector/Stakeholder:

1 Bihar Industries Association, Patna
2 Bihar Chamber of Commerce & Industries, Patna
3 M/s. Kalyanpur Cements Limited, Patna
4 Bihar Steel Manufacturers Association

Issue 10: Other finance charges

Other finance charges include power factor rebate and interest to suppliers and contractors/LPSC to power supplier. Payment to suppliers and contractors is on account of inefficiency of the Discoms and no penal amount shall be included in the ARR and passed on to the consumers.

Petitioner's response:

The discount and power factor rebate allowed to consumers are to incentivize the consumers. The discount and power factor rebate are the expenditure of the Discoms and the same is as per the Tariff order. Also it is pertinent to mention regarding the interest to supplier and LPSC to power supplier that the Discoms are having cash crunch due to disallowance of the legitimate expenses such as Depreciation, Return on equity, interest on working capital etc. and inadequate Tariff hike due to which the expenses are not paid in a timely manner. Therefore, such expenses are claimed in the Tariff petition for FY 2018-19.

Commission's view:

The power factor rebate is allowed in the ARR in accordance with the Tariff Principles, Design and tariff schedule. LPSC is not considered as part of ARR as per terms of BERC (Multi Year Distribution Tariff) Regulations 2015.

Name of Objector/Stakeholder:

1 Bihar Industries Association, Patna
2 Bihar Chamber of Commerce & Industries, Patna
3 M/s Kalyanpur Cements Limited, Patna
4 Bihar Steel Manufacturers Association
5 Shri Pramod Kumar Sharma

Issue 11: Revenue from sale of power

The revenue from sale of power at existing tariffs is not computed properly by the Discoms. It appears that the Discoms have computed revenue on the basis of subsidized rate instead of the rate determined by the Commission.

Petitioner's response:

The Discoms had filed their Petitions for FY 2017-18 based on recovery of 100% costs from tariffs. The Commission had subsequently in its order dated 24.03.2017 published the tariffs applicable for FY 2017-18. Following this the Government of Bihar, decided to provide revenue subsidy for giving relief to consumers in their electricity tariffs, and notified the subsidy applicable for FY 2017-18 with the balance tariff payable by consumers of the State.

Similarly for this year as well, for FY 2018-19 the tariff has been filed assuming 'Zero subsidy'. The tariff payable by the consumer (excluding GoB subsidy) for FY 2017-18 has been considered for calculating the revenues from sale of power based on existing tariffs for FY 2018-19. The revenue gap at existing subsidized tariff for FY 2018-19 has been calculated to be Rs.2765.55 Crores for SBPDCL and Rs.2356.32 Crores for NBPDCL. Revenue at proposed tariff has been calculated to recover almost 100% of ARR for FY 2018-19.

However during the Technical Validation sessions conducted by the Commission, it was desired that revenues at existing approved tariff be calculated based on the Tariff schedule approved by the Commission for FY 2018-19 and accordingly submitted the required calculations on 18.01.2018.

Commission's view:

The Commission has noted the concerns of the stakeholders and the response of the Petitioner. The Commission has considered the category-wise revenue as per the Commission approved tariff rates applicable and appropriately dealt the issue in the tariff order.

Name of Objector/Stakeholder:

1 Bihar Industries Association, Patna

2 Bihar Chamber of Commerce & Industries, Patna

3 M/s Kalyanpur Cements Limited, Patna

Issue 12: Interest on working capital

The resource gap assistance provided by the State Government equivalent to two months should be deducted from the working capital requirement.

Petitioner's response:

The interest on working capital and other components of ARR are claimed as per BERC MYT regulations 2015.

Commission's view:

The Commission has computed the working capital requirement for FY 2016-17 after considering the resource gap grant from Govt. equivalent to two months and accordingly allowed interest on working capital. The issue has been aptly deliberated in the relevant paragraphs of true-up, APR and ARR of the order and as per BERC (Multi Year Distribution Tariff) Regulations 2015

Name of Objector/Stakeholder:

1 Bihar Industries Association, Patna

Issue 13: Other components of ARR

The Commission may examine other components of ARR and allow the same after prudence check of the data supported with documentary evidence. The cost of fulfillment of RPO obligation should not be passed on to the consumers. The assets of DF should not be considered for working out depreciation, RoE and interest on loan, etc.

Petitioner's response:

The other components of ARR are claimed as per BERC MYT regulations 2015. Further, the Discoms are obligated entity as per the BERC RPO Regulations has to comply with the provisions by purchasing required amount of renewable power from generators and by purchasing RECs for meeting shortfall. Thus the Commission is requested to consider the same.

Commission's view:

The Commission has noted the stakeholders views and the response of the Petitioner. The Commission has considered all the parameters of ARR after prudence check and in terms of BERC (Multi Year Distribution Tariff) Regulations 2015 and has aptly deliberated each component in the tariff order.

Name of Objector/Stakeholder:

1 Bihar Industries Association, Patna
2 Bihar Chamber of Commerce & Industries, Patna
3 M/s Kalyanpur Cements Limited, Patna
4 Bihar Steel Manufacturers Association

Issue 14: Increase in Tariff Rate of Industrial consumers:

Most of the industries in State of Bihar operate on single shift and very few industries run on two shifts due to lower demand of products in the market as well as paucity of raw materials and higher labour cost. Considering the demand charge and energy charge at 30% - 50% load factor, the average tariff is too high.

Petitioner's response:

The energy charges for HTSS category, it is worthwhile to mention that energy charges levied to this category were far less than other HT categories as per the tariff rates approved by the Commission in its previous Tariff order for FY 2017-18. Further, per unit average billing rate for HTSS category is Rs. 6.95 / kWh which is again the lowest among the HT category of consumers and is still a subsidized category. Therefore as a step towards reducing gap between ACoS and ABR, which is also one of the agreed terms under the UDAY MoU signed by the Discoms revised rates are proposed for this category of consumers.

Commission's view:

The Commission has noted the views the stakeholders and response of the Petitioner. The Commission has addressed the issue appropriately in chapter-9 "Tariff Principles, Design and Tariff Schedule."

Name of Objector/Stakeholder:

1 Bihar Industries Association, Patna
2 Bihar Steel Manufacturers Association

Issue 15: Tariff Principles and Design

Tariff in the State is being determined on the principles of cost of supply is recovered partially from demand charge and partially from energy charge. If demand charge is high, energy charge should be reduced. If both the charges are increased simultaneously, it will affect the industries.

Petitioner's response:

The proposed tariff schedule for FY 2018-19, the Discoms have taken a step towards tariff rationalization by aligning the revenue from fixed charges and energy charges with the fixed and variable cost components of the Discom, in line with the MoP's report on tariff rationalization. The total gross ARR for FY 2018-19 for the two Discoms has been estimated at Rs.17152 crores, with a split of 57% as fixed costs and 43% as variable costs. The fixed costs include the following components: 1) Fixed tariff component of PPAs payable to generators (irrespective of actual drawl), 2) Network establishment costs (cost for developing the new infrastructure for enhancing access including the cost to finance and depreciation), 3) Network R&M, 4) Operations and Maintenance activities, and 5) the RoE.

On one hand wherein the cost structure of the two Discoms is heavily tilted towards fixed charges, the recovery of revenue through the existing tariff schedule approved by the Commission is tilted more towards energy tariffs (for FY 2018-19 at existing tariffs, the revenue from fixed charges is only 17% and the balance 83% is from energy charges). Due to this skewed nature of tariff recovery, the Discoms have limited revenue assurance and therefore face uncertainty. Further for some categories, the ratio of fixed and variable tariff is far low and only for those categories, the increase in fixed cost has been proposed. It is also to be noted that to avoid sudden surge in terms of increase in fixed cost the Discoms have proposed a ratio of 27:73 for fixed: variable revenue recovery, in place of the 57:43 proportion. Finally it is to be noted that this entire arrangement has been done keeping in mind that the average rate of billing from each consumer category is not impacted, thereby offsetting any increase in fixed charges with a corresponding reduction in variable charges. This is a progressive step and would benefit the consumers in the long run.

Commission's view:

The Commission has noted the views the stakeholders and response of the Petitioner. The Commission has addressed the issue appropriately in chapter-9 "Tariff Principles, Design and Tariff Schedule."

Name of the objector:

1. Bihar Chamber of Commerce & Industries, Patna
2. Bihar Steel Manufacturers Association

Issue 16: Revenue Gap for FY 2016-17

The revenue gap claimed in true up for FY 2016-17 is quite high and may not be allowed.

Petitioner's response:

The True-up for FY 2016-17 is based on the annual audited financial statements. The main logic behind filing of True up petition is only that the actual figures vary when compared to the Tariff components approved by the Commission. Therefore for assessing the performance of the petitioner that figures should be compared with actual figures rather than projected figures. Similarly, while calculating various component of the ARR for FY 2016-17 like depreciation, GFA, RoE, Interest on Loan etc. it has relied on the annual accounts which has been duly audited by an auditor.

Thus, the Commission is requested to consider the same.

Commission's view:

The tariff order dated 21.03.2016 for FY 2016-17 is based on the estimates/projections and are subject to vary as per actual reported through audited accounts for FY 2016-17. The BERC (Multi Year Distribution Tariff) Regulation 2015 provides for truing up of revenue and expenses based on the actual revenue and expenses reported through audited accounts of the relevant year. The Commission use to consider all the parameters of ARR in terms of regulations and on prudence check.

Name of Objector/Stakeholder:

1 Bihar Chamber of Commerce & Industries, Patna

Issue 17: Discom to Discom purchase

The Commission had approved Discom to Discom sale of power in review for FY 2016-17 in Tariff order dated 24.03.2017 and the same is not considered by Discoms.

Petitioner's response:

The Petitioner would like to submit that it has not incurred any expense towards purchase of any quantum of power from NBPDCL. Therefore no expense has been claimed in this regard. The stakeholder has misinterpreted this expense of Rs. 118.88 Crore as approved by the Commission in its Tariff Order for FY 2017-18 as revenue from sale of power to NBPDCL.

Commission's view:

The Commission considers total availability of power from all sources to the Discoms. The total available power is allocated to Discoms on a percentage basis which results in more availability of power in one Discom while less in another Discom in the ARR. As such the Commission balances the power and consequently the ARR through Discom to Discom purchase of power. However, truing up is done based on the actual purchase of power by the Discoms.

Name of Objector/Stakeholder:

1 Bihar Chamber of Commerce & Industries, Patna

2 M/s Kalyanpur Cements Limited, Patna

Issue 18: Deposits for RPO obligation

The Petitioners have claimed higher amount towards RPO obligation than the approved, but no details of actual payment made are given in the petition.

Petitioner's response:

The Discom, being an obligated entity as per the BERC RPO Regulations, has to comply with the provisions by purchasing required amount of renewable power from generators and by purchasing RECs for meeting shortfall. Thus the Commission is requested to consider the same.

Commission's view:

The Commission has noted the stakeholders' comments and the response of the petitioner. The Discoms, in accordance with the BERC RPO Regulations are under obligation to purchase power from renewable energy sources. The Commission based on the prudence check considers the RPO obligation and the shortfall to be fulfilled by the Discoms in truing up and accordingly allows the RPO obligation. The Commission has deliberated the issue under relevant paragraph in the tariff order.

Name of Objector/Stakeholder:

1 Bihar Chamber of Commerce & Industries, Patna

2 M/s Kalyanpur Cements Limited, Patna

3 Bihar Steel Manufacturers Association

Issue 19: Truing up and Review

The BERC MYT Regulations 2015 says that only adjustments towards revenue/expenses would be considered in the true up exercise for incorporation in the ARR of ensuing year. The adjustments/changes are allowable only when the variation i.e. between estimated, pre-actuals and audited figures are adequate and there are justifiable reasons. The Commission is required to allow only such expenditure which may be found to be prudent and necessary keeping into consideration the interests of both the consumers and the licensee. The Commission shall allow only such expenditure which is found to be prudent and necessary.

Petitioner's response:

The True-up is based on the annual audited financial statements. The main logic behind filing of True up petition is only that the actual figures vary when compared to the Tariff components approved by the Commission. Therefore for assessing the performance of the petitioner that figures should be compared with actual figures rather than projected figures. Similarly, while calculating various component of the ARR like depreciation, GFA, RoE, Interest on Loan etc. it has relied on the annual accounts which has been duly audited by an auditor. Thus, the Commission is requested to consider the same.

Commission's view:

The Tariff orders issued year on year by the Commission is based on the estimates and projections made by the Petitioners. The Regulation 14 of the BERC (Multi Year Distribution Tariff) Regulations 2015 provides the procedure for truing up of revenue and expenses based on the actual revenue and expenses reported through audited annual accounts and upon prudence check. Accordingly, the Commission has considered truing up of revenue and expenses of the Discoms. The Commission has elaborately deliberated each component of the ARR in the tariff order.

Name of Objector/Stakeholder:

1. Bihar Chamber of Commerce & Industries, Patna
2. M/s Kalyanpur Cements Limited, Patna

Issue 20: Employees cost

The employee cost claimed has increased by 22% over previous year and cannot be accepted as it has been exaggerated without any logical submissions.

Petitioner's response:

The employee expenses for FY 2017-18 have been projected considering audited accounts of FY 2016-17 as base year employee expenses. The projections of employee expenses are based on new recruitment plan and also the impact of 7th Pay Commission been considered. Detailed explanation and rationale behind the increase in the employee cost has been provided in the Tariff Petition.

Commission's view:

The Commission has noted the views of the stakeholder and the response of the Petitioner. The Commission has considered employee cost prudently and deliberated aptly under relevant paragraph of the tariff order.

Name of Objector/Stakeholder:

1 Bihar Chamber of Commerce & Industries, Patna
2 M/s Kalyanpur Cements Limited, Patna
3 Bihar Industries Association
4 Bihar Steel Manufacturers Association
5 Shri Pramod Kumar Sharma
6 Shri Ashok Jivrajka

Issue 21: Cost of power purchase

The power purchase in quantum has increase over previous year however; no corresponding increase in revenue from sale of power.

Petitioner's response:

The Discoms have already signed long term PPA's with certain power generators to meet maximum of the power purchase requirement while rest of the power is being procured from other sources like short term power purchase, bilateral trading, energy exchange etc. The units sold and revenue from sale of power is continuously increasing over the years but the average billing rate is comparatively lower due to more sales in the LT category and lower tariff rates in these LT categories and less sales in HT category. Apart from low HT: LT ratio, various schemes have been introduced by the Government like Har Ghar Bijli to electrify rural households which has/is subsidized tariff.

Commission's view:

The Commission has noted the views of the stakeholder and response of the Petitioner. The Commission considers the power purchase quantum, sales and revenue thereon based on prudence check as deliberated in detail in the tariff order under relevant paragraphs.

Name of Objector/Stakeholder:

1 Bihar Chamber of Commerce & Industries, Patna

2 M/s Kalyanpur Cements Limited, Patna

Issue 22: Administration & General (A&G) Expenses

The A&G expenses have been claimed on ad-hoc basis may be retained at the level approved in TO dated 24.03.2017 (RE).

Petitioner's response:

In absence of any specified norms the A&G expenses are estimated for FY 2017-18 and FY 2018-19 with a % of increase year on year over the base A&G expenses reported through audited accounts of FY 2016-17.

Commission's view:

The Commission has noted the views of the stakeholder and response of the Petitioner. The Commission has considered the A&G expenses based on prudence check as deliberated in detail under relevant paragraphs in the tariff order.

Name of Objector/Stakeholder:

1 Bihar Steel Manufacturers Association

2 Bihar Chamber of Commerce & Industries

3 M/s Kalyanpur Cements Limited

Issue 23: Resource gap grant for FY 2017-18

As per the additional information submitted by Discom, the Discom has received more grant from GoB than shown in the petition. The Discom has received grant under the head OFR for extra T&D loss. The Commission may examined the grants minutely and apply prudent check and disallow any amount which is due to incompetence of the Discom.

Petitioner's response:

The Discoms have received a total of Rs. 2320.34 Crore in FY 2016-17 under the head of "State Govt. support towards supply to BPL and Rural consumers" and "Subsidy as Operational Funding Requirement (OFR) by State Govt." which is reflected under "Revenue Subsidies and Grant" in the audited accounts for FY 2016-17 and same has been reflected in the Petition. Further, the amount of Rs. 1369.89 Crore was received in two installments through BSPHCL was credited to "Grant for Financial Restructuring Plan under UDAY".

Commission's view:

The Commission has noted the view of the Stakeholder and the response of the Petitioner. The Commission has considered the tariff subsidy extended to the consumer by the GoB as tariff income and the OFR subsidy towards higher distribution loss. The grant received under UDAY is for discharging outstanding dues to the power suppliers and part of it is utilised for repayment of project loans. The Commission has explicitly and aptly deliberated the issue under relevant paragraph in the tariff order.

Name of Objector/Stakeholder:

1 Bihar Steel Manufacturers Association

Issue 24: Terms and Conditions of tariff / Supply code

No terms and conditions should be mentioned in tariff order and all such necessary terms and conditions should be mentioned only in Electricity Supply code.

Petitioner's response:

The BERC Electricity Supply Code, 2007 majorly deals with the technical aspect of supply of electricity like procedure of release of new connection, modification of existing connection, disconnection, meter installation, bill collection etc. The Tariff

Order approved under the MYT Regulations, 2015 captures the financial aspect of the distribution business of the Discoms. Further terms and conditions of tariff are modified and amended every year as per requirement and notified by the Commission in its Tariff Order. Any changes in the terms and conditions of the rate schedule shall require subsequent changes in the Supply code. Therefore, the Petitioner requests no change to the existing provision.

Commission's view:

The Commission has noted the view of the Stakeholder and the response of the Petitioner and the same shall be appropriately dealt with in terms of regulations.

Name of Objector/Stakeholder:

1 Bihar Steel Manufacturers Association

Issue 25: Distribution Franchisee – Revenue

T&D losses in DF area very high and the licensees has also accepted the inefficiency of DFs. We request BERC to calculate all parameters related to DF on normative basis and consider the ABR for estimating revenue. Any inefficiency on part of DFs should not be allowed.

Petitioner's response:

The DFs were appointed with an aim of improving operational and collection efficiency in their respective areas. An agreement was made with DFs as per norms of Ministry of Power, GOI, and DFs shall act according to the agreement. The DFs are input based franchisees and they have the responsibility of maintaining infrastructure reducing distribution losses, quality of supply and solve consumer grievances. The Discoms sell power to DF on input energy base at 33 kV level.

The Petitioner noticed the inefficiency of the DFs in regulating the AT&C loss and other operational parameters and accordingly has terminated the Distribution Franchisee Agreement with M/s. BEDCPL for distribution of electricity in the

Bhagalpur area. Further, with regard to Gaya Distribution Franchisee, the Petitioner is continuously monitoring the operations for improving the losses and increasing billing and collection efficiency.

Commission's view:

The views of the stakeholder and response of the petitioner are noted. The Commission considers all parameters relating to DFs in terms of DF agreements and tariff regulations.

Name of Objector/Stakeholder:

1 M/s Kalyanpur Cements Limited, Patna

Issue 26: Non tariff income

The non tariff income is projected with a normal growth of 10% by the Discoms. The income due to release of new connections shall be considered.

Petitioner's response:

The Non-Tariff income is projected taking the amount estimated in RE for FY 2017-18 and then escalating the same by 10% in line with the approach adopted by the Commission in its previous Tariff Orders.

Commission's view:

The views of the stakeholder and response of the petitioners is noted. The Commission has considered the non tariff income including the income from new connections. The issue has aptly dealt in the relevant paragraph of the tariff order.

Name of Objector/Stakeholder:

1 Shri Santosh Kumar

2 Shri Pramod Kumar Sharma

Issue 27: Interest on security deposit

As per company's manual interest on security deposit is payable to the consumers but the companies are neither paying interest nor adjusting the interest against the electricity consumption charges.

Petitioner's response:

The petitioner shall comply with the objection.

Commission's view:

The views of the stakeholders and response of the petitioner are noted. The Commission has issued directive to the Discoms to pass through the interest on Security Deposit.

Name of Objector/Stakeholder:

1 Shri Raj Kumar Thakur

2 Shri Raj Deo Tiwari

3 Shri Ram Sharan singh

4 Shri Ashok Jivrajka

5 Shri Amar Prasad

6 Shri Pramod Kumar Sharma

Issue 28: No upward revision in Tariff

Tariff should not be increased.

Petitioner's response:

The proposed tariff hike is to meet the Aggregate Revenue Requirement of the utilities. In the past, the Govt. of Bihar used to declare the subsidy to be provided to the eligible categories of consumers. However, for FY 2018-19 no intimation regarding quantum of subsidy to be released by State Government has been received by the Petitioner till date.

The projection of units sold and revenue from sale of such units is determined on the basis of CAGR and various schemes operating presently and proposed schemes. The ongoing schemes of 24x7 power and Har Ghar Bijli yojna mainly concentrates on the rural electrification in the State of Bihar. The growth of industries in the State of Bihar is very less due to which there is no substantial growth in the revenues of HT categories.

The Discoms are in process of continuous addition to its consumer base which also demands increase in connected load and network expansion. Also, the Discoms are driving its projects for 24x7 power supply for all households which again involve heavy capital investment, manpower requirement and advance technology for proper monitoring and system maintenance. These costs have also contributed for requirement for increase in revenue.

The units sold and revenue from sale of power is continuously increasing over the years but the average billing rate is comparatively lower due to more sales in the LT category and lower Tariff rates in these categories. Therefore the Discoms have proposed to increase the Tariff.

The existing tariff schedule is restructured as a step towards Tariff Rationalization to make the tariff structure more cost reflective. Taking all the above facts into consideration the Commission is requested to allow the proposed hike to help the Discoms from facing a severe financial crisis.

Commission's view:

The views of the stakeholders and response of the petitioner are noted. The Commission shall determine the tariff based on prudence check and keeping in view the applicable regulations.

Name of Objector/Stakeholder:

1 Shri Raghunath Adig

Issue 29: Energy Reading

The energy consumption is billed based on KVA instead of kW which is against section 86(a) of the Electricity Act 2003.

Petitioner's response:

The Discoms have proposed tariff rates and applicability for various categories of consumers after much deliberation and after performing a detailed study on the load profile, consumer mix, sales mix for the State of Bihar along with applicable Regulations, socio-economic condition and principle of natural justice and on scientific basis with a track of simplification and rationalization of tariff structure in mind.

Commission's view:

The Commission has considered billing at KVA basis in view of system improvement as on introduction of Demand Side Management. It incentivises those consumers who operate at high power factor, while penalize those who operate at low power factor.

Name of Objector/Stakeholder:

1 Shri Ashok Jivrajka

Issue 30: Constitution of District advisory committee

The Section 166 (5) of the Electricity Act 2003, District Advisory Committee (DAC) shall be formed. However, no such committee has been formed till date.

Petitioner's response:

No response received from the petitioner.

Commission's view:

The Commission has noted the stakeholders concern, the Commission endeavours to address the issue.

Name of Objector/Stakeholder:

1 Shri Rajiv Ranjan Kumar, Bihar State Rice Mill Association

Issue 31: Demand charges for Rice Mills

The Rice mills are availing electricity connection at 33 kV level with contracted demand of 1000 KVA eventhough they actually require 600 KVA only. The Industrial Policy of Bihar 2016 has withdrawn the AMG/MMG/MDC which was available to the Rice Mills under Industrial Policy of Bihar 2011. As a result the Rice Mills have to pay full demand charges on contracted demand. Hence the demand charges for Rice Mills may be levied on actual demand.

Petitioner's response:

The Petitioner has proposed tariff rates and applicability for various categories of consumers after much deliberation and after performing a detailed study on the load profile, consumer mix, sales mix for the State of Bihar along with applicable Regulations, socio-economic condition and principle of natural justice.

Commission's view:

The views of the stakeholders and response of the petitioner are noted. The issue is discussed in the meeting held with the officials of the concerned departments of Government of Bihar. The minutes of meeting is appended as Annexure III.

The Commission endeavours to bring the suitable amendment to Bihar Supply Code to address the issue in consultation with the Discoms and other authorities.

Name of Objector/Stakeholder:

1 Shri Vijay Kumar, Nalanda Cold Storage Owners Association

Issue 32: Cold Storage

The cold storage, at present, is being billed under industrial category. Due to high tariff, the farmers have to pay higher charges for storing their produce in the cold storage leading to heavy burden to the farmers. It is requested the cold storage units may be billed based on agriculture tariff.

Petitioner's response:

The Petitioner has proposed tariff rates and applicability for various categories of consumers after much deliberation and after performing a detailed study on the load profile, consumer mix, sales mix for the State of Bihar along with applicable Regulations, socio-economic condition and principle of natural justice.

Commission's view:

The views of the stakeholders and response of the petitioner are noted. The Commission with an endeavour to address the issue, held a meeting with the officials of the concerned departments of the Government of Bihar. The minutes of the meeting is appended as Annexure III.

4. Truing-up for FY 2016-17

4.1. Background

The Commission had issued the Tariff Order dated 21st March, 2016 approving Multi Year Aggregate Revenue Requirement (ARR) for the control period of FY 2016-17 to FY 2018-19 for North Bihar Power Distribution Company Limited (NBPDCL) and also reviewed the Annual Performance for FY 2016-17 in the Tariff Order dated 24.03.2017.

NBPDCL has now submitted the present tariff petition on 5th December, 2017 for truing up for FY 2016-17, Annual Performance Review (APR) for FY 2017-18 and determination of Aggregate Revenue Requirement (ARR) for FY 2018-19.

NBPDCL has requested to determine the ARR and Revenue for FY 2016-17 in true-up, based on the audited annual accounts of FY 2016-17 and accordingly, to consider the revenue gap/surplus for FY 2016-17.

The Regulation 8 (1) of BERC (Multi Year Distribution Tariff) Regulations, 2015 specifies that "*where the aggregate revenue requirement and expected revenue from tariff and charges of a Distribution licensee are covered under a Multi Year Tariff frame work, such Distribution licensee shall be subject to an annual review of performance and True-up during the control period in accordance with these regulations*".

The Regulation 14 of the BERC (Multi Year Distribution Tariff) Regulations, 2015 specifies:

"14. True-Up Order

The Commission shall True-Up expenses of the previous year either as part of the Tariff order or issue Order/s for True-Up of expenses preceding the Tariff order of ensuing year.

(a) An order for True-Up of expenses shall be issued on annual basis.
(b) An order for True-Up of expenses shall be on the basis of expense estimates made in the beginning of the year under consideration, actual expenses booked

in the audited books of accounts of the Distribution Licensee for the year, and after prudence check of data by the Commission.

(c) Where audited books of account are not available at the time of true-up provisional books of accounts duly approved by the Board of Directors of the applicant company shall be used for the provisional True-up process.

(d) Estimates of expenses for the ensuing year shall be on the basis of corresponding figures in the order for True-up of expenses of the previous year and Annual Performance Review or Tariff Order of the current year, as the Commission may consider reasonable and deem fit.

(e) Notwithstanding anything contained in regulation 4 of these Regulations, the Revenue gap/surplus arising out of Truing up shall be considered by the Commission while determining the ARR of ensuing year(s).While approving adjustments towards revenue/expenses in future years, arising out of Truing up exercises, the Commission may allow the carrying costs as determined by the Commission of such expenses/revenues. However the revised estimated gap/surplus as a result of APR shall not be passed in the ARR of ensuing year".

Accordingly, the "Truing-up" for FY 2016-17 has been undertaken by the Commission on the basis of audited annual accounts for FY 2016-17 and BERC (Multi Year Distribution Tariff) Regulations 2015. However, wherever deemed necessary, the Commission has considered expenses based on prudence check.

4.2 Truing-up of ARR for FY 2016-17

NBPDCL, in its petition for truing-up for FY 2016-17, has furnished the actual energy sales, revenue, expenditure for FY 2016-17 based on the audited annual accounts for FY 2016-17. Accordingly, the revised ARR and Revenue and consequent revenue gap for FY 2016-17 have been claimed. The Commission has analyzed the components of actual energy sales, revenue, expenses and gap projected by Petitioner under truing up for FY 2016-17 in the subsequent paragraphs.

4.3 Number of Consumers, Connected Load and Energy Sales

4.3.1 Number of Consumers

Petitioner's submission

Subsequent to the filing of the petition, NBPDCL submitted the sub category-wise actual number of consumers vide letter no 42 dated 12.01.2018 for FY 2016-17 as given in the Table below:

Table 4.1: Number of Consumers projected for FY 2016-17

S. No.	Category	Approved for FY 2016-17 in T.O. dated 21.03.2016	Approved in Review for FY 2016-17 in T.O. dated 24.03.2017	Actuals projected for FY 2016-17
1	KJY (Unmetered)	1,873,212	2,236,678	73475
2	KJY (Metered) Rural			1474837
3	KJY (Metered) Urban			967970
4	DS I (Unmetered)	4,499,309	2,096,133	479317
5	DS I (Metered)			1488181
6	DSII	1,088,549	1,104,248	1,176,543
7	DS III	43	83	85
8	NDS I (Unmetered)	52,986	64,973	13775
9	NDS I (Metered)			66335
10	NDS II Commercial	142,045	175,998	214,557
11	NDS III Commercial	178	403	80
12	NDS IV		2	
13	SS I	289	154	142
14	SS II	39	150	113
15	IAS I (Unmetered)	2,793	4,504	4323
16	IAS I (Metered)			4824
17	IAS II (Unmetered)	4,306	4,167	2743
18	IAS II (Metered)			2268
19	PWW	652	679	208
20	LTIS I	7,665	12,078	11,593
21	LTIS II	520	1,128	653
22	HTS I	507	706	643
23	HTS II	26	28	25
24	HTS III	2	3	2
25	HTSS	3	3	5
26	RT	4	4	7
27	Sale to Nepal	0	0	1
28	UI	0	0	1
29	DF	0	0	313,499
30	**Total**	**7,673,128**	**5,702,122**	**6,296,205**

Table 4.2: Category wise number of consumers in Muzaffarpur DF area

Category	Consumers
KJY	**135892**
Rural (Unmetered)	5765
Rural (Metered)	100434
Urban (Metered)	29693
DS-I	**52942**

Category	Consumers
Unmetered	9486
Metered	43456
DS-II	**93918**
DS-III	**13**
NDS-I	**5161**
Unmetered	459
Metered	4702
NDS-II	**22517**
NDS-III	**41**
SS-I	**6**
SS-II	**389**
IAS-I	**345**
Rural (Unmetered)	9
Rural (Metered)	309
Urban (Unmetered)	4
Urban (Metered)	23
IAS-II	**154**
Rural (Unmetered)	127
Rural (Metered)	7
Urban (Unmetered)	17
Urban (Metered)	3
PWW	**58**
LTIS-I	**1752**
LTIS-II	**157**
HTS-I	**147**
HTS-II	**5**
HTSS	**2**
Total	**313499**

NBPDCL has submitted that the consumers residing in Muzaffarpur DF area also come under the Licensee area of the Petitioner, and therefore they should be treated as consumers of the Petitioner and not as a single consumer just because of the fact that the Petitioner has delegated certain activities to the DF and is receiving payment based on the energy input on certain agreed terms. Therefore, treating consumers of various categories in DF area as a single consumer is an error apparent on the record and demands reconsideration of the entire issue. Further, this assumption also has a bearing on the connected load and energy sales. The Petitioner has requested to approve the number of consumers as per actuals i.e. 62.96 lakh for FY 2016-17 which also includes 3.13 lakh consumers of the DF area.

Commission's analysis

The Commission in view of the fact that NBPDCL has engaged Distribution Franchisee at Muzaffarpur on input based had considered DF as a single entity in the Tariff Order for FY 2016-17 dated 21.03.2016. Accordingly, in truing up for FY 2016-17, consumers of DF area are not included in the NBPDCL area following the consistent approach. However, from tariff order for FY 2017-18 onwards, the Commission has been considering the number of consumers, sales and connected load of DF area as part of NBPDCL in view of the common T&D losses and tariff applicability for both areas.

The Commission accordingly, approves the number of consumers for NBPDCL considering DF as a single entity for FY 2016-17 as detailed in the Table below:

Table 4.3: Number of consumers approved in truing up for FY 2016-17

S. No.	Category	Approved for FY 2016-17 in T.O. dated 21.03.2016	Approved in Review for FY 2016-17 in T.O. dated 24.03.2017	Actuals projected for FY 2016-17	Approved in truing up for FY 2016-17
1	KJY (Unmetered)	1,873,212	2,236,678	73475	73475
2	KJY (Metered) Rural			1474837	1474837
3	KJY (Metered) Urban			967970	967970
4	DS I (Unmetered)	4,499,309	2,096,133	479317	479317
5	DS I (Metered)			1488181	1488181
6	DSII	1,088,549	1,104,248	1,176,543	1,176,543
7	DS III	43	83	85	85
8	NDS I (Unmetered)	52,986	64,973	13775	13775
9	NDS I (Metered)			66335	66335
10	NDS II Commercial	142,045	175,998	214,557	214,557
11	NDS III Commercial	178	403	80	80
12	NDS IV		2		
13	SS I	289	154	142	142
14	SS II	39	150	113	113
15	IAS I (Unmetered)	2,793	4,504	4323	4323
16	IAS I (Metered)			4824	4824
17	IAS II (Unmetered)	4,306	4,167	2743	2743
18	IAS II (Metered)			2268	2268
19	PWW	652	679	208	208
20	LTIS I	7,665	12,078	11,593	11,593
21	LTIS II	520	1,128	653	653

S. No.	Category	Approved for FY 2016-17 in T.O. dated 21.03.2016	Approved in Review for FY 2016-17 in T.O. dated 24.03.2017	Actuals projected for FY 2016-17	Approved in truing up for FY 2016-17
22	HTS I	507	706	643	643
23	HTS II	26	28	25	25
24	HTS III	2	3	2	2
25	HTSS	3	3	5	5
26	RT	4	4	7	7
27	DF	0	0	313,499	-
28	**Total**	**7,673,128**	**5,702,122**	**6,296,205**	**5982704**

4.3.2 Connected Load

Petitioner's submission

Subsequent to the filing of the petition, NBPDCL submitted the sub category-wise actual connected load vide letter no 42 dated 12.01.2018 for FY 2016-17 as given in the Table below:

Table 4.4: Connected Load (kW) projected for FY 2016-17

Sl. No.	Category	Approved for FY 2016-17 in T.O. dated 21.03.2016	Approved in Review for FY 2016-17 in T.O. dated 24.03.2017	Actuals projected for FY 2016-17
1	KJY (Unmetered)	187,321.20	263,928.00	13621
2	KJY (Metered) Rural			232783
3	KJY (Metered) Urban			107187
4	DS I (Unmetered)	5,023,909.81	2,168,879.86	481553
5	DS I (Metered)			1494324
6	DSII	2,040,007.39	1,214,672.80	1,378,615.05
7	DS III	380.51	809.98	87.00
8	NDS I (Unmetered)	48,122.34	67,499.22	14466
9	NDS I (Metered)			70656
10	NDS II Commercial	407,223.59	413,882.18	546,352.49
11	NDS III Commercial	789.12	714.45	254.00
12	NDS IV	0.00	1.04	0.00
13	SS I	4,610.59	4,444.18	965.00
14	SS II	1,666.02	2,153.11	2,337.14
15	IAS I (Unmetered)	8,959.57	16,657.50	16017
16	IAS I (Metered)			13609
17	IAS II (Unmetered)	69,764.19	51,505.82	33094
18	IAS II (Metered)			20318
19	PWW	9,084.47	12,975.00	4,666.00

Sl. No.	Category	Approved for FY 2016-17 in T.O. dated 21.03.2016	Approved in Review for FY 2016-17 in T.O. dated 24.03.2017	Actuals projected for FY 2016-17
20	LTIS I	55,443.23	94,624.07	22,879.85
21	LTIS II	20,981.57	45,234.33	33,396.92
22	HTS I	129,388.13	141,386.57	137,246.50
23	HTS II	53,555.51	44,623.86	41,636.00
24	HTS III	31,840.18	43,051.50	34,170.00
25	HTSS	19,008.48	9,665.70	10,737.00
26	RT	7,359.22	43,200.00	54,900.00
27	Sale to Nepal	0.00	0.00	0.00
28	UI	0.00	0.00	0.00
29	DF	0.00	0.00	455,156.98
30	**Total**	**8,119,415.14**	**4,639,909.18**	**5,221,029.49**

Table 4.5: category wise connected load projected for Muzaffarpur DF area

Category	Connected Load (kW)
KJY	**134626**
Rural (Unmetered)	5767
Rural (Metered)	100186
Urban (Metered)	28673
DS-I	**53449**
Unmetered	9533
Metered	43916
DS-II	139136
DS-III	49
NDS-I	**5632**
Unmetered	483
Metered	5149
NDS-II	53932
NDS-III	214
SS-I	58
SS-II	1107
IAS-I	**648**
Rural (Unmetered)	25
Rural (Metered)	515
Urban (Unmetered)	8
Urban (Metered)	99
IAS-II	**1713**
Rural (Unmetered)	1448
Rural (Metered)	66
Urban (Unmetered)	188
Urban (Metered)	11
PWW	**687**

Category	Connected Load (kW)
LTIS-I	**12654**
LTIS-II	**6176**
HTS-I	**32550**
HTS-II	**5226**
HTSS	**7300**
Total	**455157**

NBPDCL has submitted that it has engaged an Input based Franchisee in the Gaya and Bhagalpur area for accessing greater consumer base with prompt meter reading, billing and collection. It would not be justifiable to ignore the connected load of the consumers residing in the area of operation of the Distribution Franchisee. Hence, requested to approve the actual connected load of 455157 kW for the consumers of DF area.

Commission's analysis

The Commission in view of the fact that NBPDCL has engaged Distribution Franchisee at Muzaffarpur on input based, had considered DF as a single entity in the Tariff Order for FY 2016-17 dated 21.03.2016. Accordingly, in truing up for FY 2016-17, connected load of DF area is not included in the NBPDCL area following the consistent approach.

The Commission, accordingly approves, the total connected load for NBPDCL considering DF as a single entity for FY 2016-17 as detailed in the Table below:

Table 4.6: Connected Load (kW) approved in truing up for FY 2016-17

Sl. No.	Category	Approved for FY 2016-17 in T.O. dated 21.03.2016	Approved in Review for FY 2016-17 in T.O. dated 24.03.2017	Actuals projected for FY 2016-17	Approved in truing up for FY 2016-17
1	KJY (Unmetered)	187,321.20	263,928.00	13621	13621
2	KJY (Metered) Rural			232783	232783
3	KJY (Metered) Urban			107187	107187
4	DS I (Unmetered)	5,023,909.81	2,168,879.86	481553	481553
5	DS I (Metered)			1494324	1494324
6	DSII	2,040,007.39	1,214,672.80	1,378,615.05	1,378,615.05

Sl. No.	Category	Approved for FY 2016-17 in T.O. dated 21.03.2016	Approved in Review for FY 2016-17 in T.O. dated 24.03.2017	Actuals projected for FY 2016-17	Approved in truing up for FY 2016-17
7	DS III	380.51	809.98	87.00	87.00
8	NDS I (Unmetered)	48,122.34	67,499.22	14466	14466
9	NDS I (Metered)			70656	70656
10	NDS II Commercial	407,223.59	413,882.18	546,352.49	546,352.49
11	NDS III Commercial	789.12	714.45	254.00	254.00
12	NDS IV	0.00	1.04	0.00	0.00
13	SS I	4,610.59	4,444.18	965.00	965.00
14	SS II	1,666.02	2,153.11	2,337.14	2,337.14
15	IAS I (Unmetered)	8,959.57	16,657.50	16017	16017
16	IAS I (Metered)			13609	13609
17	IAS II (Unmetered)	69,764.19	51,505.82	33094	33094
18	IAS II (Metered)			20318	20318
19	PWW	9,084.47	12,975.00	4,666.00	4,666.00
20	LTIS I	55,443.23	94,624.07	22,879.85	22,879.85
21	LTIS II	20,981.57	45,234.33	33,396.92	33,396.92
22	HTS I	129,388.13	141,386.57	137,246.50	137,246.50
23	HTS II	53,555.51	44,623.86	41,636.00	41,636.00
24	HTS III	31,840.18	43,051.50	34,170.00	34,170.00
25	HTSS	19,008.48	9,665.70	10,737.00	10,737.00
26	RT	7,359.22	43,200.00	54,900.00	54,900.00
27	DF	0.00	0.00	455,156.98	-
28	**Total**	**8,119,415.14**	**4,639,909.18**	**5,221,029.49**	**4765872.51**

4.3.3 Energy Sales

Petitioner's submission

Subsequent to the filing of the petition, NBPDCL submitted the sub category-wise actual energy sales vide letter no 42 dated 12.01.2018 for FY 2016-17 as given in the Table below:

Table 4.7: Energy Sales projected for FY 2016-17 (MU)

S. No.	Category	Approved for FY 2016-17 in T.O. dated 21.03.2016	Approved in Review for FY 2016-17 in T.O. dated 24.03.2017	Actuals projected for FY 2016-17
1	KJY (Unmetered)	674.36	816.39	18.49
2	KJY (Metered) Rural			586.9
3	KJY (Metered) Urban			243.3
4	DS I (Unmetered)	3,120.27	1,443.55	374.41
5	DS I (Metered)			1147.88

S. No.	Category	Approved for FY 2016-17 in T.O. dated 21.03.2016	Approved in Review for FY 2016-17 in T.O. dated 24.03.2017	Actuals projected for FY 2016-17
6	DSII	2,383.92	1,595.82	1,195.71
7	DS III	0.84	0.73	0.35
8	NDS I (Unmetered)	39.12	46.28	8.61
9	NDS I (Metered)			59.09
10	NDS II Commercial	544.01	514.11	633.64
11	NDS III Commercial	1.18	1.01	4.88
12	NDS IV		0.0006	
13	SS I	9.35	11.99	6.24
14	SS II	6.08	11.43	9.03
15	IAS I (Unmetered)	12.44	24.74	2.35
16	IAS I (Metered)			5.05
17	IAS II (Unmetered)	233.82	191.13	63.93
18	IAS II (Metered)			88.87
19	PWW	39.79	26.43	30.16
20	LTIS I	109.91	102.78	145.40
21	LTIS II	60.58	57.88	17.95
22	HTS I	283.36	297.01	269.41
23	HTS II	111	99.53	93.24
24	HTS III	69.73	101.33	65.95
25	HTSS	58.28	16.27	45.59
26	RT	25.69	27.08	62.67
27	Sale to Nepal	1,418.77	1,476.04	1,188.89
28	UI			77.35
29	DF	812.01	766.46	749.87
30	**Total**	**10,014.51**	**7,627.99**	**7,195.20**

Table 4.8 : Category wise energy sales projected for Muzaffarpur DF area

Category	Energy Sales (MU)
KJY	**87.78**
Rural (Unmetered)	2.10
Rural (Metered)	64.99
Urban (Metered)	20.69
DS-I	**58.50**
Unmetered	9.31
Metered	49.18
DS-II	200.23
DS-III	0.05
NDS-I	**5.44**
Unmetered	0.45
Metered	4.99
NDS-II	67.80

Category	Energy Sales (MU)
NDS-III	0.21
SS-I	0.18
SS-II	8.21
IAS-I	**1.17**
Rural (Unmetered)	0.03
Rural (Metered)	0.69
Urban (Unmetered)	0.01
Urban (Metered)	0.43
IAS-II	**14.27**
Rural (Unmetered)	12.05
Rural (Metered)	0.50
Urban (Unmetered)	1.67
Urban (Metered)	0.05
PWW	3.43
LTIS-I	18.43
LTIS-II	13.89
HTS-I	67.72
HTS-II	11.80
HTSS	33.12
Total	**592.22**

NBPDCL has submitted that 592.22 MUs of energy is sold by the DFs to the consumers in its operational area and 749.87 MUs of energy is sold by the Petitioner to Distribution Franchisee (DF).

NBPDCL has further submitted that in line with the instructions of the Commission in Tariff Order for FY 2017-18 it has considered the UI sales as an adjustment in the total power purchase for FY 2016-17.

NBPDCL has requested to approve energy sales as per actuals at 7117.85 MU excluding UI sales for FY 2016-17.

Commission's analysis

The Commission, in view of the fact that NBPDCL has engaged Distribution franchisee at Muzaffarpur input based had considered DF as a single entity in the Tariff Order for FY 2016-17 dated 21st March 2016 and accordingly had considered input energy of the DF in the total sales of NBPDCL. Accordingly the Commission had approved energy sales at 10014.51 MU for FY 2016-17. The Petitioner has now submitted that the actual energy sale during FY 2016-17 is 7117.85 MU which is in line with the audited annual accounts for FY 2016-17.

NBPDCL has shown the actual total sales for Kutir Jyoti (unmetered) for FY 2016-17 as 18.49 MU, which on an average works out to 20.97 units/month/connection.

In the Tariff Order dated 21st March, 2016 the Commission had considered a norm of 30 Units/month for Kutir Jyoti Rural and Urban consumers while approving sales for SBPDCL and NBPDCL. As the actual sales of Unmetered KJ connection is within the norms, the Commission has considered sales of KJY category at 848.69 MU for FY 2016-17 as projected by the petitioner.

NBPDCL has shown the actual sales for IAS–I category (unmetered) for FY 2016-17 at 2.35 MU which works out to 146.72 Units/kW/annum, against the approved norm of 1485 Units/kW/annum. Therefore, the Commission has considered sales of IAS–I (unmetered) at 2.35 MU for FY 2016-17 as projected by the Petitioner.

For DS-I (Unmetered) and NDS-I (Unmetered) category consumers, NBPDCL has shown the actual consumption at 374.41 MU and 8.61 MU respectively which works out to 65.09 Units/ Month/ Connection for DS-I and 52.08 Units/ Month/ connection for NDS-I categories, which are considered to be reasonable and hence accepted.

For other categories, the actual energy sales furnished as per meter readings and as per audited annual accounts are considered reasonable and hence accepted.

The Petitioner has considered 749.87 MU input energy supplied to DF area as energy sale to Distribution Franchisee which is metered and which is billed based on input energy supplied. The Commission has considered 749.87 MU as projected by the Petitioner.

Although the Petitioner has submitted that it has considered the UI sales as an adjustment in the total power purchase, however it has considered 77.35 MU UI under drawal as energy sales. The Commission has not considered the UI under drawal as energy sale.

The Category wise Energy Sales approved for FY 2016-17 are as shown in the Table below:

Table 4.9: Energy Sales approved in truing up for FY 2016-17 (MU)

S. No.	Category	Approved for FY 2016-17 in T.O. dated 21.03.2016	Approved in Review for FY 2016-17 in T.O. dated 24.03.2017	Actuals projected for FY 2016-17	Approved in truing up for FY 2016-17
1	KJY (Unmetered)	674.36	816.39	18.49	18.49
2	KJY (Metered) Rural			586.9	586.9
3	KJY (Metered) Urban			243.3	243.3
4	DS I (Unmetered)	3,120.27	1,443.55	374.41	374.41
5	DS I (Metered)			1147.88	1147.88
6	DSII	2,383.92	1,595.82	1,195.71	1,195.71
7	DS III	0.84	0.73	0.35	0.35
8	NDS I (Unmetered)	39.12	46.28	8.61	8.61
9	NDS I (Metered)			59.09	59.09
10	NDS II Commercial	544.01	514.11	633.64	633.64
11	NDS III Commercial	1.18	1.01	4.88	4.88
12	NDS IV		0.0006		
13	SS I	9.35	11.99	6.24	6.24
14	SS II	6.08	11.43	9.03	9.03
15	IAS I (Unmetered)	12.44	24.74	2.35	2.35
16	IAS I (Metered)			5.05	5.05
17	IAS II (Unmetered)	233.82	191.13	63.93	63.93
18	IAS II (Metered)			88.87	88.87
19	PWW	39.79	26.43	30.16	30.16
20	LTIS I	109.91	102.78	145.40	145.40
21	LTIS II	60.58	57.88	17.95	17.95
22	HTS I	283.36	297.01	269.41	269.41
23	HTS II	111	99.53	93.24	93.24
24	HTS III	69.73	101.33	65.95	65.95
25	HTSS	58.28	16.27	45.59	45.59
26	RT	25.69	27.08	62.67	62.67
27	Sale to Nepal	1,418.77	1,476.04	1,188.89	1,188.89
28	DF	812.01	766.46	749.87	749.87
29	**Total**	**10,014.51**	**7,627.99**	**7117.85**	**7117.85**

The Commission approves the category wise energy sales for FY 2016-17 at 7117.85 MU in Truing-up.

4.4 Distribution Loss

Petitioner's submission

NBPDCL has submitted that in the Tariff Order dated 24th March, 2017 the Commission has approved the distribution loss at 19.25% for FY 2016-17, whereas the actual distribution loss is higher than the loss trajectory approved by the Commission. The difference in the loss target and the actual loss levels is practically impossible to achieve in the given period, and therefore this shall add on to the burden of the Discom. Although the Commission has approved the losses for FY 2017-18 onwards as per the agreed UDAY MoU, it has not considered the same for FY 2016-17. Therefore requests that for FY 2016-17 as well, the distribution loss trajectory should be in synchronization of the MoU signed by the Discoms. The Commission is also requested to see the growth rates in consumer base of NBPDCL (28%) and consider the challenging operating scenario of the Petitioner wherein most consumers being added are in rural and remote areas further adding to network losses, ongoing measures, and regulatory precedents to approve the actual distribution loss for FY 2016-17. Therefore, requests to consider the actual loss of 31.43% and adopt the loss target as agreed in the UDAY MoU i.e. 28%.

NBPDCL has submitted the actual distribution losses v/s approved losses for FY 2016-17 as given in the Table below:

Table 4.10: Distribution Loss projected for FY 2016-17

Particulars	Approved in MYT Order dated 21.03.16	Approved in APR FY 2016-17	Actual for FY 2016-17	As per UDAY MoU
Distribution Loss	19.25%	19.25%	31.43%	28%

NBPDCL has requested to consider the actual distribution loss at 31.43% and adopt the loss target agreed in UDAY i.e., 28% for FY 2016-17.

Commission's analysis

The Commission had approved a Distribution Loss trajectory for the second control period FY 2016-17 to FY 2018-19 vide its order dated 21.03.2016 as shown below:

Particulars	FY 2016-17	FY 2017-18	FY 2018-19
Distribution Loss	19.25%	18.25%	17.00%

Having aggrieved with the aforesaid approved distribution loss trajectory for the second control period FY 2016-17 to FY 2018-19, NBPDCL had preferred an Appeal (Appeal No. 142/2016) before Hon'ble APTEL which had remanded back the issue with other issues vide its order dated 25.11.2016. The excerpts of the order is reproduced below:

"i. The Appellant has challenged the order of the State Commission of approving the loss trajectory in the Impugned Order as against the claim of the Appellants based on the Central and State Commission schemes.

ii. We take note of the submission of the Appellant that they have signed Memorandum of Understanding with Ministry of Power, Government of India and Government of Bihar for achievement of financial turnaround. While participating in the UDAY scheme, the Government of Bihar has committed to the Government of India that the AT&C losses in Bihar will be reduced to 15% by FY 2019-20.

iii. We have also noted that the reasoning of the State Commission to the effect that a non-achievement of loss level as per the trajectory already decided by the State Commission is on account of the inefficiencies of the Appellant and the consumers should not be burdened for such inefficiencies.

iv. We do not wish to interfere with the impugned findings of this State Commission in its Order since the State Commission is in a better position to ascertain the efficiency of the Appellant. However, since the matter is being remanded to the State Commission for various issues as brought out above, we would like to state only that the State Commission should have to relook and decide only to the extent that such numbers should not become unachievable but not on account of the inefficiencies of the Appellant, if the State Commission observes so".

The Commission having heard the stakeholders passed its order on 08.03.2017 as below:

*"The distribution loss is a controllable parameter and it is the responsibility of the Distribution Licensee to take appropriate effective steps to bring down the distribution loss to the approved levels. In this connection**, the Commission had given a number of directives to improve the performance of distribution licensees, which if implemented in true spirit, should have brought down the Distribution loss level considerably.***

The Commission has noted that NBPDCL could not achieve the target of reduction of distribution losses year on year due to its operational reasons. By controlling the commercial losses duly providing meters to all connections, regularizing all the unauthorized connections to avoid theft of energy, periodically recording meter readings correctly, replacing defective meters promptly, fixing accountability on the officials for their failure to achieve the loss reduction target, etc., the overall distribution losses could have been reduced drastically. It is also noted that the State Government has been compensating the additional power purchase cost due to non-achievement of approved distribution loss for failure by the distribution companies.

In the event of non availability of Government assistance the Discoms will have no alternative but to improve its operation efficiencies.

The Petitioner has submitted that the NBPDCL, the Govt. of Bihar and the Govt. of India have signed a tri-partite MoU under UDAY on 22.02.2016 wherein apart from others, improvement in operational efficiency of NBPDCL has been mandated with specific distribution Losses as given below:

FY	***2016-17***	***2017-18***	***2018-2019***	***2019-20***
T&D Loss	*28.00 %*	*24.00%*	*20.00%*	*15.00%*

The Commission observes that since the Distribution companies are not able to achieve loss reduction targets set by the Commission due to various reasons and the *gap between the actual and approved distribution losses has increased to unachievable level. After the signing of MoU under UDAY, NBPDCL is committed to bring down distribution loss to the level as specified in the UDAY Scheme. It has been submitted by the petitioner that the State Govt. as per the signed MoU under UDAY may provide assistance under Operational Funding Requirement (OFR). The Commission opines that if the distribution loss trajectory is not aligned to UDAY trajectory, the State Govt. assistance, if any, would not be available to Discoms to meet the differential losses between trajectory set by the Commission and the Distribution loss trajectory given in UDAY. It may incur additional financial losses which may jeopardize the financial turnover of the Discoms as enunciated in the UDAY scheme. It will ultimately adversely affect the quality of service to the consumers also.*

Under the circumstances, the Commission thinks it appropriate to revise the distribution loss trajectory for FY 2017-18 & FY 2018-19 in line with that of UDAY and approves the revises T&D Loss of NBPDCL as under:

Approved Revise T&D Loss of NBPDCL

FY	*2017-18*	*2018-19*
T&D Loss	*24.00 %*	*20.00 %*

The Commission, however, does not think it proper to revise the T&D losses set for 2016-17 in line with UDAY in view of the fact that the Tariff for the 2016-17 has already been determined by the Commission and more importantly as per petitioners claims they will be getting resource gap assistance from the State Govt. for the distribution loss over and above the distribution loss trajectory approved by the Commission in its tariff order dated 21.03.2016. The finance department has also confirmed it vide its letter no 330 dated 08.03.2016"

The Commission in the Tariff Order dated 24th March, 2017 while reviewing the ARR for FY 2016-17, has retained the distribution losses at 19.25% for FY 2016-17 which was approved in MYT Order dated 21st March, 2016.

In view of above, the Commission retains the distribution loss at 19.25% for truing up purpose for FY 2016-17. The same has been considered for computation of energy balance and power purchase for FY 2016-17 in truing up.

The distribution loss target set by the Commission, the distribution loss level projected by NBPDCL and the loss level approved by the Commission in truing up for FY 2016-17 is summarized in the Table below:

Table 4.11: Distribution Loss (%) approved in Truing up for FY 2016-17

Particulars	Approved in TO dated 21.03.2016	Considered in Review for FY 2016-17 in the T.O dated 24.03.2017	Projected in True up for FY 2016-17	Approved in Truing up for FY 2016-17
Distribution loss for FY 2016-17	19.25%	19.25%	31.43%	19.25%

4.5 State Transmission Loss

Petitioner's submission

NBPDCL has submitted that the Petitioner has taken state transmission loss as per actual for BSPTCL i.e. at 4.74% taken from audited accounts for FY 2016-17.

Commission's analysis

The Commission has considered the state transmission loss at 3.92% as approved in truing-up for FY 2016-17 in the Tariff Order dated 07.03.2018 of BSPTCL for FY 2018-19.

4.6 Central Transmission Loss

Petitioner's submission

NBPDCL has submitted that the Petitioner has taken central transmission loss as per actual i.e., 2.66% from the audited accounts for FY 2016-17.

Commission's analysis

On a query from the Commission to submit a copy of the audited accounts showing CTU loss at 2.66%, NBPDCL could not submit any reply.

However, as a prudence check, the Commission has noted the billed energy from the central stations (23515.78 MU) from Regional Energy Accounting (REA) and scheduled energy (22917.38 MU) from UI accounts for the period FY 2016-17 for Bihar from the ERPC website and has arrived at the regional transmission system loss of 598.40 MU (2.54%) for FY 2016-17. Accordingly, the Commission has considered central transmission loss at 2.54% in truing up for FY 2016-17.

4.7 Power Purchase

Petitioner's Submission:

NBPDCL has submitted that Bihar has historically been a State with limited natural resources which has led to an underdeveloped power generation sector in the State. As a result, the State Power Distribution Companies rely heavily on allocation from central generating stations and other outside State projects for procuring power for sale to consumers within the State.

Power is procured by the central power management team, and this is allocated between the two DISCOMs, NBPDCL and NBPDCL, in the proportion as determined by the board resolution based on the demand growth requirement and consequent power supply requirement.

Long term power purchase

NBPDCL has submitted that the power purchase from NTPC, NHPC, PTC, state generating companies and IPPs has been considered for FY 2016-17 based on the actual quantum with adjustments to capture overall power purchase cost in a reasonable manner.

Medium / Short Term power purchase

NBPDCL has submitted that the power purchase from these sources namely Adani, IEX, NEA, UI etc. are also considered as per actual power purchase.

Renewable Power Purchase

NBPDCL has submitted that it has purchased 106.84 MU of Renewable energy i.e 38.55 MU of solar and 68.29 MU of non-solar during FY 2016-17.

NBPDCL has submitted the details of actual energy purchased from various sources in FY 2016-17 as shown in the Table below:

Table 4.12: Power Purchase as per actuals shown by the Petitioner for FY 2016-17

S. No.	Power Purchase Sources	Share allocation (MW)	Energy (MU)
1	Central Sector Stations	1,226.41	7,815.71
2	Talcher – I (2 x 500 MW)	166.60	1,216.88
3	Farakka – I & II (1600 MW)	203.52	1,400.54
4	Farakka – III (500 MW)	43.04	441.16
5	Kahalgaon – I (840 MW)	141.96	1,023.77
6	Kahalgaon – II (1500 MW)	29.88	231.16
7	Barh-II	423.60	2,508.04
8	Korba	30.00	106.51
9	Rangit – HEP	8.40	47.63
10	Teesta – HEP	43.37	236.83
11	Chukha	32.00	253.34
12	Tala	104.04	349.85
13	Barh Stage-I (3 X 660 MW)	-	-
14	State Generating Stations	132.00	340.31
15	KBUNL 1	88.00	279.67
16	KBUNL 2	-	-
17	Small Hydro (BSHPCL)	-	5.27
18	Barauni Stage I	44.00	55.36
19	Barauni Stage II	-	-
20	IPP	184.00	817.84
21	GMR Kamalanga Energy	104.00	810.35
22	Adani Enterprises Limited	80.00	7.49
23	JV projects	-	-
24	Nabinagar Railway (4 X 250 MW)	-	-
25	Nabinagar Stage-I (3 X 660 MW)	-	-
26	Nabinagar JV (3 X 660 MW) Stage-II	-	-
27	Renewable	77.60	101.57
28	SECI	4.00	8.73
29	ACME Magadh	4.00	4.43
30	ACME Nalanda	6.00	5.86
31	Sunmark Energy Projects	4.00	2.08
32	Avantika	2.00	2.25
33	AZURE Power	4.00	3.45
34	Udipta Energy & Equipment Pvt ltd	2.00	0.13

S. No.	Power Purchase Sources	Share allocation (MW)	Energy (MU)
35	Glatt Solution Private Limited	1.20	0.01
36	Welspun 2	6.00	4.72
37	Welspun 1	4.00	2.53
38	Alpha Infrapop Private Limited	-	-
39	Welspun 3	6.00	4.36
40	Response Renewable Energy	-	-
41	New Swadeshi Sugar Mill, Narkatiaganj	2.80	4.82
42	Harinagar Sugar Mills, Harinagar	4.40	21.16
43	Bharat SugarMills,Sidhiwalia, Gopalganj	4.40	13.09
44	Lauriya Sugar Mill	8.00	10.94
45	Sugauli Sugar Mill	8.00	6.56
46	Hasanpur Sugar Mills, Samastipur	4.00	3.47
47	Riga Sugar Company Ltd, Sitamarhi	1.20	0.81
48	Siddhashram Rice Mill Cluster Pvt Ltd	0.40	1.05
49	Bihar Distillers and Bottlers Pvt Ltd	1.20	1.11
50	Open Market Purchase	-	1,236.38
51	IEX/PXIL	-	809.84
52	DB Power	-	81.44
53	JAYPEE NIGRIE	-	100.62
54	JPL	-	11.44
55	GMR ETL	-	91.39
56	TATA ETL	-	84.90
57	Manikaran Power	-	-
58	NEA	-	0.04
59	NVVNL	-	27.37
60	PVVNL	-	0.60
61	Adani Short Term	-	-
62	UI	-	28.74
63	**Net Total Power Purchase**	**1,620.01**	**10,311.81**

NBPDCL has also submitted that in the FY 2016-17, sales under UI are 77.35 MU and revenue incurred from sale of power under UI is Rs. 4.18 Crores and the Petitioner has also made a purchase of 107.75 MU with regard to UI at a cost of Rs. 42.64 Crore. Thus, the net Power purchase made through adjustment of UI is 28.74 MUs at a cost of Rs. 38.46 Crore.

The Petitioner has further submitted that the above information is as admitted in the annual books of accounts and has requested to approve the power purchase quantum on an actual basis as 10311.81 MU during FY 2016-17.

Commission's analysis

The Commission has noted the power purchased quantum from the Central Generating Stations and other sources from ERPC & WRPC sites and validated with power purchase bills submitted and found in order.

The Commission recognizes the sources of power purchase as outlined by NBPDCL which is based on the audited annual accounts for FY 2016-17. The Commission observes from UI report available on ERPC website that BSPHCL had net over drawl of 57.01 MU, combinedly for NBPDCL and SBPDCL. The Commission has accordingly apportioned this UI over drawal between NBPDCL and SBPDCL in the ratio of 41.89% and 58.11% as approved by BSPHCL for FY 2016-17. Therefore, the Commission has considered UI over drawal of NBPDCL at 23.88 MU(41.89% of 57.01 MU).

Summary of the approved power purchase quantum from various sources for FY 2016-17 is given in the Table below:

Table 4.13: Source wise Power Purchase quantum approved for FY 2016-17 (MU)

S. No.	Power Purchase Sources	Share allocation (MW)	Projected by NBPDCL	Approved by the Commission
1	**Central Sector Stations**	**1,226.41**	**7,815.71**	**7,815.71**
2	Talcher – I (2 x 500 MW)	166.60	1,216.88	1,216.88
3	Farakka – I & II (1600 MW)	203.52	1,400.54	1,400.54
4	Farakka – III (500 MW)	43.04	441.16	441.16
5	Kahalgaon – I (840 MW)	141.96	1,023.77	1,023.77
6	Kahalgaon – II (1500 MW)	29.88	231.16	231.16
7	Barh-II	423.60	2,508.04	2,508.04
8	Korba	30.00	106.51	106.51
9	Rangit – HEP	8.40	47.63	47.63
10	Teesta – HEP	43.37	236.83	236.83
11	Chukha	32.00	253.34	253.34
12	Tala	104.04	349.85	349.85
13	Barh Stage-I (3 X 660 MW)	-	-	-
14	**State Generating Stations**	**132.00**	**340.31**	**340.31**

S. No.	Power Purchase Sources	Share allocation (MW)	Projected by NBPDCL	Approved by the Commission
15	KBUNL 1	88.00	279.67	279.67
16	KBUNL 2	-	-	-
17	Small Hydro (BSHPCL)	-	5.27	5.27
18	Barauni Stage I	44.00	55.36	55.36
19	Barauni Stage II	-	-	-
20	**IPP**	**184.00**	**817.84**	**817.84**
21	GMR Kamalanga Energy	104.00	810.35	810.35
22	Adani Enterprises Limited	80.00	7.49	7.49
23	**JV projects**	**-**	**-**	**-**
24	Nabinagar Railway (4 X 250 MW)	-	-	-
25	Nabinagar Stage-I (3 X 660 MW)	-	-	-
26	Nabinagar JV (3 X 660 MW) Stage-II	-	-	-
27	**Renewable**	**77.60**	**101.57**	**101.57**
28	SECI	4.00	8.73	8.73
29	ACME Magadh	4.00	4.43	4.43
30	ACME Nalanda	6.00	5.86	5.86
31	Sunmark Energy Projects	4.00	2.08	2.08
32	Avantika	2.00	2.25	2.25
33	AZURE Power	4.00	3.45	3.45
34	Udipta Energy & Equipment Pvt ltd	2.00	0.13	0.13
35	Glatt Solution Private Limited	1.20	0.01	0.01
36	Welspun 2	6.00	4.72	4.72
37	Welspun 1	4.00	2.53	2.53
38	Alpha Infrapop Private Limited	-	-	-
39	Welspun 3	6.00	4.36	4.36
40	Response Renewable Energy	-	-	-
41	New Swadeshi Sugar Mill, Narkatiaganj	2.80	4.82	4.82
42	Harinagar Sugar Mills, Harinagar	4.40	21.16	21.16
43	Bharat SugarMills,Sidhiwalia, Gopalganj	4.40	13.09	13.09
44	Lauriya Sugar Mill	8.00	10.94	10.94
45	Sugauli Sugar Mill	8.00	6.56	6.56
46	Hasanpur Sugar Mills, Samastipur	4.00	3.47	3.47
47	Riga Sugar Company Ltd, Sitamarhi	1.20	0.81	0.81
48	Siddhashram Rice Mill Cluster Pvt Ltd	0.40	1.05	1.05
49	Bihar Distillers and Bottlers Pvt Ltd	1.20	1.11	1.11
50	**Open Market Purchase**	**-**	**1,236.38**	**1231.52**
51	IEX/PXIL	-	809.84	809.84
52	DB Power	-	81.44	81.44
53	JAYPEE NIGRIE	-	100.62	100.62
54	JPL	-	11.44	11.44
55	GMR ETL	-	91.39	91.39

S. No.	Power Purchase Sources	Share allocation (MW)	Projected by NBPDCL	Approved by the Commission
56	TATA ETL	-	84.90	84.90
57	Manikaran Power	-	-	-
58	NEA	-	0.04	0.04
59	NVVNL	-	27.37	27.37
60	PVVNL	-	0.60	0.60
61	Adani Short Term	-	-	-
62	UI	-	28.74	23.88
63	**Net Total Power Purchase**	**1,620.01**	**10,311.81**	**10306.93**

The Commission approves the total quantum of power purchase of 10306.93 MU for the purpose of working out the energy balance and computation of the power purchase cost as part of the truing-up exercise for FY 2016-17.

However, the quantum of power purchase and associated cost over and above the required quantum, taking into cognizance the approved energy sales and the transmission and distribution loss trajectories, shall be disallowed considering it as controllable factor.

4.8 Energy Balance

Petitioner's submission

NBPDCL has submitted that the energy balance is computed based on the actual energy sales, transmission and distribution losses and the power availability during FY 2016-17 as given in the Table below:

Table 4.14: Energy Balance projected for FY 2016-17 (MU)

S. No.	Particulars	Unit	Approved in MYT Order dated 21.03.16	Approved in T.O dated 24.03.2017 for Fy 2016-17	Actual for FY 2016-17
1	Energy sales	MU	10,014.51	7,627.99	7,195.23
2	Less: Energy supplied to DF area	MU	812.01	766.46	644.59 *
3	Less: Sales to Nepal	MU	1,418.77	1,476.04	1,188.89
4	Less: UI	MU			77.35
5	Energy sale excluding DF area and Nepal	MU	7,783.73	5,385.49	5,284.40
6	Distribution loss	%	19.25	19.25%	31.43%

S. No.	Particulars	Unit	Approved in MYT Order dated 21.03.16	Approved in T.O dated 24.03.2017 for Fy 2016-17	Actual for FY 2016-17
7	Distribution loss	MU	1,855.56	1,283.85	2,422.73
8	Energy required (3+5)	MU	9,639.29	6,669.34	7,707.12
9	Add: Energy to DF area including loss for DF area	MU	812.01	766.46	644.59
10	Energy required at Distribution periphery (7+8)	MU	1,0451.3	7,435.8	8,351.72
11	Add: Sales to Nepal	MU	1,418.77	1,476.04	1,188.89
12	Total energy required (9+10)	MU	11,870.07	8,911.84	9,540.61
13	State Transmission loss	%	3.92%	3.92%	4.74%
14	State Transmission loss	MU	484.29	363.6	480.17
15	Add: UI sales	MU			28.74
16	**Energy required at State Transmission periphery**	**MU**	**12,354.37**	**9,275.44**	**10,049.52**
17	Power Purchase from CGS, SGS and others	MU	12,498.57	10,032.98	10,311.36
18	UI	MU			28.74
19	Power Purchase from CGS	MU			9,840.54
20	Losses in Regional Transmission System (excluding state generating stations)	%	2.26%	2.26%	2.66%
21	Losses in Regional Transmission system (MU)	MU	240.99	220.36	261.84
22	Power Purchase from SGS	MU			442.08
23	Energy available at State Transmission Periphery	MU	12,257.58	9,812.62	10,049.52
24	**Surplus energy (23-16)**	MU	-96.79	537.18	-

* wrongly considered instead of 749.87 (Table 4.7)

Commission's analysis

The Commission has arrived at the CTU loss at 250.67 MU (i.e at 41.89% of 598.40 MU) considering CTU loss at 2.54% on power purchased from Central Stations, IPPs etc. from outside the State.

For estimating the additional power purchase to be disallowed due to excess distribution loss, the total power purchase from various sources has been worked out considering the impact of average regional transmission loss [2.432% = (250.67/10306.93)*100] applicable on the total power purchase. The reason for applying the average regional transmission loss is that the power purchase quantum also includes sources of power on which the regional transmission losses are not applicable i.e. KBUNL, BSHPC, Sugar Mills etc. Accordingly, the gross power purchase required to be done in FY 2016-17 is 8909.97 MU with regional transmission loss of 216.69 MU as shown in the Table 4.15 below:

The energy balance for FY 2016-17 has been computed based on the approved sales in truing-up during the year, considering the approved level of distribution, state transmission and central transmission losses and the power purchase to meet the demand from the consumers.

The details of energy requirement and energy availability during FY 2016-17 are as given in the Table below:

Table 4.15: Energy Balance Approved in Truing up for FY 2016-17 (MU)

S. No.	Particulars	Unit	Projected by Petitioner for FY 2016-17	Approved by the Commission for FY 2016-17
1	Energy sales	MU	7,195.23	7117.85
2	Less: Energy supplied to DF area	MU	644.59	749.87
3	Less: Sales to Nepal	MU	1,188.89	1188.89
4	Less: UI	MU	77.35	-
5	Energy sale excluding DF area and Nepal	MU	5,284.40	5179.10
6	Distribution loss	%	31.43%	19.25%
7	Distribution loss	MU	2,422.73	1234.65
8	Energy required (5+7)	MU	7,707.12	6413.75
9	Add: Energy to DF area including loss for DF area	MU	644.59	749.87
10	Energy required at Distribution periphery (8+9)	MU	8,351.72	7163.62
11	Add: Sales to Nepal	MU	1,188.89	1188.89
12	Total energy required (10+11)	MU	9,540.61	8352.51
13	State Transmission loss	%	4.74%	3.92%
14	State Transmission loss	MU	480.17	340.78
15	Add: UI sales	MU	28.74	-
16	**Energy required at State Transmission periphery**	**MU**	**10,049.52**	**8693.28**
17	Power Purchase from CGS, SGS and others	MU	10,311.36	-

S. No.	Particulars	Unit	Projected by Petitioner for FY 2016-17	Approved by the Commission for FY 2016-17
18	UI	MU	28.74	-
19	Power Purchase from CGS and others outside State	MU	9,840.54	-
20	Losses in Regional Transmission System (excluding state generating stations)	%	2.66%	2.432%
21	Losses in Regional Transmission system (MU)	MU	261.84	216.69
22	Power Purchase from SGS	MU	442.08	-
23	Energy available at State Transmission Periphery	MU	10,049.52	-
24	Total energy requirement at Regional Transmission periphery	MU	-	8909.97
25	**Total energy available (power purchase)**	**MU**	**-**	**10306.93**
26	**Surplus energy**	**MU**	**-**	**1396.96**

4.9 Power Purchase Cost

Petitioner's submission

NBPDCL has submitted that the power purchase cost mainly comprises of fixed charges and energy charges for two part tariff PPAs which are essentially with NTPC, NHPC and PTC, and single part tariff (only energy charges) for Adani, BSHPC, Solar and Sugar Mills and the same has been considered as per actuals. NBPDCL has projected Rs.3720.58 Crore towards the power purchase cost from all sources for purchase of 10311.81 MU.

NBPDCL has projected Rs.364.09 Crore towards PGCIL charges (including POSOCO and ERLDC charges) for use of transmission facilities enabling power drawal from Eastern Region. NBPDCL has also projected Rs.116.49 Crore towards transmission charges payable to the BSPTCL.

NBPDCL has projected the total power purchase cost at Rs.4201.15 Crore including intra-state and PGCIL transmission charges for FY 2016-17 as given in the Table below:

Table 4.16: Power Purchase cost claimed by the Petitioner for FY 2016-17

S. No.	Power Purchase Sources	Previous Year (FY 16-17)			
		Share allocation (MW)	Energy (MU)	Total Charges (INR Cr)	Avg. Tariff Rate (INR/kWh)
1	**Central Sector Stations**	**1,226.41**	**7,815.71**	**2,809.57**	**3.59**
2	Talcher – I (2 x 500 MW)	166.60	1,216.88	314.62	2.59
3	Farakka – I & II (1600 MW)	203.52	1,400.54	478.07	3.41
4	Farakka – III (500 MW)	43.04	441.16	170.81	3.87
5	Kahalgaon – I (840 MW)	141.96	1,023.77	345.59	3.38
6	Kahalgaon – II (1500 MW)	29.88	231.16	75.79	3.28
7	Barh-II	423.60	2,508.04	1,188.59	4.74
8	Korba	30.00	106.51	30.51	2.86
9	Rangit – HEP	8.40	47.63	18.57	3.90
10	Teesta – HEP	43.37	236.83	63.19	2.67
11	Chukha	32.00	253.34	52.95	2.09
12	Tala	104.04	349.85	70.88	2.03
13	Barh Stage-I (3 X 660 MW)	-	-	-	-
14	**State Generating Stations**	**167.20**	**340.31**	**163.97**	**4.82**
15	KBUNL 1	88.00	279.67	140.68	5.03
16	KBUNL 2	-	-	-	-
17	Small Hydro (BSHPCL)	35.20	5.27	1.31	2.49
18	Barauni Stage I	44.00	55.36	21.98	3.97
19	Barauni Stage II	-	-	-	-
20	**IPP**	**184.00**	**817.84**	**306.07**	**3.74**
21	GMR Kamalanga Energy	104.00	810.35	283.33	3.50
22	Adani Enterprises Limited	80.00	7.49	22.74	30.36
23	**JV projects**	**-**	**-**	**-**	**-**
24	Nabinagar Railway (4 X 250 MW)	-	-	-	-
25	Nabinagar Stage-I (3 X 660 MW)	-	-	-	-
26	Nabinagar JV (3 X 660 MW) Stage-II	-	-	-	-
27	**Renewable**	**77.60**	**101.57**	**62.27**	**6.13**
28	SECI	4.00	8.73	5.19	5.95
29	ACME Magadh	4.00	4.43	3.87	8.73
30	ACME Nalanda	6.00	5.86	5.11	8.73
31	Sunmark	4.00	2.08	1.46	7.02
32	Avantika	2.00	2.25	1.73	7.69
33	AZURE	4.00	3.45	2.89	8.39
34	Udipta Energy & Equipment Pvt ltd	2.00	0.13	0.11	7.98
35	Glatt	1.20	0.01	0.01	7.02
36	Welspun 2	6.00	4.72	4.08	8.64
37	Welspun 1	4.00	2.53	2.20	8.70

S. No.	Power Purchase Sources	Previous Year (FY 16-17)			
		Share allocation (MW)	Energy (MU)	Total Charges (INR Cr)	Avg. Tariff Rate (INR/kWh)
38	Welspun 3	6.00	4.36	3.73	8.56
39	Response Renewable Energy				
40	New Swadeshi Sugar Mill,Narkatiaganj	2.80	4.82	2.43	5.04
41	Harinagar Sugar Mills,Harinagar	4.40	21.16	11.33	5.36
42	Bharat SugarMills, Sidhiwalia,Gopalganj	4.40	13.09	6.66	5.09
43	Lauriya Sugar Mill	8.00	10.94	5.91	5.40
44	Sugauli Sugar Mill	8.00	6.56	3.54	5.40
45	Hasanpur Sugar Mills,Samastipur	4.00	3.47	2.01	5.80
46	Riga Sugar Company Ltd,Sitamarhi	1.20	0.81	0.48	5.84
47	Siddhashram Rice Mill Cluster Pvt Ltd	0.40	1.05	0.77	7.36
48	BDBPL	1.20	1.11	0.64	5.78
49	**Open Market Purchase**	**-**	**1,236.38**	**378.70**	**3.06**
50	IEX/PXIL	-	809.84	229.73	2.84
51	DB Power	-	81.44	22.02	2.70
52	JAYPEE NIGRIE	-	100.62	27.65	2.75
53	JPL	-	11.44	3.28	2.87
54	GMR ETL	-	91.39	25.57	2.80
55	TATA ETL	-	84.90	24.18	2.85
56	Manikaran Power	-	-	-	-
57	NEA	-	0.04	0.02	5.62
58	NVVNL	-	27.37	7.37	2.69
59	PVVNL	-	0.60	0.42	6.97
60	Adani Short Term				
61	UI (net)	-	28.74	38.45	13.38
62	**Sub Total Power Purchase**	**1,655.21**	**10,311.81**	**3,720.58**	**3.61**
63	**Transmission charges**	-	-	480.57	-
64	PGCIL	-	-	361.37	-
65	POSOCO & SLDC Charges	-	-	2.72	-
66	BSPTCL charges	-	-	116.49	-
67	BGCL	-	-	-	-
68	**Total Power Purchase**	**1,655.21**	**10,311.81**	**4,201.15**	**4.07**

Commission analysis

The Commission has approved the power purchase cost of Rs. 4048.08 Crore for purchase of 10042.64 MU for FY 2016-17 in Review in the Tariff Order dated 24th

March, 2017 based on the estimate submitted by the Petitioner.

The Commission has noted that according to annual accounts (Note 22) for FY 2016-17, NBPDCL has incurred power purchase cost of Rs.3723.35 Crore (including 42.64 Crore for UI), BSPTCL transmission charges of Rs.116.49 Crore and PGCIL and POSOCO charges of Rs.364.09 Crore, totalling Rs.4203.92 Crore for purchase of 10388.71 MU (including 106.09 MU of UI drawal)

On query from the Commission, to clarify why the figures furnished in the Table-18 in petition and the figures shown in the audited accounts are different and also to submit the details of source wise power purchase cost along with copies of bills, NBPDCL vide their letter dated 12.01.2018 has submitted as follows:

" In calculation of total power purchase cost shown in Table No. 18 the Petitioner inadvertently made an error in adding up the Renewable power purchase from various sources and calculated the total as Rs. 62.27 Crore instead of Rs. 64.16 Crore. Further the refund received from NTPC under the head of power purchase capacity charges amounting to Rs. 3.87 Crore (Audited Annual Accounts Page-48) was also inadvertently omitted. Considering both the amount and adding the amount received under UI amounting to Rs. 4.18 (which we have deducted in the Petition as all calculations are made on net UI) we shall get Rs. 4203.36 Crore."

Particulars	***Formula***	***Amount (Rs. Crore)***
Total Power Purchase claimed in the Petition	*A*	*4201.15*
Difference due to Renewable power purchase (64.16-62.27)	*B*	*1.89*
Refund from NTPC on capacity charges	*C*	*(-)3.87*
UI sales	*D*	*4.18*
Total Power Purchase	***A-B+C+D***	***4203.36***

The Commission has noted that the power purchase from Adani during FY 2016-17 is as below:

Month	Energy (MU)	Fixed charges (Rs. Crore)	Energy charges (Rs. Crore)	Other charges (Rs. Crore)	Total charges (Rs. Crore)
April 2016	5.57	6.09	2.06	1.09	9.24
May 2016	1.92	6.17	0.71	0.32	7.19
June 2016	0.00	6.09	0.00	0.22	6.30
Total	**7.49**	**18.34**	**2.76**	**1.63**	**22.74**

On a query from the Commission regarding high power purchase cost per unit i.e. for purchase of 7.49 MU from Adani (M/s AEL) an amount of Rs. 22.74 Crore (fixed charges of Rs. 18.34 Crore, Energy charges of Rs. 2.76 Crore and other charges of Rs. 1.63 Crore) from Adani M/s AEL. The Petitioner has replied vide letter no 42 dated 12.01.2018 that during FY 2016-17, power from Adani was procured for three months in which scheduling of power was done for only five days and for the rest of period as per PPA, capacity charge was paid.

The Petitioner again vide its letter no 165 dated 28.02.2018 has submitted as below:

"BSPHCL had sought an extension for the Adani Enterprises Limited (AEL) contracted capacity of 200 MW power for 6 months, which was duly approved by the Hon'ble Commission. It was projected that the AEL power would be utilised to meet the peak power deficit during evening hours (18:00 – 24:00) and will remain the cheaper source of power than the other available options for short term power at the point however, during the scheduled period, the DISCOMs could not utilize the complete quantum of the scheduled energy from AEL power due to relatively lesser demand as projected, and therefore saved on the power procurement costs from AEL.
.... Energy exchange prices during the months of April-16, May-16 and June-16 became viable during the peak hours due to technical issues in the transmission system of the western region grid. Energy prices were falling during the peak hours and was even lesser than the AEL energy charges, therefore it as decided to purchase the peak hours power from energy exchange on Day Ahead Market (DAM) basis. Given the priority for the DISCOMs, it was imperative to secure a reliable power supply so as to meet any imminent surge in demand."

The Commission find the above submission in contrast of what the petitioner had submitted in the petition in case no 40/2015 for extension of PPA dated 23.02.2012 with Adani Enterprises Limited for further 2 years beyond 31.12.2015.

The background of this issue is that M/s BSPHCL approached the Commission (Case no 40/2015) for extension of PPA dated 23.02.2012 with Adani for further 2 years beyond 31.12.2015 for purchase of 200 MW power from AEL on same terms and conditions of PPA. The PPA was for supply of power on RTC basis. The petitioner had neither submitted in the petition nor had he shown during hearing its inclination to purchase such power during peak hours only. The Commission was not inclined to extend the PPA since the rate of Adani was the highest amongst the power suppliers in BIHAR as per Tariff Order of FY 2015-16. Further, many consumer association such as BIA, chamber of Commerce, etc had also objected. However, in view of the various explanations given by BSPHCL, the Commission had accepted to extend the PPA for further six months i.e. upto 30.06.2016 on same terms and conditions of PPA which was for supply of 200 MW power on RTC basis.

From the above table, it is noted that in spite of pursuing the Commission with various submission explaining the need for extension of PPA, the DISCOM has failed to fully procure the energy from Adani and paid the fixed charges resulting into very high power purchase cost which works out Rs. 30.36 per unit which is entirely due to negligence of the DISCOM. Had these been no requirement of such power DISCOM should not have filed for such extension of PPA of AEL. The forecasting of demand by a DISCOM is totally under its control and therefore, is a controllable parameter and any unprudent power purchase expenses on account of such a wrong forecasting cannot be burdened to the end consumers. Regulation 20 (2)(5) of BERC (Multi Year Distribution Tariff) Regulations 2015 specify that any cost increase by the licensee by way of penalty, interest due to delayed payments and due to operation inefficiencies shall not be allowed. Hence in view of above, the Commission does not find it reasonable to allow all the claimed expenses of AEL. The approved levelised tariff for the period 01.03.2012 to 31.12.2015 was Rs. 4.41/kWh. Hence, the Commission considers the power purchase cost from Adani at Rs. 3.30 Crore only (i.e. 7.49 MU X 4.41/10).

The Commission observes that NBPDCL has considered Rs.38.45 Crore against power purchase cost for 28.74 MU of Net UI over drawal. The Commission observes from UI report available on the ERPC website that for over drawal of 57.01 MU, BSPHCL had received UI settlement bill for FY 2016-17 as detailed below:

Period	Schedule (MU)	Actual Drawn (MU)	Net UI Over Drawal (MU)	Deviation Charges (Rs. Cr.)	Addl. Deviation Charges (Rs. Cr.)
FY 2016-17	22917.38	22974.39	57.01	70.21	21.43

The Commission is aware that UI rate is frequency dependent and UI settlement is governed by Central Electricity Regulatory Commission (Deviation Settlement Mechanism and related matters) Regulations, 2014. The licensees while under-drawal/over-drawal of UI energy should adhere such Regulation and their under-drawal/over-drawal should be strictly within the specified limit to avoid any additional deviation charges. The Commission, therefore does not consider additional deviation charges of Rs.21.43 Crore (payable) and only considers deviation charges of Rs.70.21 Crore (Payable). After apportioning the same between NBPDCL and NBPDCL in the ratio of 58.11% and 41.89%, the Commission arrives at Rs.29.41 Crore (41.89%% of Rs.70.21 Crore) for net over drawl of 23.88 MU (41.89% % of 57.01 MU) by NBPDCL.

The Commission has verified the copies of power purchase bills submitted by the Petitioner and noted that the power purchase quantum and cost shown in the Petition are in accordance with the power purchase bills for FY 2016-17.

However, the Commission has revised the transmission charges of BSPTCL for FY 2016-17 in truing up at Rs. 237.55 Crore based on per unit transmission tariff approved in the Tariff Order of BSPTCL for FY 2016-17 dated 21.03.2017. Accordingly, the BSPTCL charges for NBPDCL will be Rs. 99.51 Crore based on its energy handled which at Rs. 41.89% of the total energy handled by both DISCOMs.

The source-wise power purchase cost from different sources, intra-state transmission charges and PGCIL transmission charges approved for FY 2016-17 based on the actual power purchase cost as per audited annual accounts and verification of power purchase bills is given in the Table below:

Table 4.17: Approved Power Purchase cost for FY 2016-17

Sl. No.	Power Purchase Sources	Share allocation (MW)	Energy (MU)	Fixed Charge rate (Rs./kWh)	Fixed charge (Rs. Cr)	Energy Rate (Rs./kWh)	Energy charge (Rs. Cr)	Other charges (Rs. Cr)	Total Charges (Rs. Cr)	Avg. Tariff Rate (Rs./kWh)
1	Central Sector Stations	**1,226.41**	**7,815.71**	**1.29**	**1,010.46**	**2.24**	**1,751.44**	**47.69**	**2,809.59**	**3.59**
2	Talcher – I (2 x 500 MW)	166.6	1,216.88	0.85	103.46	1.65	200.34	10.82	314.62	2.59
3	Farakka – I & II (1600 MW)	203.52	1,400.54	0.86	120.56	2.53	354.19	3.32	478.07	3.41
4	Farakka – III (500 MW)	43.04	441.16	1.40	61.89	2.5	110.08	-1.15	170.82	3.87
5	Kahalgaon – I (840 MW)	141.96	1,023.77	0.96	98.79	2.39	244.66	2.14	345.59	3.38
6	Kahalgaon – II (1500 MW)	29.88	231.16	1.01	23.34	2.27	52.36	0.09	75.79	3.28
7	Barh-II	423.6	2,508.04	2.19	550.06	2.45	614.87	23.67	1188.6	4.74
8	Korba	30	106.51	1.23	13.15	1.5	15.94	1.41	30.5	2.86
9	Rangit – HEP	8.4	47.63	1.99	9.5	1.75	8.35	0.72	18.57	3.9
10	Teesta – HEP	43.37	236.83	1.25	29.71	1.13	26.82	6.67	63.2	2.67
11	Chukha	32	253.34	-	0	2.09	52.95	0	52.95	2.09
12	Tala	104.04	349.85	-	0	2.03	70.88	0	70.88	2.03
13	Barh Stage-I (3 X 660 MW)	-	-	-	-	-	-	-	-	-
14	State Generating Stations	**167.2**	**340.3**	**0.93**	**31.63**	**3.89**	**132.34**	**0**	**163.97**	**4.82**
15	KBUNL 1	88	279.67	1.13	31.63	3.9	109.05	0	140.68	5.03
16	KBUNL 2	-	-	-	-	-	-	-	-	-
17	Small Hydro (BSHPCL)	35.2	5.27	-	0	2.49	1.31	0	1.31	2.49
18	Barauni Stage I	44	55.36	-	0	3.97	21.98	0	21.98	3.97
19	Barauni Stage II	-	-	-	-	-	-	-	-	-
20	IPP	**184**	**817.84**	**1.89**	**154.35**	**1.05**	**86.20**	**46.09**	**286.64**	**3.74**
21	GMR Kamalanga Energy	104	810.35	1.90	154.35	1.02	82.9	46.09	283.34	3.50
22	Adani Enterprises Limited	80	7.49				3.3		3.3	4.41
23	JV projects	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

Sl. No.	Power Purchase Sources	Share allocation (MW)	Energy (MU)	Fixed Charge rate (Rs./kWh)	Fixed charge (Rs. Cr)	Energy Rate (Rs./kWh)	Energy charge (Rs. Cr)	Other charges (Rs. Cr)	Total Charges (Rs. Cr)	Avg. Tariff Rate (Rs./kWh)
24	Nabinagar Railway (4 X 250 MW)	-	-	-	-	-	-	-	-	-
25	Nabinagar Stage-I (3 X 660 MW)	-	-	-	-	-	-	-	-	-
26	Nabinagar JV (3 X 660 MW) Stage-II	-	-	-	-	-	-	-	-	-
27	Renewable	**77.6**	**101.56**	**-**	**0**	**6.28**	**63.76**	**0.39**	**64.15**	**6.13**
28	SECI	4	8.73	-	0	5.5	4.8	0.39	5.19	5.95
29	ACME Magadh	4	4.43	-	0	8.73	3.87	0	3.87	8.73
30	ACME Nalanda	6	5.86	-	0	8.73	5.11	0	5.11	8.73
31	Sunmark	4	2.08	-	0	7.02	1.46	0	1.46	7.02
32	Avantika	2	2.25	-	0	7.69	1.73	0	1.73	7.69
33	AZURE	4	3.45	-	0	8.39	2.89	0	2.89	8.39
34	Udipta Energy & Equipment Pvt ltd	2	0.13	-	0	7.98	0.11	0	0.11	7.98
35	Glatt	1.2	0.01	-	0	7.02	0.01	0	0.01	7.02
36	Welspun 2	6	4.72	-	0	8.64	4.08	0	4.08	8.64
37	Welspun 1	4	2.53	-	0	8.7	2.2	0	2.2	8.7
38	Welspun 3	6	4.36	-	0	8.56	3.73	0	3.73	8.56
39	Response Renewable Energy				0			0		
40	New Swadeshi Sugar Mill,Narkatiaganj	2.8	4.82	-	0	5.04	2.43	0	2.43	5.04
41	Harinagar Sugar Mills,Harinagar	4.4	21.16	-	0	5.36	11.33	0	11.33	5.36
42	Bharat SugarMills,Sidhiwalia,Gopalganj	4.4	13.09	-	0	5.09	6.66	0	6.66	5.09
43	Lauriya Sugar Mill	8	10.94	-	0	5.4	5.91	0	5.91	5.4
44	Sugauli Sugar Mill	8	6.56	-	0	5.4	3.54	0	3.54	5.4
45	Hasanpur Sugar Mills,Samastipur	4	3.47	-	0	5.8	2.01	0	2.01	5.8
46	Riga Sugar Company Ltd,Sitamarhi	1.2	0.81	-	0	5.84	0.48	0	0.48	5.84

Sl. No.	Power Purchase Sources	Share allocation (MW)	Energy (MU)	Fixed Charge rate (Rs./kWh)	Fixed charge (Rs. Cr)	Energy Rate (Rs./kWh)	Energy charge (Rs. Cr)	Other charges (Rs. Cr)	Total Charges (Rs. Cr)	Avg. Tariff Rate (Rs./kWh)
47	Siddhashram Rice Mill Cluster Pvt Ltd	0.4	1.05	-	0	7.36	0.77	0	0.77	7.36
48	BDBPL	1.2	1.11	-	0	5.8	0.64	0	0.64	5.78
49	Open Market Purchase	**-**	**1,231.52**	**-**	0	**3.06**	**369.65**	0	**369.65**	**3.06**
50	IEX/PXIL	-	809.84	-	0	2.84	229.73	0	229.73	2.84
51	DB Power	-	81.44	-	0	2.7	22.02	0	22.02	2.7
52	JAYPEE NIGRIE	-	100.62	-	0	2.75	27.65	0	27.65	2.75
53	JPL	-	11.44	-	0	2.87	3.28	0	3.28	2.87
54	GMR ETL	-	91.39	-	0	2.8	25.57	0	25.57	2.8
55	TATA ETL	-	84.9	-	0	2.85	24.18	0	24.18	2.85
56	Manikaran Power	-	-	-	0	-	-	0		-
57	NEA	-	0.04	-	0	5.62	0.02	0	0.02	5.62
58	NVVNL	-	27.37	-	0	2.69	7.37	0	7.37	2.69
59	PVVNL	-	0.6	-	0	6.97	0.42	0	0.42	6.97
60	Adani Short Term				0			0		
61	UI	-	23.88	-	0	-	29.41	0	29.41	-
62	**Sub Total Power Purchase**	**1,655.21**	**10,306.93**	**1.161**	**1,196.44**	**2.332**	**2403.39**	**94.17**	**3,694.00**	**3.584**
63	Refund received from NTPC								-3.87	
64	**Transmission charges**	-	-	-	-	-	-	-	-	-
65	PGCIL	-	-	-	-	-	-	-	361.37	-
66	POSOCO & SLDC Charges	-	-	-	-	-	-	-	2.72	-
67	BSPTCL charges	-	-	-	-	-	-	-	99.51	-
68	**Total Power Purchase**	**1655.21**	**10,306.93**	**1.161**	**1,196.44**	**2.332**	**2403.39**	**94.17**	**4,153.73**	**4.030**

The Commission approves the power purchase cost of Rs. 4153.73 Crore including transmission charges for purchase of 10306.93 MU for FY 2016-17 in truing-up out of which Rs. 550.02 crore is disallowed for 1396.96 MU excess power purchase as discussed in the subsequent para. Hence the Commission approves net power purchase cost of Rs. 3603.71 crore for approved requirement of 8909.97 MU power purchase.

4.10 Disallowance of Power Purchase cost due to excess Distribution Loss

Petitioner's submission

NBPDCL has requested to adopt the distribution loss at 34% for calculation of disallowance of power purchase cost due to excess distribution loss.

NBPDCL has submitted the additional Power Purchase Cost incurred due to higher distribution losses of the utility when compared to the distribution loss of 28% approved under UDAY MoU trajectory is as given in the Table below:

Table 4.18: Projected disallowance of Power Purchase cost due to excess distribution loss for FY 2016-17

S. No.	Particulars	Approved in MYT Order dated 21.03.16	Approved in APR FY 2016-17	Actual for FY 2016-17
1	Proposed resource gap assistance from State Government	1,417.77	1,417.77	1,513.66
2	Less: Disallowed power purchase funded through State Govt. grant	--	330.68	145.32
3	Available balance resource gap assistance	1,417.77	1,087.09	1,368.35

Commission's analysis

The difference in excess of the actual power purchase and the power purchase requirement approved by the Commission for FY 2016-17 is disallowed at the average power purchase rate and is treated as "Disincentive for non-achievement of Distribution Loss target".

As per the approved trajectory, the maximum permissible distribution loss level for FY 2016-17 was set at 19.25%, which the Petitioner was not able to achieve.

The Commission, while computing the Energy Balance has noticed that 1396.96 MU of energy (gross) was additionally purchased due to not achieving the distribution loss trajectory of 19.25%, approved for FY 2016-17. Accordingly, the Commission has computed the disincentive for non-achievement of distribution loss reduction target at Rs. 550.02 Crore for FY 2016-17, considering average power purchase rate including PGCIL and POSOCO charges at Rs.3.937 per kWh as shown below:

The Commission, while computing the Energy Balance has noticed that 1396.96 MU of energy (gross) was additionally purchased due to not achieving the distribution loss trajectory of 19.25%, approved for FY 2016-17. The average power purchase rate including PGCIL and POSCO charges is computed at Rs. 3.937/kWh as below:

Power Purchase Cost	= Rs. 3694.00 Crore
PGCIL Charges (incl. POSOCO)	= Rs. 364.09 Crore
Power Purchase Cost incl. PGCIL charges	**= Rs. 4058.09 Crore**
Power Purchased	= 10306.93 MU
Avg. Power Purchase Cost (incl. PGCIL+POSOCO Charges)	= Rs.3.937/kWh

Accordingly, the Commission has computed the disincentive for non-achievement of distribution loss reduction target at Rs. 550.02 Crore for FY 2016-17, considering average power purchase rate including PGCIL and POSOCO charges at Rs. 3.94 per kWh as shown in the Table below:

Table 4.19: Disincentive for Non-achievement of Distribution loss reduction target for FY 2016-17

SI. No	Particulars	Unit	Projected for FY 2016-17	Approved in Truing-up for FY 2016-17
1	Gross Power Purchase Disallowed	MU	-	1396.96

Sl. No	Particulars	Unit	Projected for FY 2016-17	Approved in Truing-up for FY 2016-17
2	Average Power Purchase Cost	Rs/kWh	-	3.937
3	Cost of Power Purchase disallowed (1*2)	Rs. Crore	145.32	550.02

4.11 Renewable Power Purchase Obligation (RPO)

Petitioner's submission

The details of Renewable Energy based power purchased by NBPDCL during FY 2016-17 are as given in the Table below:

Table 4.20: Renewable energy purchase in FY 2016-17

S. No.	Particulars	Unit	FY 2016-17
1	Energy consumption excluding Nepal	MU	7117.85
2	% of RPO Obligation	%	6.50%
	Solar	%	1.50%
	Non-Solar	%	5.00%
3	MUs required as per RPO for the year	MU	462.66
	Solar	MU	106.77
	Non-Solar	MU	355.89
4	Solar Energy procured during the year	MU	38.55
5	Non-Solar Energy procured during the year	MU	68.29
6	Solar REC purchased during the year	No.	0.00
7	Non-solar REC purchased during the year	No.	0.00

Commission's analysis

As per the BERC (Renewable Purchase Obligation, its compliance and REC Framework implementation) Regulations 2010, read with amendment dated 07.09.2012, it has been made obligatory for DISCOMs to purchase the following percentage of its total energy consumption from Renewable Energy sources during FY 2016-17 as shown in the Table below:

Table 4.21: Percentage of RPO for FY 2016-17

S. No.	Particulars	FY 2016-17
1	Renewable power purchase obligation (RPO)	6.50%
2	% share of solar power in RPO	1.50 %
3	% share of non-solar power in RPO	5.00%

As per the report of BREDA vide letter No.353 dated 06.03.2018 there is Captive consumption of 32.45 MU of Non-solar power in NBPDCL area.

The Commission has noted that NBPDCL has not fully met the RPO during FY 2016-17. The purchase of Renewable Energy from BSHPC, solar and Co-generation plants by NBPDCL during FY 2016-17 and shortfall in RPO and requirement of RE certificate purchase/ amount to be deposited to meet RPO are as given in the Table below:

Table 4.22: RE Certificate Cost for FY 2016-17

Sl. No	Particulars	Quantity (MU)
1	Solar purchase	38.55
2	Non-solar purchase	-
	a.co-generation	63.02
	b. Small Hydro (BSHPC)	5.27
3	Total purchase from non solar (a+b)	68.29
4	Total purchase (Solar +Non-solar)	106.83
5	Total energy purchase	10306.93
6	Losses	1792.11
7	Disallowed power + Nepal Sales	2585.85
8	Energy consumption (5-6-7)	5928.97
9	Total RPO requirement (6.50%)	385.38
10	Solar RPO requirement (1.50%)	88.93
11	Non-solar RPO requirement (5.00%)	296.45
12	Captive consumption of RE generators (Non-solar)	32.45
13	Non-solar RECs purchased	-
14	Shortfall in solar RPO (10-1)	50.38
15	Shortfall in non-solar RPO (11-3-12-13)	195.71
16	Forbearance price of solar REC (Rs./kWh)	5.80
17	Forbearance price of non solar REC (Rs./kWh)	3.30
18	Cost of solar REC (Rs. Crore)	29.22
19	Cost of non-solar REC (Rs. Crore)	64.58
20	**Total cost of certificate (Rs. Crore)**	**93.80**

4.12 Solar RPO

The above table indicates that NBPDCL has not met the Solar RPO during FY 2016-17 as per truing-up based on audited annual accounts of FY 2016-17. As per the Regulation, either the Solar RE certificates shall be purchased during the year or deposit of an equivalent amount shall be made at the forbearance price which is at Rs. 5.80/kWh as per CERC Order dated 30th December, 2014. NBPDCL has not purchased the solar RE Certificates to fulfill the RPO in respect of solar energy shortfall of 50.38 MU. Therefore, as per the mandate of the Regulation, NBPDCL has to deposit into a separate account an equivalent amount at forbearance price of solar REC which comes to Rs. 29.22 Crore.

The Commission directs NBPDCL to deposit an amount of Rs.29.22 Crore into a separate fund with a bank as per BERC RPO Regulations.

The Commission has noted from the Petitioners letter no 69 dated 23.01.2018 that it has fulfilled its solar RPO through purchase of non-solar REC in FY 2017-18 as per the directions of the Commission in order dated 23.02.2018 in case no 16/2016 in the absence of non availability of solar REC in the market due to embargo on trading of solar REC by the Hon'ble Supreme Court. Accordingly, the Commission is not factoring such amount in the ARR for FY 2018-19, rather it is being factored in the Review of ARR for FY 2017-18 for its consideration.

4.13 Non-solar RPO

The above table indicates that NBPDCL has not fully met the non-solar RPO during FY 2016-17 as per truing-up based on audited annual accounts for FY 2016-17. The non- solar RPO compliance has been worked out based on the power purchased from BSHPC, Sugar Mills and Biomass based power plants. As per the BERC RPO Regulations, either the non-solar RE certificates shall be purchased during the year or deposit of an equivalent amount shall be made at the forbearance price as per

CERC Order dated 30th December, 2014 still there is a shortfall of Non solar RPO to the tune of 195.71 MU. Therefore, as per the mandate of the Regulations NBPDCL has to deposit into a separate account an equivalent amount at forbearance price of solar REC which comes to Rs.64.58 Crore. The Commission directs NBPDCL to deposit an amount of Rs.64.58 Crore into a separate fund with a bank as per BERC RPO Regulations.

The Commission has noted from the Petitioners letter no 69 dated 23.01.2018 that it has fulfilled its Non-solar RPO through purchase of non-solar REC in FY 2017-18 as per the directions of the Commission in order dated 23.02.2018 in case no 16/2016. Accordingly, the Commission is not factoring such amount in the ARR for FY 2018-19, rather it is being factored in the Review of ARR for FY 2017-18 for its consideration.

Bihar Policy for promotion of New and Renewable Energy Sources, 2011 in its clause 4.2.3 provides that capital cost of transmission system for evacuation of power to the nearest grid/substation including all metering and protective instruments shall be borne by BSEB, which shall be reimbursed to BSEB by the State Government, provided that the project developer offer to supply BSEB/Distribution Licensee at least 50%, subject to a minimum of 2 MW of power generated from New and Renewable Energy Projects. Else, the entire project cost of transmission system for evacuation of power to the nearest grid/substation including all metering and protective instruments shall be borne by the project developer.

The above provision provides incentive for reimbursement of capital cost of transmission line for evacuating power only to those developers who offer at least 50% or a minimum of 2 MW generated capacity to the licensee. In order to provide further incentive for promotion of grid interactive renewable energy based power generation in the State, the Commission has decided that even for such projects which are not covered for reimbursement of cost of evacuation and transmission line upto point of interconnection with the grid under clause 4.2.3 of the policy, the capital cost of the transmission system for evacuation of power to the nearest grid/substation shall be met from this fund created under the provisions of BERC (RPO, its compliance and REC Framework Implementation) Regulations, 2010, subject to the approval of the Commission and details of such expenditure being reported to the Commission.

4.14 Capital Expenditure

Petitioner's submission

NBPDCL has submitted the details of opening CWIP, investment and capitalisation during the year and funding of capitalisation for FY 2016-17. The details of funding of capitalisation are furnished by the Petitioner showing details of Grants, Equity and Loan for FY 2016-17. The Petitioner has requested the Commission to approve the CWIP, capitalisation and funding of capitalisation for FY 2016-17 as given in the Table below:

Table 4.23: CWIP, Capitalisation and Funding of capitalisation projected for FY 2016-17

(Rs. Crore)

Sl. No.	Particulars	Approved in MYT order dated 21.03.2016	Approved in Tariff Order dated 24.03.2017	Claimed in True up for FY 2016-17
1	Opening CWIP	2678.55	5113.38	5113.37
2	Add: New Investment	6002.07	8259.04	2298.67
3	Less: Capitalisation (a+b)	**4226.09**	**11468.33**	**584.51**
A	Opening CWIP capitalisation	1225.05	4090.70	467.61
B	New Investment capitalisation	3001.04	7377.63	116.90
4	**Closing CWIP (1+2-3)**	**4454.53**	**1904.09**	**6827.52**
5	**Funding of Capitalisation**			
A	**CWIP capitalisation**	**1225.05**	**4090.70**	**467.61**
I	Grant	965.90	2975.38	192.43
Ii	Equity	97.65	674.68	19.88
Iii	Loans	161.50	440.64	255.30
B	**New Investment capitalisation**	**3001.03**	**7377.63**	**116.90**
I	Grant	2366.21	5366.14	48.10

Sl. No .	Particulars	Approved in MYT order dated 21.03.2016	Approved in Tariff Order dated 24.03.2017	Claimed in True up for FY 2016-17
Ii	Equity	239.20	1216.78	4.97
Iii	Loans	395.62	794.71	63.83
6	**Total Grants**	**3332.11**	**8341.52**	**240.53**
7	**Total Equity**	**336.85**	**1891.46**	**24.85**
8	**Total Loans**	**557.12**	**1235.35**	**319.13**

Commission's analysis:

The Petitioner has considered opening CWIP, capital investment and capitalisation for FY 2016-17 as per the audited annual accounts of FY 2016-17.

It is observed from the audited accounts for FY 2016-17, the capital expenditure is at Rs.2298.67 crore, net capitalisation is at Rs.584.51 Crore, grants are at Rs.240.53 crore and Consumer contribution at Rs.18.37 Crore. The Petitioner has provided the details of capex schemes vis-à-vis source of funding for FY 2016-17 in the Annexure XII (A) of the petition. As per the details provided, the capex is at Rs.2298.67 crore and capitalisation is at Rs.584.51 crore which is in line with the figures reported through audited accounts for FY 2016-17.

The Commission had considered funding of BRGF schemes through equity as per the Energy Department, Govt. of Bihar letter no. 02/NBPDCL-35/2013 – 205 dated 30.01.2017. The subject matter was elaborately discussed under "Commission's analysis" at paragraph 4.15 in the Tariff order dated 24.03.2017. The Bihar Industries Association (BIA), Patna filed Appeal No.120 and 121 of 2017 before the APTEL against the Commission's Order dated 09.03.2017 in remand case No.49 of 2015 (Vol.II) of NBPDCL and Case No.50 of 2015 (Vol.II) of SBPDCL. The appeals are posted for hearing on 28.02.2018. Considering the funding of BRGF schemes through equity is subject to judgement in Appeal No.120 and 121 of 2017.

The Commission has considered opening CWIP at Rs.5113.37 crore for FY 2016-17 based on the closing CWIP approved in truing up for FY 2015-16 in Tariff Order dated

24.03.2017.

The Commission has considered capital investment at Rs.2298.67 crore and capitalisation at Rs.584.51 crore as reported in the audited accounts for FY 2016-17 in truing up. Further, the funding of capitalisation is considered based on the project-wise capitalisation details furnished by the Petitioner.

The Petitioner has wrongly considered the funding of capitalisation through equity at Rs.24.85 crore instead of Rs.319.13 crore and loan at Rs.319.13 crore instead of Rs.24.85 crore in its computation in the Table 4.23 above. The Commission, based on the scheme-wise funding details furnished by the Petitioner in Annexure XII (A), has computed the funding of capitalisation for FY 2016-17 through equity, grants and loan as hereunder:

Sl. No.	Name of the Scheme	Funding of Capitalisation considered for FY 2016-17			
		Grant	Equity	Loan	Total
1	BRGF Phase-I		9.14		9.14
2	BRGF (RSVY)	0.28			0.28
3	NABARD Phase VIII	3.31			3.31
4	MP/CM LAD	13.30			13.30
5	RGGVY XI plan	223.64		24.85	248.49
6	State Plan		14.74		14.74
7	Own sources		295.25		295.25
	Total	**240.53**	**319.13**	**24.85**	**584.51**

The Commission, accordingly, has considered the capitalisation of opening CWIP, new investment and funding as detailed in the Table below:

Table 4.24: Capitalisation and funding approved for FY 2016-17 (Rs. Crore)

Sl. No.	Particulars	Approved in MYT order dated 21.03.2016	Revised and approved in Tariff Order dated 24.03.2017	Claimed in True up for FY 2016-17	Now approved in truing up for FY 2016-17
1	Opening CWIP	2678.55	5113.38	5113.37	5113.37
2	Add: New Investment	6002.07	8259.04	2298.67	2298.67
3	Less: Capitalisation (a+b)	**4226.09**	**11468.33**	**584.51**	**584.51**
a	Opening CWIP capitalisation	1225.05	4090.70	467.61	467.61
b	New Investment capitalisation	3001.04	7377.63	116.90	116.90
4	**Closing CWIP (1+2-3)**	**4454.53**	**1904.09**	**6827.52**	**6827.53**
5	**Funding of Capitalisation**				
a	**CWIP capitalisation**	**1225.05**	**4090.70**	**467.61**	**467.61**
i	Grant	965.90	2975.38	192.43	192.43
Ii	Equity	97.65	674.68	19.88	255.30
iii	Loans	161.50	440.64	255.30	19.88
b	**New Investment capitalisation**	**3001.03**	**7377.63**	**116.90**	**116.90**
i	Grant	2366.21	5366.14	48.10	48.10
Ii	Equity	239.20	1216.78	4.97	63.83
iii	Loans	395.62	794.71	63.83	4.97
6	**Total Grants [5a(i)+ 5b(i)]**	**3332.11**	**8341.52**	**240.53**	**240.53**
7	**Total Equity [5a(ii)+ 5b(ii)]**	**336.85**	**1891.46**	**24.85**	**319.13**
8	**Total Loans [5a(iii)+ 5b(iii)]**	**557.12**	**1235.35**	**319.13**	**24.85**

4.15 Gross Fixed Assets

Petitioner's submission

The Petitioner has submitted that Opening GFA is considered as per the audited annual accounts as on 31st March 2017 and computed the GFA for FY 2016-17 based on the capitalisation for FY 2016-17 as detailed in the Table below:

Table 4.25: Gross Fixed Assets projected for FY 2016-17 (Rs. Crore)

Sl. No.	Particulars	Approved in MYT order dated 21.03.2016	Approved in Tariff Order dated 24.03.2017	Claimed in True up for FY 2016-17
1	Opening GFA	4596.08	4573.69	4573.69
2	Additions during the year	4226.09	11468.33	584.51
3	Add : IDC	36.21	80.30	--
4	Add: Expenses capitalised	9.04	--	--
5	**Closing GFA (1+2+3+4)**	8867.43	16122.32	5158.21

Commission's analysis:

The Commission has considered opening GFA at Rs.4573.69 crore for FY 2016-17 based on the closing GFA approved in true up for FY 2015-16 in the Tariff Order dated 24.03.2017. The audited annual accounts of the Petitioner for FY 2016-17 also depict the opening GFA at 4573.69 crore for FY 2016-17. The addition to GFA during FY 2016-17 is considered at Rs.584.51 crore as approved in Table 4.24 above and also based on the audited accounts of FY 2016-17.

The opening GFA, additions to assets during the year and closing GFA for FY 2016-17, arrived at by the Commission is as detailed in the Table below:

Table 4.26: Gross Fixed Assets approved for FY 2016-17 (Rs. Crore)

Sl. No.	Particulars	Approved in MYT order dated 21.03.2016	Revised and approved in Tariff Order dated 24.03.2017	Claimed in True up for FY 2016-17	Now approved in Truing up for FY 2016-17
1	Opening GFA	4596.08	4573.69	4573.69	4573.69
2	Additions during the year	4226.09	11468.33	584.51	584.51
3	Add : IDC	36.21	80.30	--	--
4	Add: Expenses capitalised	9.04	--	--	--
5	**Closing GFA (1+2+3+4)**	**8867.43**	**16122.32**	**5158.21**	**5158.20**

4.16 Depreciation

Petitioner's submission:

NBPDCL has submitted that depreciation is claimed as per regulation 23 of BERC

(Multi Year Distribution Tariff) Regulations 2015 after reducing the value of grants and consumer contribution amortized in the ratio of depreciation. The Petitioner has claimed the depreciation for FY 2016-17 as detailed in the Table below:

Table 4.27: Depreciation projected for FY 2016-17 (Rs. Crore)

Sl. No.	Particulars	Approved in MYT order dated 21.03.2016	Approved in Tariff Order dated 24.03.2017	Claimed in True up for FY 2016-17
1	Opening GFA	4596.08	4573.69	**4573.69**
2	Less: Value of Land	987.08	990.55	**990.54**
3	Net Opening GFA (1-2)	**3609.00**	**3583.14**	**3583.15**
4	Net Additions during the year (excl. land value)	4226.09	11444.73	570.38
5	IDC	36.21	80.30	0.00
6	Expenses capitalised	9.04	--	--
7	**Closing GFA (3+4+5+6)**	**7880.35**	**15108.17**	**4153.53**
8	Average GFA {(3+7)/2}	**5744.68**	**9345.65**	**4363.61**
9	Weighted average rate of depreciation	5.08%	4.95%	4.41%
10	Depreciation (8*9)	**291.83**	**462.61**	**192.49**
11	Opening Grants	4701.13	3757.79	1802.61
12	Grants during the year	3332.11	8324.50	240.53
13	Total Grants (11+12)	**8033.25**	**12082.29**	**2043.14**
14	Average Grants {(11+13)/2}	**6367.19**	**7920.04**	**1922.88**
15	Weighted average rate of depreciation	5.08%	4.95%	5.34%
16	Depreciation on assets created out of grants (14*15)	**323.45**	**392.04**	**102.74**
17	**Net Depreciation (10-16)**	**0.00**	**70.57**	**89.76**

Commission's analysis:

The Commission has examined the computation of depreciation claimed by the Petitioner for FY 2016-17. The Commission observes that depreciation, as per the audited annual accounts for FY 2016-17 is at Rs.192.49 Crore (Note 25) and amortisation of Grants is at Rs.102.74 crore (Note 25) for the year 2016-17. The Petitioner has claimed net depreciation of Rs.89.76 crore (192.49 – 102.74) in the petition for FY 2016-17 in truing up.

The Commission has considered the weighted average rate of depreciation based on the audited annual accounts for FY 2016-17. According to the audited accounts for FY 2016-17, the opening GFA of Rs.4573.69 crore includes value of land of Rs.990.54 crore. Further the addition to GFA during FY 2016-17 of Rs.584.51 crore also include land value of Rs.14.14 crore. Land is not a depreciable asset and accordingly, the Commission has reduced the value of land for arriving at the effective weighted average rate of depreciation. The effective weighted average rate of depreciation works out to 4.98% on the depreciable assets i.e. excluding land value for FY 2016-17 as detailed hereunder:

Sl. No.	Particulars	Amount (Rs. Crore)
1	Opening GFA	4573.69
2	Less: Opening land value (as per audited accounts)	990.54
3	Opening GFA (Opening depreciable assets) (1-2)	3583.15
4	Additions during the year	584.51
5	Less: Value of land added during the year	14.14
6	Closing GFA (Closing depreciable assets) (3+4-5)	4153.53
7	Average GFA (3+6)/2	3868.34
8	Net Depreciation as per accounts	192.48
9	**Weighted average rate of Depreciation (8/7)*100**	**4.98%**

The Commission has considered the opening GFA, additions to assets and closing GFA as detailed in Table 4.26. The Commission has considered the weighted average rate of depreciation as worked out above for computing depreciation in the true up for FY 2016-17.

Regulation 73 (2) (a) (ii) of the BERC (Terms and Conditions for Determination of Tariff) Regulations 2007, specifies that ***"Land is not a depreciable asset and its cost shall be excluded from the capital cost"***.

The Commission, accordingly, has not considered the value of land amounting to Rs.1004.68 Crore (Rs.990.54 Crore opening land value + Rs.14.14 Crore addition during the year) as per the audited annual accounts of NBPDCL for FY 2016-17.

The Commission has approved the closing grants at Rs.3757.79 Crore in true up for FY 2015-16 in Tariff Order dated 24.03.2017, accordingly the same is considered as opening grants for FY 2016-17. The addition to grants (Rs.240.53 crore) during FY 2016-17 is considered based on the capitalisation considered in Table 4.24. Further, The Petitioner vide letter no.42 dated 12.01.2018 has intimated that the State Government has granted Rs.961.89 crore towards grant under UDAY scheme for repayment of loans under FRP. The grant is utilised for repayment of loans of Rs.649.01 crore obtained for liquidation of power purchase liability and balance Rs.312.88 crore was utilised for repayment of project loan from REC (Principal). The Commission, accordingly, has considered Rs.312.88 crore as grant for assets capitalised and adjusted for computation of depreciation, interest on loan, RoE for FY 2016-17. Thus total grants of Rs.553.41 crore (Rs.240.53 crore + Rs.312.88 crore) is considered utilised for capitalisation during FY 2016-17.

The opening GFA, additions to GFA, closing GFA, rate of depreciation and depreciation on assets, depreciation on assets created out of grants and net depreciation considered as pass through in the ARR by the Commission in true up for FY 2016-17 is as detailed in the Table below:

Table 4.28: Depreciation approved for FY 2016-17 (Rs. Crore)

Sl. No.	Particulars	Approved in MYT order dated 21.03.2016	Revised and approved in Tariff Order dated 24.03.2017	Claimed in True up for FY 2016-17	Now approved in Truing up for FY 2016-17
1	Opening GFA	4596.08	4573.69	**4573.69**	4573.69
2	Less: Value of Land	987.08	990.55	**990.54**	990.54
3	Net Opening GFA (1-2)	**3609.00**	**3583.14**	**3583.15**	**3583.15**
4	Net Additions during the year (excl. land value of Rs.14.14 crore)	4226.09	11444.73	570.38	570.37
5	IDC	36.21	80.30	--	--
6	Expenses capitalised	9.04	--	--	--
7	**Closing GFA (3+4+5+6)**	**7880.35**	**15108.17**	**4153.53**	**4153.52**
8	Average GFA {(3+7)/2}	**5744.68**	**9345.65**	**4363.61**	**3868.34**
9	Weighted average rate of depreciation	5.08%	4.95%	4.41%	4.98%
10	**Depreciation (8*9)**	**291.83**	**462.61**	**192.49**	**192.64**
11	Opening Grants	4701.13	3757.79	1802.61	3757.79
12	Grants during the year	3332.11	8324.50	240.53	553.41

Sl. No.	Particulars	Approved in MYT order dated 21.03.2016	Revised and approved in Tariff Order dated 24.03.2017	Claimed in True up for FY 2016-17	Now approved in Truing up for FY 2016-17
13	Total Grants (11+12)	**8033.25**	**12082.29**	**2043.14**	**4311.20**
14	Average Grants {(11+13)/2}	**6367.19**	**7920.04**	**1922.88**	**4034.50**
15	Weighted average rate of depreciation	5.08%	4.95%	5.34%	4.98%
16	Depreciation on assets created out of grants (14*15)	**323.45**	**392.04**	**102.74**	**200.92**
17	**Net Depreciation (10-16)**	**0.00**	**70.57**	**89.76**	--

It can be observed from the table above, the proportionate depreciation on assets created through Grants is higher than depreciation on assets and hence, the Commission, accordingly, approves depreciation as 'Nil' for FY 2016-17 in true up.

4.17 A. Interest on Loans

Petitioner's submission:

NBPDCL has submitted that interest on loans include loans against schemes, Central and state Government loans, Bank overdrafts, public bonds, etc.

It is submitted that Rs.961.88 crore grant is received under UDAY from GoB against issuing of Bonds through RBI for repayment of outstanding loans as on 30.09.2015. The Grant received is credited to Capital Reserve and was utilised for repayment of outstanding loans.

The repayment is considered equivalent to depreciation claimed for FY 2016-17. The weighted average rate of interest on project loans is calculated at 8.16% for computing interest on normative loan as given below:

Sl. No.	Particulars	FY 2016-17
1	**Opening Balance**	**579.50**
	REC Loans	456.43
	APDRP and RAPDRP	60.12
	ADB	62.95
2	**Addition during the year**	**44.42**

Sl. No.	Particulars	FY 2016-17
	REC Loans	42.27
	APDRP and R-APDRP	1.23
	ADB	0.92
3	**Repayment of loans**	**340.27**
	REC Loans	328.86
	APDRP and R-APDRP	11.41
4	**Closing balance**	**596.72**
	REC Loans	169.84
	APDRP and R-APDRP	49.94
	ADB	63.87
5	**Average Loans (1+4)/2**	**431.57**
6	**Interest on Loans**	**35.20**
	APDRP and R-APDRP	1.56
	REC Loans	26.74
	ADB	6.67
7	**Weighted average rate of interest**	**8.16%**

NBPDCL has claimed interest charges for FY 2016-17 in truing up as detailed in the Table below:

Table 4.29: Interest on loans claimed for FY 2016-17 (Rs. Crore)

Sl. No.	Particulars	Claimed in True up for FY 2016-17
1	Amount of total asset at the beginning @70%	3201.58
2	Less: Assets created from Grants at beginning	1261.83
3	Addition during the year	409.16
4	Less: assets created from grants during the year	168.37
5	Net assets (1-2+3-4)	2180.55
6	Less: Repayment during the year	89.76
7	**Amount of Debt (5-6)**	**2090.79**
8	**Average Debt**	**2646.19**
9	Weighted average rate of Interest on project loans	8.16%
10	**Interest on loan (6*7)**	**215.81**

Commission's analysis:

The Petitioner has claimed interest expenses at Rs.215.81 crore in truing up for FY 2016-17. The Petitioner has claimed interest expenses considering the debt : equity ratio of 70 : 30 of the GFA after adjustment of grants in the same ratio.

The Commission has approved the closing grants at Rs.3757.79 crore in truing up to end of FY 2015-16 in the Tariff Order dated 24.03.2017. However, the Petitioner has considered total opening grants at Rs.1802.61 crore (Rs.540.78 crore in Table 32-RoE and Rs.1261.83 crore in Table 34-Interest on loan). Further, the Petitioner has considered repayment of loan for FY 2016-17 only and has conveniently ignored the cumulative repayment of loans (normative repayment/depreciation) to end of FY 2016-17. Further, the GFA also includes value of assets revalued Rs.965.91 crore as per the transfer scheme.

The Commission in paragraph 4.18 of Tariff order dated 24.03.2017 has emphasized that regulation 84 of the BERC (Terms and Conditions for Determination of Tariff) Regulations 2007 as below:

"the tariff for a Distribution licensee shall be fixed in such a manner that the licensee in a financial year shall ordinarily earn a return, which shall comprise of 14% on equity invested in the ***capital expenditure (apportioned to the quantum for the purpose of performing the electricity business in the present debt–equity structure)*** …… ".

The definition of equity thus would involve all net worth deployed in the capital of the unit ***but does not include any revaluation of reserves and subsidies***.

The regulation clearly specifies that the capital base shall be the historical value of GFA less capital subsidies and revaluation of reserves. The value of GFA includes asset revaluation of Rs.965.91 crore. Going by the analogy of the Petitioner, the value of GFA shall be reduced by revaluation and total capital grants and consumer contribution (including amount amortised) at first and the balance shall be considered and apportioned in debt : equity ratio of 70 : 30 and accordingly, the normative loan/debt (70% of the balance capital base) shall be considered.

The Petitioner shall comprehend the BERC (Terms and Conditions for Determination of Tariff) Regulations 2007 before making such claims and filing the tariff petition.

The Commission, in paragraph 4.18 of Tariff Order dated 24.03.2017, has directed the Petitioner to comprehend the BERC (Terms and Conditions for Determination of Tariff) Regulations 2007 before making such claims and filing the tariff petition. The Petitioner has followed/repeated the same irrational methodology for claiming the RoE and interest on loans for FY 2016-17.

The Commission has considered the opening Loan at Rs.552.31 crore for FY 2016-17 based on the normative closing Loan approved in true up for FY 2015-16. The Commission has approved capitalisation at Rs.584.51 crore and Grants at Rs.240.53 crore in Table 4.24. Further, the Commission has considered Rs.312.88 crore as grant under UDAY scheme for assets capitalised as deliberated in paragraph 4.16 above. Thus total grants of Rs.553.41 crore (240.53+312.88) is considered for FY 2016-17. The addition to loan is considered based on funding of capitalisation approved for FY 2016-17 in truing up as given below:

Particulars	Amount (Rs. Crore)
Net Capitalisation during FY 2016-17	584.51
Less: Capitalisation through Grants	553.41
Net capitalisation	31.10
Debt @ 70%	21.77
Equity @ 30%	9.33

Regulation 25 (e) of BERC (Multi Year Distribution Tariff) Regulations 2015 specifies that repayment of loan shall be equal to the depreciation allowed for the year. Accordingly, the Commission has considered repayment of loan equal to the depreciation allowed for the year.

The Petitioner has considered weighted average rate of interest at 8.16%. The Commission has computed the weighted average rate of interest for FY 2016-17, based on the interest expenses and opening and closing project loan balances reported through the audited accounts for FY 2016-17, as given below:

Source of loan	Opening loan	Closing loan	Average Loan	Interest	Weighted average/ effective rate of interest
1	2	3	4=(2+3)/2	5	6=5/4*100
Govt. Loans	369.91	383.27	376.59	6.67	1.77%
REC	456.43	169.84	313.14	26.97	8.61%
PFC	60.12	325.60	192.86	2.21	1.15%
Total	**886.46**	**878.71**	**882.59**	**35.85**	**4.06%**

Accordingly, the Commission has considered the rate of interest of 4.06% for computation of interest on normative loan for FY 2016-17 in truing up.

The Commission, accordingly, computed interest on loans for FY 2016-17 as detailed in the Table below:

Table 4.30: Interest on loans approved for FY 2016-17 (Rs. Crore)

Sl. No.	Particulars	Approved for FY 2016-17 in MYT order dated 21.03.2016	Revised and approved for FY 2016-17 (RE) in Tariff Order dated 24.03.2017	Claimed in True up for FY 2016-17	Now approved in Truing up for FY 2016-17
1	**Opening loan balance**	439.72	552.31		552.31
2	Additions during the year	557.12	2244.98		21.77
3	Normative Repayment	0.00	70.57		0.00
4	Closing Loans (1+2-3)	**996.84**	**2726.72**		**574.08**
5	**Average Loans {(1+4)/2}**	**718.28**	**1639.51**	**2646.19**	**563.20**
6	Interest rate	9.96%	9.96%	8.16%	4.06%
7	**Interest Charges (5*6)**	**71.54**	**163.30**	**215.81**	**22.87**

The Commission, accordingly, approves Rs.22.87 Crore towards interest on loans for FY 2016-17 in true up.

4.18 B. Other Interest and Finance Charges

Petitioner's submission:

NBPDCL has submitted that other finance charges include power factor rebate, interest to suppliers, bank charges, etc. and claimed based on audited annual accounts for FY 2016-17 as detailed in the Table below:-

Table 4.31: Other Interest and Finance Charges claimed for FY 2016-17 (Rs. Crore)

Sl. No.	Particulars	Approved for FY 2016-17 in MYT order dated 21.03.2016	Approved for FY 2016-17 (RE) in Tariff Order dated 24.03.2017	Claimed in True up for FY 2016-17
1	Discount/Rebate to consumers for timely payment of bills			19.25
2	Power Factor Rebate			0.73
3	Interest to suppliers/contractors (LPSC to power suppliers)			39.00
4	Interest on group saving scheme			0.01
5	Interest on GPF			0.05
6	Interest on Gratuity			0.04
7	LC commission			1.78
8	Other Bank charges			0.01
9	Base other finance charges	25.70	28.35	
10	Escalation %	10%	10%	
11	Increase in finance charges	2.57	2.84	
12	**Total**	**28.27**	**31.19**	**60.87**

NBPDCL has requested the Commission to approve the other interest and finance charges for FY 2016-17 as per above Table.

Commission's analysis:

Discount/Rebate to consumers for timely payment of bills

The Commission in Tariff Principles, Design and Tariff Schedule notified through the Tariff Order dated 21.03.2016 for FY 2016-17 has specified that *Rebate for prompt payment of energy bills on or before due date by the LT and HT consumers shall be allowed as per the rates prescribed in the tariff order.* As per the audited accounts for FY 2016-17, the Petitioner has allowed discount to consumers for timely payment of bills (Rebate) of Rs.19.25 crore.

The Commission, accordingly, approves Rs.19.25 Crore toward rebate for prompt payment for FY 2016-17 in truing up.

Power Factor Rebate

The Commission in Tariff Principles, Design and Tariff Schedule notified through the Tariff Order dated 21.03.2016 for FY 2016-17 has specified that Power factor Rebate, to the LT consumers except Domestic category of consumers in whose case, the meter installed has power factor recording feature and monthly average power factor is more than 90%, shall be allowed as per the rates prescribed in the tariff orders. The Petitioner has allowed power factor rebate of Rs.0.73 crore as reported through audited accounts for FY 2016-17.

The Commission, accordingly, approves Rs.0.73 Crore as per the audited accounts of FY 2016-17 in truing up.

Interest to suppliers/contractors (Late Payment Surcharge to Power Suppliers)

As per the audited accounts for FY 2016-17, the petitioner has incurred Rs.39.00 crore towards LPSC to power suppliers during FY 2016-17.

The Petitioner vide letter no.COM/NB/74/17(PART)180 dated 05.03.2018 has submitted that delayed payment surcharge (DPS) received from consumers is treated as nontariff income by the Commission and accordingly deducted from the ARR. Similarly, the LPSC imposed by the power producers due to delay in payment of bill due to non-availability of fund shall also be treated as pass through to the consumers. Treating DPS as income and non-consideration of LPSC as a pass through expenditure is doubly jeopardizing the condition of the Discoms. The Petitioner has requested the LPSC should form part of expenditure if DPS is considered as income.

The Commission, in line with the judgement dated 12.07.2011 of APTEL in case no.142 & 147 of 2009, is allowing financing cost of DPS in the true up year on year though tariff orders. Thus the Commission is considering DPS net of financing cost year on year. The Commission is also allowing interest on working capital also. As such the arguments advanced by the Petitioner is untenable.

Further, the Regulation 20 (2)(5) of the BERC (Multi Year Distribution Tariff) Regulations 2015, specify that any cost increase by the licensee by way of penalty, interest due to delayed payments and due to operational inefficiencies shall not be allowed. **The Commission, accordingly, has not considered the LPSC of Rs.39.00 crore for FY 2016-17.**

LC Commission and other Bank charges

The Petitioner has claimed Rs.1.78 Crore and Rs.0.01 crore towards LC commission and other bank charges respectively for FY 2015-16. The Commission considers LC commission or Rs.1.78 crore as the same represent the LC commission paid to Bank for opening LC for arranging payment of power purchase bills and other bank charges of Rs.0.01 crore as the same represent bank collection charges, other finance charges, etc. **Thus the Commission considers Rs.1.79 crore (1.78+0.01) towards LC commission and other bank charges for FY 2016-17 in truing up based on the audited accounts**.

Interest on Group Savings Scheme (GSS), GPF and Gratuity

The Petitioner has claimed Rs.0.10 Crore towards interest on GSS (Rs.0.01 crore), Interest on GPF (Rs.0.05 crore) and Interest on Gratuity (Rs.0.04 crore) in true up for FY 2016-17 based on the audited accounts for FY 2016-17. The Commission observes that these are the liabilities of the Trusts and are not related to the Petitioner hence cannot be passed on to the consumers. **Accordingly, these expenses are not considered in truing up for FY 2016-17.**

Thus the Commission considers a total amount of Rs.21.77 crore towards other finance charges for FY 2016-17 as given in the Table below:

Table 4.32: Other Finance Charges approved for FY 2016-17 (Rs. Crore)

Sl. No.	Particulars	Approved for FY 2016-17 in MYT order dated 21.03.2016	Approved for FY 2016-17 (RE) in Tariff Order dated 24.03.2017	Claimed in True up for FY 2016-17	Now approved in True up for FY 2016-17
1	Discount/Rebate to consumers for timely payment of bills	--	--	19.25	19.25
2	Power Factor Rebate	--	--	0.73	0.73
3	Interest to suppliers/contractors (LPSC to power suppliers)	--	--	39.00	--
4	Interest on group saving scheme	--	--	0.01	--
5	Interest on GPF	--	--	0.05	--
6	Interest on Gratuity	-	--	0.04	--
7	LC commission	--	--	1.78	1.78
8	Other Bank charges	--	--	0.01	0.01
9	Base other finance charges	25.70	28.35	--	--
10	Escalation %	10%	10%	--	--
11	Increase in finance charges	2.57	2.84	--	--
12	**Total**	**28.27**	**31.19**	**60.87**	**21.77**

The Commission, accordingly, approves Rs.21.77 Crore towards other finance charges for FY 2016-17 in true up.

4.19 Return on Equity

Petitioner's submission:

NBPDCL has submitted that as per regulation 27 of the BERC MYT regulations 2015, return on equity shall be calculated as follows:

(a) Return on equity shall be computed on 30% of the capital base or actual equity, whichever is lower:

Provided that assets funded by consumer contribution, capital subsidies/ grants and corresponding depreciation shall not form part of the capital base. Actual equity invested in the Distribution Licensee as per book value shall be considered as perpetual and shall be used for computation in this Regulation:

(b) The return on the equity invested shall be allowed from the date of start of commercial operation.

(c) The project which will be commissioned w.e.f. 01.04.2016 will be allowed RoE of 15.5% and if project is completed in schedule period 0.5% incentives in form of RoE will be allowed.

NBPDCL has submitted that the actual equity infused in the company is greater than the norm of 30% of capital base. However in line with the above cited regulation, the return on equity is calculated on 30% of the capital base only.

NBPDCL has computed the return on equity for FY 2016-17 as detailed in the Table below:

Table 4.33: Return on Equity claimed for FY 2016-17 (Rs. Crore)

Sl. No.	Particulars	Claimed in True up for FY 2016-17
1	Amount of total asset at the beginning	1372.11
2	Less: Assets created out of grant at beginning	540.78
3	Addition during the year	175.35
4	Less: Assets created from grant during the year	72.16
5	Net Assets	934.52
6	Average Equity	1153.31
7	Amount of equity eligible for return	1153.31
8	Rate of return on equity	16.00%
9	**Amount of return on equity**	**184.53**

Commission's Analysis

The Commission has examined the computation of RoE claimed by the Petitioner in truing up for FY 2016-17.

The Commission, in paragraph 4.26 under "Commission's analysis" in Tariff order for FY 2017-18 dated 24.03.2017 had elaborately discussed on the methodology followed by the Petitioner for computation of Return on Equity. The Commission has directed the Petitioner shall comprehend the BERC (Terms and conditions for Determination of Tariff) Regulations 2007 before making such claims and filing the tariff petition. ***The Petitioner has followed/repeated the same irrational methodology for claiming the RoE and interest on loans for FY 2016-17.***

The Regulation 27 of the BERC (Multi Year Distribution Tariff) Regulations 2015, specify;

(a) *Return on equity shall be computed on 30% of the capital base or actual equity, whichever is lower:*

Provided that assets funded by consumer contribution, capital subsidies/grants and corresponding depreciation shall not form part of the capital base. Actual equity invested in the Distribution Licensee as per book value shall be considered as perpetual and shall be used for computation in this regulation:

(b) *The return on the equity invested shall be allowed from the date of start of commercial operation:*

(c) *The project which will be commissioned w.e.f. 01.04.2016 will be allowed RoE of 15.50% and if project is completed in schedule period 0.5% incentives in form of RoE will be allowed.*

According to the regulation 27 (as above), RoE shall be computed on 30% of the net Capital base (after reducing the value of consumer contributions, capital subsidies/grants) or actual equity whichever is lower. Further, in terms of regulation 27 (c), RoE shall be allowed @14% on the net capital base as on 31.03.2016 and @15.50% on the net capital base w.e.f. 01.04.2016.

The Petitioner has claimed RoE @16% on the 30% of the net capital base (excluding grants) in true up for FY 2016-17. It is observed from the computation of the Petitioner for RoE and Interest on loans, the total grant of Rs.1802.61 crore (Rs.540.78 crore in Table 32-RoE and Rs.1261.83 crore in Table 34-Interest on loan) is considered at beginning/opening grants for FY 2016-17, whereas the Commission has approved the closing grants at Rs.3757.79 crore in true up for FY 2015-16 (Table 4.32 Sl.No.12).

The Commission has approved closing GFA at Rs.4573.69 Crore and closing Grants at Rs.3757.79 Crore in true up for FY 2015-16. The closing GFA includes assets revalued of Rs.965.91 Crore. The original value of GFA works out to Rs.3607.78 Crore (Rs.4573.69 Crore – Rs.965.91 Crore). The net capital base as on 31.03.2016 works out to Rs.(-)150.01 Crore (Original value of GFA Rs.3607.78 Crore – Grants Rs.3757.79 Crore).

However, the Commission following the principle of prudence and consistency has considered opening equity as per transfer scheme and further updated year on year based on the capitalisation. The Commission has approved Rs.440.86 crore as closing equity in true up for FY 2015-16 and accordingly, has considered RoE at 14% as per regulation 27(c) above.

The Commission has approved capitalisation at Rs.584.51 Crore and funding of capitalisation for FY 2016-17 and funding of capitalisation through grants at Rs.240.53 crore for FY 2016-17 as depicted in Table 4.24. Further, the Commission has considered Rs.312.88 crore as grant for assets capitalised under UDAY scheme as deliberated in paragraph 4.16 above. Thus total grant of Rs.553.41 crore (240.53 + 312.88) is considered for FY 2016-17.

The Commission, in view of Regulation 27 (as above), for the purpose of computation of Return on Equity, has considered equity @30% of capital base (net of grants) w.e.f. 01.04.2016 in respect of investment capitalised during the year FY 2016-17 as given below.

Sl. No.	Particulars	Amount (Rs. Crore)
1	Capitalisation during FY 2016-17	584.51
2	Less: capitalisation funded through grants	553.41
3	Net capitalisation (1-2)	31.10
4	Debt @70% (3*70%)	21.77
5	Equity @30% (3*30%)	9.33

Accordingly, the Commission has computed return on equity for FY 2016-17 as detailed in the Table below:

The Commission in terms of Regulation 84 of the BERC (Terms and conditions for determination of Tariff) Regulations 2007 has considered Rate of Return on Equity at 14% in closing equity as on 31.03.2016 and Rate of Return on Equity at 15.50% in terms of Regulation 27 of the BERC (Multi Year Distribution Tariff) Regulations 2015. Accordingly, the Commission has computed return on equity for FY 2016-17 as detailed in the Table below:

Table 4.34: Return on Equity approved for FY 2016-17 (Rs. Crore)

Sl. No.	Particulars	Approved for FY 2016-17 in MYT Order dated 21.03.2016	Revised and approved for FY 2016-17 (RE) in Tariff Order dated 24.03.2017	Claimed by NBPDCL for FY 2016-17 in truing up	Now approved for FY 2016-17 in truing up
1	Closing equity to end of 31.03.2016		440.86		440.86
2	Rate of return on equity %		14.00%		14.00%
3	Return on Equity		61.72		61.72
	Equity with effect from 1st April 2016				
4	Opening equity		--		--
5	Equity addition during the year FY 2016-17		962.13		9.33
6	Closing equity (4+5)		962.13		9.33
7	Average equity (4+6)/2	140.88	481.07	1153.31	4.67
8	Rate of return on equity with effect from 1.4.2016	15.50%	15.50%	16.00%	15.50%
9	Return on equity (7*8)	21.84	74.56	184.53	0.72
10	Total Return on equity (3+9)	21.84	136.28	184.53	62.44

The Commission, accordingly, approves Return on Equity at Rs.62.44 Crore in true up for FY 2016-17.

4.20 Employee Costs

Petitioner's submission:

NBPDCL has submitted that the employee expenses comprises of salaries, dearness allowance, bonus, staff welfare, medical benefits, leave travel and earned leave encashment and the terminal benefits in the form of pension, gratuity etc.

The Petitioner has projected the employee expenses for FY 2016-17 as detailed in the Table below:

Table 4.35: Employee Cost claimed by the Petitioner for FY 2016-17 (Rs. Crore)

Sl. No.	Particulars	Approved for FY 2016-17 in MYT Order dated 21.03.2016	Approved for FY 2016-17 (RE) in Tariff Order dated 24.03.2017	Claimed by NBPDCL for FY 2016-17 in truing up
1	Employee expenses	171.86	188.01	188.13
2	Inflationary index	5.25%	3.94%	--
3	Add: Inflationary increase (1*2)	9.02	7.41	--
4	**Employee Cost (1+3)**	**180.88**	**195.42**	**188.13**
5	Less: Expenses capitalised	9.04	--	--
6	**Total Employee Cost (4-5)**	**171.84**	**195.42**	**188.13**

Commission's analysis:

The Petitioner has considered the total employee cost as per the audited annual accounts for FY 2016-17, which includes payment towards terminal benefits.

The Commission has examined the employee cost computations of the Petitioner. The employee cost includes the Company's contribution towards its existing employees' future terminal benefits.

As per the transfer scheme, post unbundling the segregated entities shall contribute towards Gratuity, Pension and Leave Salary for existing employees to the Bihar State Electricity Employees Master Trust (BSEE Master Trust) at the rates approved by the Board of Trustees of the BSEE Master Trust. The contributions shall be remitted by 7th of every month to BSEE Master Trust. Accordingly, NBPDCL has made contribution to the Trust during FY 2016-17.

The Employee cost projected by the Petitioner is based on actual expenditure as per audited annual accounts for FY 2016-17. Hence, the Commission has considered the employee cost as detailed in the Table below:

Table 4.36: Employee cost approved for FY 2016-17 (Rs. Crore)

Sl. No.	Particulars	Approved for FY 2016-17 in MYT Order dated 21.03.2016	Revised and approved for FY 2016-17 (RE) in Tariff Order dated 24.03.2017	Claimed by NBPDCL for FY 2016-17 in truing up	Now approved for FY 2016-17 in Truing up
1	Employee expenses	171.86	188.01	188.13	188.13
2	Inflationary index	5.25%	3.94%	--	--
3	Add: Inflationary increase (1*2)	9.02	7.41	--	--
4	**Employee Cost (1+3)**	**180.88**	**195.42**	**188.13**	**188.13**
5	Less: Expenses capitalised	9.04	--	--	--
6	**Total Employee Cost (4-5)**	**171.84**	**195.42**	**188.13**	**188.13**

The Commission, accordingly, approves the employee cost at Rs.188.13 Crore for FY 2016-17 in true up.

4.21 Repairs and Maintenance (R&M) Expenses

Petitioner's submission:

NBPDCL has submitted that R&M expenses primarily include costs related to repair of different class of fixed assets, etc. The R&M expense projected by the Petitioner is as given in the Table below:

Table 4.37: Repairs and Maintenance expenses projected for FY 2016-17 (Rs. Crore)

Sl. No.	Particulars	Approved for FY 2016-17 in MYT Order dated 21.03.2016	Approved for FY 2016-17 (RE) in Tariff Order dated 24.03.2017	Claimed by NBPDCL for FY 2016-17 in truing up
1	**Opening GFA**	4596.08	**4573.69**	--
2	'K' factor	1.06%	1.21%	--
3	**R & M Cost (1*2)**	**48.72**	**55.34**	**49.21**

NBPDCL has requested the Commission to approve R&M expenses for FY 2016-17 as projected in the Table above.

Commission's analysis

The Petitioner has claimed R&M expenses as per the audited annual accounts for FY 2016-17. As per the annual accounts of NBPDCL for FY 2016-17, the Petitioner has incurred Rs.49.21 Crore towards R&M expenses during FY 2016-17. It is observed that during FY 2016-17 Rs.46.95 Crore is incurred towards R&M of Lines and Cable net work. The Commission has addressed the Petitioner to furnish details of expenditure vis-à-vis new equipment if any, accounted against R&M of Lines and Cable net works. The Petitioner has clarified that the R&M expenses do not include cost of new equipment.

Regulation 22.2 of BERC (Multi Year Distribution Tariff) Regulations, 2015 specify;

Regulation 22.2: Repairs and Maintenance (R&M) Expenses

Repairs and Maintenance expense shall be calculated as percentage (as per the norm determined) of Opening Gross Fixed Assets for the year governed by following formula:

*R&Mn = Kb * GFAn*

Where

R&Mn : Repairs and Maintenance expense for n^{th} year

GFAn : Opening Gross Fixed Assets for n^{th} year

Kb : Percentage point as per the norm

The Regulation 22 (a) specify; the Commission shall stipulate a separate trajectory of norms for each of the component of O&M expenses viz. Employee cost, R&M expense and A&G expense.

The Regulation 22 (i) specify, to estimate, values of norms shall be based on the last 3 (three) years audited accounts of operations.

The Commission has opined at paragraph 7.27.3 in Tariff order dated 21.03.2016 that " *..... the 'K' factor (as above) shall be revised based on 3 (three) years audited accounts while considering truing up for FY 2015-16 and accordingly, the R&M shall be adopted in truing up process for the MYT control period*". The Commission, in terms of regulation 22.2 of the BERC (Multi Year Distribution Tariff) Regulations 2015, has approved the 'K' factor at 1.21% for the MYT control period of FY 2016-17 to FY 2018-19 and considered R&M expenses on the Opening GFA for the MYT control period. It was also specified to regulate the R&M expenses year on year in true up of relevant year of the MYT control period of FY 2016-17 to FY 2018-19.

In view of the above, the Commission considers ‘K’ factor at 1.21% for FY 2016-17, approved in Tariff order dated 21.03.2016, and allowed R&M expenses on opening GFA with ‘K’ factor for FY 2016-17 as detailed in the Table below:

Table 4.38: R&M expenses approved for FY 2016-17 (Rs. Crore)

Sl. No.	Particulars	Approved for FY 2016-17 in MYT Order dated 21.03.2016	Revised and approved for FY 2016-17 (RE) in Tariff Order dated 24.03.2017	Claimed by NBPDCL for FY 2016-17 in truing up	Now approved for FY 2016-17 in Truing up
1	**Opening GFA**	4596.08	4573.69	--	4573.69
2	‘K’ factor	1.06%	1.21%	--	1.21%
3	**R & M Cost (1*2)**	**48.72**	**55.34**	**49.21**	**55.34**

The Commission, accordingly, approves R&M expenses at Rs.55.34 Crore in true up for FY 2016-17.

4.22 Administrative and General (A&G) Expenses

Petitioner’s submission

NBPDCL has submitted that Administration and General expenses mainly comprise of rents, telephone and other communication expenses, professional charges, conveyance and travelling expenses etc. NBPDCL has projected the A&G expenses for FY 2016-17 in truing up as furnished in Table below:

Table 4.39: Administration and General Expenses projected for FY 2016-17

(Rs. Crore)

Sl. No.	Particulars	Approved for FY 2016-17 in MYT Order dated 21.03.2016	Approved for FY 2016-17 (RE) in Tariff Order dated 24.03.2017	Claimed by NBPDCL for FY 2016-17 in truing up
1	A&G Expenses	48.75	58.90	86.05
2	Inflationary index	2.63%	--	--
3	Add: Inflationary increase (1*2)	1.28	--	--
4	**Total A&G Cost (1+3)**	**50.03**	**58.90**	**86.05**

NBPDCL has requested the Commission to approve the A&G expenses for FY 2016-17 in true up as detailed in the Table above.

Commission analysis:

The Commission has examined the A&G expenses projected by NBPDCL. As per the audited annual accounts of NBPDCL for FY 2016-17 the A&G expenses incurred is at Rs.86.05 Crore (A&G expenses Rs.81.80 crore + Miscellaneous losses/write-offs Rs.4.25 crore). The miscellaneous losses/write-offs represent compensation paid in accident cases to outsiders/other than employees.

The Commission observes that the Regulation 22.3 of BERC (Multi Year Distribution Tariff) Regulations, 2015 specify;

Regulation 22.3: Administration and General (A&G) Expense

A&G expense shall be computed as per the norm escalated by wholesale price index (WPI), adjusted by provisions for confirmed initiatives (IT etc initiatives as proposed by the Distribution Licensee and validated by the Commission) or other expected one-time expense and shall be governed by the following formula:

*A&Gn = (A&Gb * WPI inflation) + Provision*

Where:

A&Gn : A&G expense for the year n

A&Gb : A&G expense as per the norm

WPI inflation : is the average increase in the Wholesale Price Index (WPI) for *immediately preceding three years.*

Provision : Cost for initiatives or other one-time expenses as proposed by the Distribution Licensee and validated by the Commission.

Till the norm of A&G expenses is specified by the Commission, the actual historical cost will be considered for determination of A&G expenses.

As per Regulation 22 (a) of the BERC (Multi Year Distribution Tariff) Regulations, 2015 the Commission shall stipulate a separate trajectory of norms for each of the component of O&M expenses viz. Employee cost, R&M expense and A&G expense. The Regulation 22 (i) specify to estimate values of norms shall be based on the last 3 (three) years audited accounts of operations.

The Commission opined at paragraph 7.27.1 in Tariff order dated 21.03.2016 that norms shall be determined for O&M expenses from the next MYT control period in view of non availability of last 3 (three) years audited accounts of operations.

The Commission, in view of the above, has considered the A&G expense actuals reported in the audited accounts of FY 2016-17. As per the audited accounts for FY 2016-17, the A&G expenses incurred is at Rs.86.05 crore for FY 2016-17.

The Commission has observed that the A&G expenses of Rs.86.05 crore claimed by the Petitioner include Rs.9.08 crore towards Holding tax. On a query, it was informed by the Petitioner vide letter no.69 dated 23.01.2018 that the Holding tax (Property Tax) of Rs.9.08 crore represent payment of long pending dues in FY 2016-17 and furnished the ledger extracts of the Division offices. Based on the information the Commission has worked out details of the expenses relating to FY 2016-17 and period relating to prior period as given hereunder:

Sl. No.	Name of the Division	FY 2016-17 (in Rupees)	Prior period (in Rupees)	Period
1	Siwan	20,14,260	51,42,242	1992-93 to 2016-17
2	Gopalgunj	3,71,158	1,93,00,214	1963-64 to 2016-17

Sl. No.	Name of the Division	FY 2016-17 (in Rupees)	Prior period (in Rupees)	Period
3	Hajipur	1,51,679	78,87,287	1963-64 to 2016-17
4	Katihar	16,70,496	5,51,26,356	1982-83 to 2016-17
5	Begusarai	32,597	9,45,328	1986-87 to 2016-17
	Total	24,40,190	8,84,01,427	

The Commission opines that such prior period payments should not be a part of A&G expenses for FY 2016-17, rather it should be dealt under prior period expenses. Hence, the Commission has not considered Rs.8.84 crore (as worked out above) under A&G expenses of FY 2016-17, rather shall be considered under prior period expenses and accordingly considered under prior period expenses as dealt in paragraph 4.26 of this chapter.

The Commission, accordingly, has considered the Administration & General Expenses for FY 2016-17 in truing up as detailed in the Table below:

Table 4.40: Administration & General expenses approved for FY 2016-17

(Rs. Crore)

Sl. No.	Particulars	Approved for FY 2016-17 in MYT Order dated 21.03.2016	Revised and approved for FY 2016-17 (RE) in Tariff Order dated 24.03.2017	Claimed by NBPDCL for FY 2016-17 in truing up	Now approved for FY 2016-17 in truing up
1	A&G Expenses	48.75	58.90	86.05	86.05
2	Inflationary index	2.63%	--	--	--
3	Add: Inflationary increase (1*2)	1.28	--	--	--
4	Less: Prior period Holding tax (property tax)	--	--	--	8.84
5	**Total A&G Cost (1+3-4)**	**50.03**	**58.90**	**86.05**	**77.21**

Accordingly, the Commission approves Rs.77.21 Crore towards A&G expenses for FY 2016-17 in true up.

4.23 Allocation of Holding Company Expenses

Petitioner's submission

NBPDCL has submitted that allocation of Holding Company expenses for FY 2016-17 are as per the provisions of Transfer Scheme, 2012 and the actual claim based on the audit accounts as furnished are given in Table below:

Table 4.41: Holding Company Expenses claimed for FY 2016-17 (Rs. Crore)

Particulars	Approved for FY 2016-17 in MYT Order dated 21.03.2016	Approved for FY 2016-17 (RE) in Tariff Order dated 24.03.2017	Claimed by NBPDCL for FY 2016-17 in truing up
Holding company expenses	6.66	9.86	5.38

NBPDCL has requested the Commission to approve the above expenditure as part of the overall O&M expenditure for FY 2016-17.

Commission's analysis:

The O&M Expenses (Holding company expenses) as per the audited accounts of BSPHCL for FY 2016-17 are as given below:

Table 4.42: Holding company expenses as per audited accounts for FY 2016-17

Particulars	Amount (Rs. Crore)
Employee expenses	17.81
R&M expenses	7.00
A&G expenses	9.03
Total Holding company expenses	33.84

Based on the above expenses, the expenses to be allocated to the power utilities in the equity sharing ratio works out to as given below:

Table 4.43: Holding Company expenses allocated on the basis of equity deployed ratio

Particulars	BSPHCL	BSPGCL	BSPTCL	NBPDCL	SBPDCL
Equity Deployed Ratio (%)	100.00%	18.32%	26.11%	28.47%	27.10%
Allocation of expenses for FY 2016-17 (Rs. Crore)	33.84	6.20	8.84	9.63	9.17

The Commission observes that the audited annual accounts for FY 2016-17 of the NBPDCL depict Rs.5.38 Crore towards holding company expenses, which is less than the expenses allocated as above.

Based on the audited annual accounts for FY 2016-17, the Commission considers the holding company expenses in truing up as detailed in the Table below:

Table 4.44: Holding Company expenses approved for FY 2016-17 (Rs. Crore)

Particulars	Approved for FY 2016-17 in MYT Order dated 21.03.2016	Revised and approved for FY 2016-17 (RE) in Tariff Order dated 24.03.2017	Claimed by NBPDCL for FY 2016-17 in truing up	Now approved for FY 2016-17 in Truing up
Holding company expenses	6.66	9.86	5.38	5.38

The Commission, accordingly, approves Rs.5.38 Crore towards Holding Company Expenses for FY 2016-17 in True up.

4.24 Summary of Operations and Maintenance (O&M) Expenses

The summary of O&M expenses considered for FY 2016-17 are as tabulated below:

Table 4.45: Total O&M cost approved by the Commission for FY 2016-17 (Rs. Crore)

Sl. No.	Particulars	Approved for FY 2016-17 in MYT Order dated 21.03.2016	Revised and approved for FY 2016-17 (RE) in Tariff Order dated 24.03.2017	Claimed by NBPDCL for FY 2016-17 in truing up	Now approved for FY 2016-17 in Truing up
1	Employee cost	171.84	195.42	188.13	188.13
2	R&M expenses	48.72	55.34	49.21	55.34
3	A&G Expenses	50.03	58.90	86.05	77.21
4	Holding Company expenses	6.66	9.86	5.38	5.38
5	**Total O& M cost**	**277.25**	**319.52**	**328.77**	**326.06**

The Commission approves total O&M costs at Rs.326.06 Crore for FY 2016-17 in True up.

4.25 Interest on Security Deposit

Petitioner's submission:

NBPDCL has submitted that section 47(1) (a) of the Electricity Act, 2003 specifies that any person who requires a supply of electricity to give reasonable security in respect of the electricity supplied to such person. BERC Supply Code Regulations 2007 specifies that the distribution licensee shall pay interest at the RBI Bank rate, applicable on security deposits taken from the consumers. The interest amount of previous financial year shall be adjusted in the energy bill issued in May/June of each financial year depending on billing cycle.

The Petitioner has submitted that as per the regulation interest on consumer's security deposit is paid to HT and LT consumers and the Petitioner possess the details of the same.

The Petitioner has claimed interest on security deposit for FY 2016-17 as details in the Table below:

Table 4.46: Interest on security deposit claimed for FY 2016-17

(Rs. Crore)

Sl. No.	Particulars	Approved for FY 2016-17 (RE) in Tariff Order dated 24.03.2017	Claimed by NBPDCL for FY 2016-17 in truing up
1	Opening Security Deposit	233.82	233.82
2	Addition / (Deletion)	35.07	37.73
3	Closing Security Deposit (1+2)	268.89	271.54
4	Average Security Deposit (1+3)/2	251.35	252.68
5	RBI Bank Rate	6.75%	7.75%
6	Interest on Security Deposit (5*6)	**16.97**	**19.58**

NBPDCL has requested the Commission to approve the interest on consumer security deposit as per audited accounts for FY 2016-17.

Commission's analysis

The Commission has examined the computation of interest on security deposit claimed by the Petitioner. The Petitioner has submitted that prevailing RBI Bank Rate

@ 7.75% is considered.

Section 47(1)(a) of the Electricity Act, 2003 specifies that any person who requires a supply of electricity to give reasonable security in respect of the electricity supplied to such person.

BERC Supply Code Regulations 2007 specifies that the distribution licensee shall pay interest at the RBI Bank rate, applicable on security deposits taken from the consumers. The interest amount of previous financial year shall be adjusted in the energy bill issued in May/June of each financial year depending on billing cycle.

The BERC (Multi Year Distribution Tariff) Regulations 2015, Regulation 26 (iii) specifies that "*Provided further that interest shall be allowed on consumer security deposit and security deposits from Distribution system users at the Bank Rate as of the date on which the petition for determination of tariff is accepted by the Commission".*

As per the audited accounts for FY 2016-17, the interest on consumers' security deposit is at Rs.21.34 crore. However, it is observed from the audited accounts for FY 2016-17, the Petitioner has paid/adjusted interest on SD to the consumers amounting to Rs.5.35 crore only as detailed hereunder:

Sl. No.	Particulars	Amount (Rs. Crore)
1	Opening balance of interest payable to consumers (Note 18-Other current liabilities)	63.58
2	Interest payable during FY 2016-17 (Note 24)	21.34
3	Sub-total (1+2)	84.92
4	Closing balance of interest payable to consumers (Note 18-Other current liabilities)	79.57
5	Interest actually paid to consumers (3-4)	5.35

On a querry, the Petitioner vide letter no.42 dated 12.01.2018 has submitted that interest on consumer security deposit amounting to Rs.5.35 crore has already been passed on to the consumers and for the balance amount it has made provisioning and requested to be allowed as pass through.

The Commission observes that Petitioner has made a provision of Rs.15.99 crore (21.34 – 5.35) towards interest on SD to consumers in the accounts and actually not passed on to the consumers and hence not considered as pass through in the ARR in true up for FY 2016-17. ***If the unpaid interest on consumers security deposit is allowed in the ARR as pass through, it tantamount to recovery of the interest from the consumers itself.*** As such, the Commission considers Rs.5.35 crore in true up for FY 2016-17. However, the distribution licensee may claim interest on security deposit as and when paid to the consumers by them for FY 2016-17 and the Commission shall consider it at that time.

The Commission, accordingly, considers the interest on consumers' security deposit for FY 2016-17 in truing up as given in the Table below:

Table 4.47: Interest on security deposit approved for FY 2016-17

Rs. Crore)

Sl. No.	Particulars	Approved for FY 2016-17 (RE) in Tariff Order dated 24.03.2017	Claimed by NBPDCL for FY 2016-17 in truing up	Now approved for FY 2016-17 in truing up
1	Opening Security Deposit	233.82	233.82	--
2	Addition / (Deletion)	35.07	37.73	--
3	Closing Security Deposit (1+2)	268.89	271.54	--
4	Average Security Deposit (1+3)/2	251.35	252.68	--
5	RBI Bank Rate	6.75%	7.75%	--
6	Interest on Security Deposit (5*6)	**16.97**	**19.58**	**5.35**

The Commission approves interest on Consumer's Security Deposit at Rs.5.35 crore for FY 2016-17 in true up.

4.26 Net Prior Period Credit / (Charges)

Petitioner's submission:

NBPDCL has submitted that actual net prior period credit / (Charges) as per audited annual accounts for FY 2016-17 are as detailed in the Table below:

Table 4.48: Net Prior Period Credit / (Charges) claimed for FY 2016-17 (Rs. Crore)

Sl. No.	Particulars	Expenses	Income
1	Prior period sale of power	--	(290.26)
2	Other income related to prior period	--	(0.16)
3	Prior period Power purchase	(9.33)	--
4	Sub-total (1+2+3)	(9.33)	(290.42)
5	**Net prior period Expenses**	**281.09**	

NBPDCL has requested the Commission to approve the net prior period expenses of Rs.281.09 crore for FY 2016-17.

Commission's analysis

As per the audited accounts for FY 2016-17, the net prior period expenses are at Rs.281.09 crore (Table 4.48 above). The Petitioner has claimed prior period power purchase of (-) Rs.9.33 crore under prior period expenses/income for FY 2016-17.

The details of Prior period power purchase are as given below:

Sl. No.	Particulars	Expenses	Income
1	Barh – II		22.19
2	Dadri	0.48	
3	Korba	0.03	
4	Farakka		15.44
5	Kahalgoan – 1	11.63	
6	Kahalgoan – 2		1.42
7	Talcher	15.76	
8	NHPC – Teesta		3.60
9	NHPC – Rangit	0.11	
10	KBUNL		0.98
11	GMR Kamalanga		0.24
12	Avantika	0.25	
13	PGCIL Transmission charges	6.28	
14	**Total (1 to 13)**	**34.54**	**43.87**
15	**Net prior period income**	**9.33**	

The Commission has considered actual power purchase cost of Rs.4199.74 crore during FY 2016-17 under power purchase relating to FY 2016-17 and the prior period purchase bills of Rs.(-)9.33 crore were not considered under power purchase cost for FY 2016-17 as discussed in paragraph 4.9. The Commission, accordingly, considers Rs.(-)9.33 crore under prior period expenses/items.

The Commission has addressed the Petitioner to furnish the details of net prior period expenses of Rs.281.09 crore claimed in truing up for FY 2016-17. The Petitioner vide letter no.18 dated 08.01.2018 has submitted that "…. is unable to furnish item wise and year wise details of Rs.281.09 crore of net prior period expense as the same is distributed over the field offices. However, same amount is admitted in the audited financial statement for FY 2016-17 and requested to allow the same".

The Commission would like to lay emphasis on the APTEL in its order dated 23.11.2015 in Appeal No.128 of 2014 where in it was pronounced that;

"……………………..
We are of the opinion, that in these circumstances and in the absence of non furnishing of the details sought by the Commission, the State Commission has rightly disallowed the prior period expenses. After all the State Commission is required to use prudent check whether the expenses have been properly incurred or whether the licensee or the consumer has actually received any benefit from such expenditure. It is clear from the facts and other material on record that in the absence of the details to be provided by the appellants herein, the State Commission could not have conducted the prudence check of such items."

The Commission in the absence of details could not validate the claims and accordingly, has not considered the net prior period expenses in true up for FY 2016-17.

The Commission, further, opines that correction in sale of power (in units) will impact the distribution losses of the relevant years which the petitioner had submitted in its year's true up petition and based on which the Commission had approved distribution losses in those relevant years to the extent of approved trajectory and disallowed power purchase and associated cost over and above the approved distribution losses. Any decrease (correction) in consumer sale in previous year would result into corresponding increase in distribution losses of the relevant year. The Commission firmly believes that the amount claimed under negative prior period sale of power shall be set-off against corresponding increase in disallowed power purchase cost in the relevant years.

For example:

Sl. No.	Particulars	UoM	Amount
1	Prior period sale of power	Rs. crore	290.26
2	Average rate of revenue realisation during FY 2015-16	Rs./kWh	4.51
3	Units estimated as result of sale of power withdrawn (290.26/4.51)*10	MU	643.59
4	Distribution loss approved for FY 2015-16	%	20%
5	Grossed up sales at DISCOMs periphery (643.59/(1-20%))	MU	804.49
6	State transmission loss approved for FY 2015-16	%	3.92%

Sl. No.	Particulars	UoM	Amount
7	Grossed up energy sales at transmission periphery (804.49/(1-3.92%))	MU	837.31
8	Average power purchase cost at transmission periphery during FY 2015-16	Rs./kWh	3.98
9	Cost of resultant power purchase due to withdrawn energy sales (837.31*3.98/10)	Rs. crore	333.25

From the above it can be seen that due to negative sale of power (i.e. due to adjustment of bills) the distribution losses increases and consequently the power purchase is more which is disallowed, the amount of which is higher than that of negative sale of power.

The Commission also observes that provision towards doubtful dues from consumers Rs.1615.41 crore is available/existing in the books of accounts (Note 6 of the audited accounts for FY 2016-17). Hence, alternatively the prior period sale of power withdrawn representing correction of consumer bills accumulated over the period may be adjusted against the provision already existing in the books of accounts.

Further, as discussed in foregone para 4.22, the Commission considers Rs.8.84 crore (in Table 4.40 above) towards prior period Holding tax (Property tax) (claimed by the Petitioner under A&G expenses) for FY 2016-17 in truing up.

The Commission in view of the above, has considered the prior period expenses/(income) in truing up for FY 2016-17 as detailed in the table below.

Table 4.49: Net prior period charges/(income) approved for FY 2016-17

(Rs. Crore)

Sl. No.	Particulars	Claimed by NBPDCL for FY 2016-17 in truing up	Now approved in truing up for FY 2016-17
	Prior period income		
1	Prior period sale of power	290.26	--
2	Other prior period expense	0.16	--
3	Prior period power purchase	(9.33)	(9.33)
4	Prior period A&G expenses (Holding tax)	--	8.84
5	**Net prior period expenses/(Income) (1+ 2)**	**281.09**	**(0.49)**

The Commission, accordingly, approves net prior period expenses/(Income) at Rs.(0.49) crore for FY 2016-17 in true up.

4.27 Deposit for Renewable Power Purchase Obligation

Petitioner's submission:

NBPDCL has claimed Rs.75.85 crore toward renewable power purchase obligation for FY 2016-17 in truing up.

Commission's analysis:

The Commission in terms of BERC (Renewable Purchase Obligation, its compliance and REC Framework Implementation) Regulations 2010 had approved the amount @ forbearance price of Solar and Non-solar REC for non-compliance of targeted RPO in the relevant year tariff orders as detailed hereunder:

(Rs. Crore)

Sl. No.	RPO obligation for the year	Solar	Non-solar	Total	Remarks
1	2010-11 to FY 2012-13	7.38	-	7.38	Tariff order for FY 2014-15
2	2013-14	10.28	17.66	27.94	Tariff order for FY 2015-16.
3	2014-15	16.63	18.81	35.44	Tariff order for FY 2016-17
	Total	**34.29**	**36.47**	**70.76**	

The Commission directed NBPDCL to deposit the amounts into a separate fund with a bank as per BERC RPO Regulations during the relevant years and submit the proof of such deposit to the Commission. The Petitioner vide letter no.49 dated 06.03.2017 has informed that Rs.35.32 crore was deposited into a separate bank account on 16.08.2016 and Rs.35.44 crore shall be deposited on 31.03.2017. The Commission, in view of deposit of Rs.70.76 crore (35.32+35.44) in a separate account in FY 2016-17 has considered total RPO obligation of Rs.70.76 crore in review for FY 2016-17 and directed the petitioner to deposit the balance amount at the earliest and report compliance.

The Commission has observed that the Petitioner had not deposited the balance amount in a separate bank account. As such the Commission has considered Rs.35.32 crore (based actual deposit made in bank account) as pass through in the ARR in true up for FY 2016-17 and directs the Petitioner to deposit the balance amount of Rs.35.44 crore in the separate fund with a bank.

The Commission, accordingly, approves RPO obligation of Rs.35.32 crore as pass through in ARR for FY 2016-17 in true up.

4.28 Interest on working capital

Petitioner's submission:

NBPDCL has submitted that it has arrived at the working capital requirement according to applicable norms for Distribution function provided in the BERC (Multi Year Distribution Tariff) Regulations, 2015.

The Petitioner has submitted that O&M expenses equivalent to one month and maintenance spares @1% of historical GFA with escalation of 6% is considered. The gross working capital requirement is reduced by 2 months subsidy provided by Government for disallowed power purchase. The rate of interest considered is SBI rate @ 14.05%.

NBPDCL has claimed interest on working capital for FY 2016-17 computed on the above norms as detailed in the Table below:

Table 4.50: Interest on working capital projected for FY 2016-17 (Rs. Crore)

Sl. No.	Particulars	Approved for FY 2016-17 in MYT Order dated 21.03.2016	Approved for FY 2016-17 (RE) in Tariff Order dated 24.03.2017	Claimed by NBPDCL for FY 2016-17 in truing up
1	O&M exp. (1 month)	23.10	26.63	27.40
2	Maintenance spares 40% of R&M expenses for one month	1.62	1.84	1.64
3	Receivables - 2 months	937.62	786.66	891.73
4	**Total working capital (1+2+3)**	**962.35**	**815.13**	**920.77**
5	**Less:**a. Power purchase cost, transmission charges and load dispatch charges of one month	446.50	347.25	350.10
	b. Depreciation, RoE and contingency reserve	19.99	34.47	45.71
	c. Security deposit from consumers	278.74	268.89	21.06
	d. Grant received from State Govt. for purchaser of power and other O&M expenses	236.30	236.30	24.22
	Sub-total (a+b+c+d)	**981.53**	**886.91**	**441.09**
6	**Net working capital requirement (4-5)**	**(19.18)**	**(71.78)**	**479.68**
7	Rate of interest %	14.75%	14.75%	14.05%
8	**Interest on working capital (6*7)**	**--**	**--**	**67.39**

Commission analysis

The Commission has examined the computation of interest on working capital submitted by the Petitioner.

Regulation 26 of BERC (Multi Year Distribution Tariff) Regulations, 2015 specify;

The Distribution Licensee shall be allowed interest on estimated level of working capital for the financial year, computed as follows:

(a) O & M expenses for one month

(b) Two months equivalent of expected revenue

(c) Maintenance spares @40% of R&M expenses for one month

***Less**:*

(i) Power purchase cost, transmission charges and load dispatch charges of one month

(ii) Depreciation, return on equity and contribution to contingency reserves

(iii) Security deposits from consumers, if any.

Provided that the interest on working capital shall be on normative basis and rate of interest shall be equal to the State Bank Advance Rate (SBAR) as of the date on which petition for determination of tariff is accepted by the Commission.

Provided further that interest shall be allowed on consumer security deposits and security deposits from Distribution system users at the Bank Rate as of the date on which the petition for determination of tariff is accepted by the Commission.

Provided further that if, the State Government is providing resource gap grant or subsidy, working capital shall be reduced by that amount.

The maintenance spares @40% of the R&M expenses is considered for FY 2016-17 and rate of interest as per SBAR (SBI PLR) as on 1st April 2016. The Petitioner has computed the interest on working capital as per the norms prescribed in Regulation 26 of the BERC Regulations, 2007. The rate of interest applied on the working capital is @14.05% as per the SBAR as on 1st April 2016.

The State Government is extending financial support in the form of tariff subsidy and cost of power disallowed due to excess distribution loss over and above the loss trajectory allowed by the Commission. As per the audited accounts the resource gap assistance/subsidy from State Government is Rs.1513.66 Crore for FY 2016-17. The Government has been releasing the funds on monthly basis. Therefore, the Commission has considered the State Government funding/financial support to the DISCOMs on monthly basis, for which no working capital is required. Accordingly, the amount equivalent to two months of financial support from the State Government to the NBPDCL is reduced from the working capital requirement of NBPDCL. The two months support to NBPDCL works out to Rs.252.28 Crore and same has been reduced from the working capital requirement.

The Commission has considered the rate of interest as per the SBAR (SBI PLR) @14.05% as on 1st April 2016 and based on the expenses/costs approved for FY 2016-17, has computed the working capital and interest on working capital for FY 2016-17 as detailed in the Table below:

Table 4.51: Interest on working capital approved for FY 2016-17 (Rs. Crore)

Sl. No.	Particulars	Approved for FY 2016-17 in MYT Order dated 21.03.2016	Revised and approved for FY 2016-17 (RE) in Tariff Order dated 24.03.2017	Claimed by NBPDCL for FY 2016-17 in truing up	Now approved for FY 2016-17 in Truing up
1	O&M exp. (1 month)	23.10	26.63	27.40	27.17
2	Maintenance spares 40% of R&M expenses for one month	1.62	1.84	1.64	1.84
3	Receivables - 2 months	937.62	786.66	891.73	736.88
4	**Total working capital (1+2+3)**	**962.35**	**815.13**	**920.77**	**765.89**
5	**Less:**				
	a. Power purchase cost, transmission charges and load dispatch charges of one month	446.50	347.25	350.10	346.14
	b. Depreciation, RoE and contingency reserve	19.99	34.47	45.71	10.41
	c. Security deposit from consumers	278.74	268.89	21.06	271.55
	d. Grant received from State Govt. for purchaser of power and other O&M expenses	236.30	236.30	24.22	252.28
	Sub-total (a+b+c+d)	**981.53**	**886.91**	**441.09**	**880.38**
6	**Net working capital requirement (4-5)**	**(19.18)**	**(71.78)**	**479.68**	**(114.48)**
7	Rate of interest %	14.75%	14.75%	14.05%	14.05%
8	**Interest on working capital (6*7)**	**--**	**--**	**67.39**	**--**

The Commission, accordingly, approves interest on working capital as "Nil' for FY 2016-17 in true up.

4.29 Non-Tariff Income

Petitioner's submission:

NBPDCL has not considered financing cost of delayed payment surcharge while claiming non tariff income for FY 2016-17 as detailed in the Table below:

Table 4.52: Non-tariff Income claimed for FY 2016-17 (Rs. Crore)

Sl. No.	Particulars	Approved for FY 2016-17 in MYT Order dated 21.03.2016	Approved for FY 2016-17 (RE) in Tariff Order dated 24.03.2017	Claimed by NBPDCL for FY 2016-17 in truing up
1	Non-tariff income	152.66	159.29	216.01
2	Rate of increase	10.00%	10.00%	--
3	Increase in non-tariff income	15.27	15.93	--
4	Less: Financing cost of DPS	--	--	41.59
5	**Total Non-tariff income**	**167.93**	**175.22**	**174.43**

Commission analysis:

The Non-Tariff income as per the audited annual accounts of NBPDCL for FY 2016-17 is at Rs.216.01 Crore.

According to the audited accounts for FY 2016-17 of NBPDCL, the rebate received for timely payment of power purchase bills is Rs.10.18 crore. The total power purchases (including transmission charges) is at Rs.4173.14 crore for FY 2016-17 and the rebate @ 1% works out to Rs.41.73 crore.

Regulations specify that for payment of bills of generation/transmission charges through letter of credit (LC) on presentation, a rebate of 2% shall be allowed. Where payments are made subsequently, through opening of LC or otherwise, but within a period of one month of presentation of bills by the suppliers of power/licensee, a rebate of 1% shall be allowed.

Further, Regulation 44 of CERC regulations 2014 specify;

"44. Rebate

(1) For payment of bills of the generating company and the transmission licensee through letter of credit on presentation or through NEFT/RTGS within a period of 2 days of presentation of bills by the generating company or the transmission licensee, a rebate of 2% shall be allowed.

(2) Where payments are made on any day after 2 days and within a period of 30 days of presentation of bills by the generating company or the transmission licensee, a rebate of 1% shall be allowed".

The APTEL in Appeal no.153 of 2009 between North Delhi Power Ltd. *Vs* Delhi Electricity Regulatory Commission has adjudged that rebate only to the extent of 1% is to be considered as non-tariff income. The relevant excerpts are reproduced hereunder:

"34. .... the rebate is a part of non-tariff income as per the MYT Regulations which is an essential part of the power purchase cost and …………… the distribution company would earn a rebate of 1% even if it pays the power purchase bills within 30 days of the due date ………….…… The Working Capital includes Power Purchase Cost for only one month. The generation company offers rebate of 2% on payment of presentation which takes place immediately after completion of the month. …………, we hold that rebate over and above 1% cannot be considered non-tariff income for reducing the ARR. In view of the same, it has to be concluded that the rebate earned on early payment of power purchase cost cannot be deducted from the power purchase cost and rebate earned only up to 1% alone can be treated as part of non-tariff income. ………….. On the one hand, the State Commission has reduced one month power purchase payment from the working capital requirement and on the other hand it has been observed that if the Appellant is making the payment earlier, the benefit of entire rebate is used for reducing the power purchase cost. ………….. Rebate only to the extent of 1% is to be considered as non-tariff income. As such, the issue is answered accordingly".

In view of the above, the Commission has considered rebate @1% of the total power purchases (including transmission charges) of Rs.4153.73 crore for FY 2016-17 which works out to Rs.41.54 crore. The Commission accordingly has considered rebate at Rs.41.54 crore for FY 2016-17 in true up.

The Petitioner has considered the financing cost on DPS of Rs.41.59 crore and adjusted the same against the non-tariff income and net non-tariff income of Rs.174.43 crore claimed in truing up for FY 2016-17 which is in line with the methodology considered by the Commission for financing of outstanding dues in line with the judgment of the Hon'ble Appellate Tribunal for Electricity (APTEL) dated 12.07.2011 in case No.142 & 147 of 2009.

As per the audited annual accounts for FY 2016-17, the Non-tariff income is at Rs.216.01 Crore which includes Rs.53.28 Crore towards Delayed Payment Surcharge (DPS) from consumers. As the Petitioner charges DPS @ 18% per annum (1.5% per month), the principal amount works out to Rs.296.00 Crore on which DPS has been charged. The Commission has allowed 14.05% being the prevailing SBAR (SBI PLR) as on 1st April 2016 towards the financing cost for DPS. The financing cost approved by the Commission is shown in the Table below:

Table 4.53: Financing cost of DPS (Rs. Crore)

Particulars	Approved for FY 2016-17
DPS as per audited accounts (@1.5% pm)	53.28
Principal amount on which DPS charged	296.00
Interest rate for funding Principal of DPS	14.05%
Interest on funding of Principal DPS	41.59

Accordingly, the non-tariff income as computed for FY 2016-17 is detailed in the Table below:

Table 4.54: Non-tariff income approved for FY 2016-17 (Rs. Crore)

Sl. No.	Particulars	Approved for FY 2016-17 in MYT Order dated 21.03.2016	Revised and approved for FY 2016-17 (RE) in Tariff Order dated 24.03.2017	Claimed by NBPDCL for FY 2016-17 in truing up	Now approved for FY 2016-17 in Truing up
1	Non-tariff income	152.66	159.29	216.01	216.01
2	Rate of increase	10.00%	10.00%	--	--
3	Increase in non-tariff income	15.27	15.93	--	--
4	Less: Financing cost of DPS	--	--	41.59	41.59
5	Less: Rebate as per audited accounts for FY 2016-17	--	--	--	10.18
6	Add: Rebate @1% on total power purchase (incl. transmission charges) for FY	--	--	--	41.54

Sl. No.	Particulars	Approved for FY 2016-17 in MYT Order dated 21.03.2016	Revised and approved for FY 2016-17 (RE) in Tariff Order dated 24.03.2017	Claimed by NBPDCL for FY 2016-17 in truing up	Now approved for FY 2016-17 in Truing up
	2016-17				
7	**Total Non-tariff income**	**167.93**	**175.22**	**174.43**	**205.78**

The Commission, accordingly, approves non-tariff income at Rs.205.78 Crore for FY 2016-17 in true up.

4.30 Revenue from sale of power

Petitioner submission

NBPDCL has submitted the category wise revenue based on the existing tariff including sale to Nepal for FY 2016-17 as detailed in the Table below:

Table 4.55: Revenue from sales of power at existing Tariff projected for FY 2016-17

S. No.	Consumer Category	Number of Effective Consumers	Revenue from sale of energy (Rs. crore)	Unit sold in MUs	ABR (Rs./kWh)
1	**Domestic**	**56,60,408**	**1047.99**	**3567.04**	**2.94**
	Kutir Jyoti - BPL Consumer	25,16,282	197.53	848.69	2.33
	Domestic – I	19,67,498	317.84	1522.29	2.09
	Domestic – II	11,76,543	532.33	1,195.71	4.45
	Domestic – III	85	0.29	0.35	8.29
2	**Commercial**	**294747**	**367.38**	**706.22**	**5.20**
	Non-Domestic – I	80,110	16.9	67.7	2.50
	Non-Domestic – II	2,14,557	348.08	633.64	5.49
	Non-Domestic – III	80	2.4	4.88	4.92
3	**Public Lighting**	**255**	**5.38**	**15.27**	**3.52**
	Street Light – I	142	2.26	6.24	3.62
	Street Light – II	113	3.12	9.03	3.46
4	**Irrigation**	**14158**	**90.07**	**160.20**	**5.62**
	IAS – I	9,147	1.76	7.40	2.38
	IAS – II	5,011	88.31	152.80	5.78
5	**Public Water Works**	**208**	**18.66**	**30.16**	**6.19**
6	**Industrial LT**	**12246**	**119.87**	**163.35**	**7.34**
	LTIS – I	11,593	108.29	145.4	7.45
	LTIS – II	653	11.58	17.95	6.45

S. No.	Consumer Category	Number of Effective Consumers	Revenue from sale of energy (Rs. crore)	Unit sold in MUs	ABR (Rs./kWh)
7	**Industrial HT**	**675**	**324.28**	**474.19**	**6.84**
	HTS – I	643	186.18	269.41	6.91
	HTS – II	25	55.87	93.24	5.99
	HTS-III	2	57.81	65.95	8.77
	HTSS	5	24.42	45.59	5.36
8	**Railway**	**7**	**44.40**	**62.67**	**7.08**
9	**Nepal**	**1**	**665.39**	**1188.89**	**5.60**
10	**M/s Essel Vidyut Vitran DF**	**313499**	**203.19**	**749.87**	**2.71**
	TOTAL	**62,96,204**	**2,886.62**	**7,117.85**	**4.06**

Commission's analysis

On a query from the Commission to submit category wise details showing number of consumers, billed demand/connected load, units sold, billed fixed charges, energy charges (Slab wise) and other charges for FY 2016-17, NBPDCL replied as below:

"The petitioner submits that the slab wise data of energy charges could not be derived for the past periods in the existing billing software, since the data is continuously get updated"

The Commission directs NBPDCL that such important data month wise and consolidated for entire year shall be preserved in future and shall submit from next year tariff petitions.

The Commission has noted that, the revenue from sale of power during FY 2016-17 is Rs. 2886.62 Crore towards sale of 7117.85 MU as per audited accounts for FY 2016-17.

The Petitioner has shown energy supplied to DF as 749.87 MU but on verification of invoices it is noted that there are 2 invoices where there was negative adjustment of both energy supplied and amount billed. After consideration of this adjustment the energy supplied to Muzzafarpur DF is 749.59 MU and amount billed after tariff adjustment is Rs. 230.70 Crore. But the petitioner has shown the revenue for the energy supplied at Rs. 203.19 Crore after deducting an amount of Rs.27.51 Crore towards provision made for balance Tariff Adjustment (TA) considering Total TA @ Rs.1.23 per unit on the basis of average TA finalized for November, 2013 to November, 2015. However, the Commission has not allowed this provision and considers the amount receivable from DF for input energy as Rs.230.70 Crore based on actual billing done during for FY 2016-17.

Accordingly, the Commission has considered the revenue during FY 2016-17 on the energy sales approved in truing up for FY 2016-17 and arrived at Rs. 2914.13 Crore as detailed in the Table below:

Table 4.56: Revenue from sale of power approved for FY 2016-17

S. No.	Consumer Category	Number of Effective Consumers	Revenue from sale of energy (Rs. crore)	Unit sold in MUs	ABR (Rs./kWh)
1	**Domestic**	**56,60,408**	**1047.99**	**3567.04**	**2.94**
	Kutir Jyoti - BPL Consumer	25,16,282	197.53	848.69	2.33
	Domestic – I	19,67,498	317.84	1522.29	2.09
	Domestic – II	11,76,543	532.33	1,195.71	4.45
	Domestic – III	85	0.29	0.35	8.29
2	**Commercial**	**294747**	**367.38**	**706.22**	**5.20**
	Non-Domestic – I	80,110	16.9	67.7	2.50
	Non-Domestic – II	2,14,557	348.08	633.64	5.49
	Non-Domestic – III	80	2.4	4.88	4.92
3	**Public Lighting**	**255**	**5.38**	**15.27**	**3.52**
	Street Light – I	142	2.26	6.24	3.62
	Street Light – II	113	3.12	9.03	3.46
4	**Irrigation**	**14158**	**90.07**	**160.20**	**5.62**
	IAS – I	9,147	1.76	7.40	2.38
	IAS – II	5,011	88.31	152.80	5.78
5	**Public Water Works**	**208**	**18.66**	**30.16**	**6.19**
6	**Industrial LT**	**12246**	**119.87**	**163.35**	**7.34**
	LTIS – I	11,593	108.29	145.4	7.45
	LTIS – II	653	11.58	17.95	6.45
7	**Industrial HT**	**675**	**324.28**	**474.19**	**6.84**
	HTS – I	643	186.18	269.41	6.91
	HTS – II	25	55.87	93.24	5.99

S. No.	Consumer Category	Number of Effective Consumers	Revenue from sale of energy (Rs. crore)	Unit sold in MUs	ABR (Rs./kWh)
	HTS-III	2	57.81	65.95	8.77
	HTSS	5	24.42	45.59	5.36
8	**Railway**	**7**	**44.40**	**62.67**	**7.08**
9	**Nepal**	**1**	**665.39**	**1188.89**	**5.60**
10	**M/s. Essel Vidyut Vitran DF**	**313499**	**230.70**	**749.59**	**3.08**
	TOTAL	**62,96,204**	**2914.12**	**7,117.58**	**4.09**

4.31 Resource gap funding from State Government for FY 2016-17

Petitioner's submission

NBPDCL, in the ARR has shown that the subsidy received for FY 2016-17 is Rs.1513.66 Crore. The Petitioner has furnished utilization of subsidy amount as detailed in the Table below:

Table 4.57: Resource Gap utilization projected for FY 2016-17 (Rs. Crore)

Sl. No.	Particulars	Approved for FY 2016-17 in MYT Order dated 21.03.2016	Approved for FY 2016-17 (RE) in Tariff Order dated 24.03.2017	Claimed by NBPDCL for FY 2016-17 in truing up
1	Resource gap grant received from State Govt.	1417.77	1417.77	1513.66
2	**Less**: Disallowed power purchase funded through State Govt. grant/subsidy	--	330.68	145.32
3	Available Revenue Subsidy	1417.77	1087.09	1368.35

Commission's analysis:

The Commission has observed from the audited accounts of the NBPDCL Rs.1513.66 Crore has been reported towards Subsidy during FY 2016-17.

The State Government vide letter No.2835 dated 22.09.2016 has informed that the resource gap grant for FY 2016-17 is at Rs.3834.00 crore for DISCOMs which is allocated to NBPDCL Rs.1418.00 crore and SBPDCL Rs.2416.00 crore and accordingly considered in the review for FY 2016-17 in the Tariff Order dated 24.03.2017.

It is observed from the audited accounts for FY 2016-17 of both Discoms, the total subsidy received during FY 2016-17 is at Rs.3834.00 crore (NBPDCL Rs.1513.66 crore and SBPDCL Rs.2320.34 crore).

The Commission has considered the resource gap assistance of Rs.1513.66 crore as per the audited accounts for FY 2016-17 and adjusted the cost of additional power purchase requirement on account of difference in actual distribution loss of NBPDCL and distribution loss approved by the Commission from resource gap funding by the State Government as detailed in the Table below:

Table 4.58: Resource Gap utilization considered for FY 2016-17 (Rs. Crore)

Sl. No.	Particulars	Approved for FY 2016-17 in MYT Order dated 21.03.2016	Revised and approved for FY 2016-17 (RE) in Tariff Order dated 24.03.2017	Claimed by NBPDCL for FY 2016-17 in truing up	Now approved for FY 2016-17 in Truing up
1	Resource gap grant received from State Govt.	1417.77	1417.77	1513.66	1513.66
2	**Less**: Disallowed power purchase funded through State Govt. grant/subsidy	--	330.68	145.32	550.02
3	Available Revenue Subsidy	1417.77	1087.09	1368.35	963.64

4.32 Annual Revenue Requirement and Revenue Gap at existing tariff for FY 2016-17

Petitioner's submission:

The Petitioner has submitted that the gross ARR consists of the power purchase costs, interest and finance cost, O&M cost, depreciation and interest on working capital duly adjusted for non-tariff income and other income. The Petitioner has computed the total revenue requirement for FY 2016-17 as detailed in the Table below:

Table 4.59: ARR and Revenue Gap/ (Surplus) projected for FY 2016-17

Rs. Crore)

Sl. No.	Particulars	Approved for FY 2016-17 in MYT Order dated 21.03.2016	Approved for FY 2016-17 (RE) in Tariff Order dated 24.03.2017	Claimed by NBPDCL for FY 2016-17 in truing up
1	Purchase of power	4873.90	3625.33	3720.58
2	PGCIL & Other transmission charges	326.20	311.47	364.09
3	BSPTCL transmission charges	116.69	111.28	116.69
4	D to D purchases	41.17	118.88	--
5	**O & M Expenses (A+B+C+D)**	**277.25**	**319.52**	**328.77**
A	Employee expenses	171.84	195.42	188.13
B	R&M expenses	48.72	55.34	49.21
C	A&G expenses	50.03	58.90	86.05
D	Holding company expenses	6.66	9.86	5.38
6	Depreciation	--	70.57	89.76
7	Interest on loan	71.54	163.30	215.81
8	Other finance charges	28.27	31.19	60.87
9	Return on equity	21.84	136.28	184.53
10	Interest on SD	19.41	16.97	19.58
11	Deposit for RPO obligation	35.44	70.76	75.85
12	Contingency Reserve	18.15	--	--
13	Prior period charges	--	--	281.09
14	Interest on working capital	--	--	67.39
15	**Less**: IDC	36.21	80.30	--
16	**Total Revenue requirement (1 to 15)**	**5793.65**	**4895.24**	**5524.80**
17	Less:: Non-tariff income	167.93	175.22	174.43
18	Less: Expenditure disallowed due to excess T&D losses	--	330.68	145.32
19	**Net Revenue requirement (16-17-18)**	**5625.72**	**4389.34**	**5205.05**
20	Revenue from Existing tariff	3220.30	2324.31	2221.22
21	Revenue from sale of power – Nepal	814.95	980.09	665.39
22	**Gross Gap / (Surplus) (19-20-21)**	**1590.47**	**1084.94**	**2318.44**
23	Subsidy from State Government	1417.77	1417.77	1513.66
24	Subsidy utilised for disallowed power	--	330.68	145.32
25	Subsidy available for revenue gap (23-24)	1417.77	1087.09	1368.34
26	**Net Gap / (Surplus) (22-25)**	**172.70**	**(2.15)**	**950.09**

Commission analysis:

The Commission has computed the net annual revenue requirement based on the costs approved in the preceding paragraphs in the review as detailed in the Table below:

Table 4.60: ARR and Revenue Gap / (Surplus) approved for FY 2016-17 (Rs. Crore)

Sl. No.	Particulars	Approved for FY 2016-17 in MYT Order dated 21.03.2016	Revised and approved for FY 2016-17 (RE) in Tariff Order dated 24.03.2017	Claimed by NBPDCL for FY 2016-17 in truing up	Now approved for FY 2016-17 in truing up
1	Purchase of power	4873.90	3625.33	3720.58	3690.13
2	PGCIL & Other transmission charges	326.20	311.47	364.09	364.09
3	BSPTCL transmission charges	116.69	111.28	116.69	99.51
4	D to D purchases	41.17	118.88	--	--
5	**O & M Expenses (A+B+C+D)**	**277.25**	**319.52**	**328.77**	**326.06**
A	Employee expenses	171.84	195.42	188.13	188.13
B	R&M expenses	48.72	55.34	49.21	55.34
C	A&G expenses	50.03	58.90	86.05	77.21
D	Holding company expenses	6.66	9.86	5.38	5.38
6	Depreciation	--	70.57	89.76	--
7	Interest on loan	71.54	163.30	215.81	22.87
8	Other finance charges	28.27	31.19	60.87	21.77
9	Return on equity	21.84	136.28	184.53	62.44
10	Interest on SD	19.41	16.97	19.58	5.35
11	Deposit for RPO obligation	35.44	70.76	75.85	35.32
12	Contingency Reserve	18.15	--	--	--
13	Prior period charges	--	--	281.09	(0.49)
14	Interest on working capital	--	--	67.39	--
15	**Less**: IDC	36.21	80.30	--	--
16	**Total Revenue requirement (1 to 15)**	**5793.65**	**4895.24**	**5524.80**	**4627.05**
17	Less:: Non-tariff income	167.93	175.22	174.43	205.78
18	Less: Expenditure disallowed due to excess T&D losses	--	330.68	145.32	550.02
19	**Net Revenue requirement (16-17-18)**	**5625.72**	**4389.34**	**5205.05**	**3871.25**
20	Revenue from Existing tariff	3220.30	2324.31	2221.22	2248.73
21	Revenue from sale of power - Nepal	814.95	980.09	665.39	665.39
22	**Gross Gap / (Surplus) (19-20-21)**	**1590.47**	**1084.94**	**2318.44**	**957.13**
23	Subsidy from State Government	1417.77	1417.77	1513.66	1513.66
24	Subsidy utilised for disallowed power	--	330.68	145.32	550.02
25	Subsidy available for revenue gap (23-24)	1417.77	1087.09	1368.34	963.64
26	**Net Gap / (Surplus) (22-25)**	**172.70**	**(2.15)**	**950.09**	**(6.51)**

The Commission approves the **net revenue Surplus** of Rs.6.51 Crore for FY 2016-17 in true up, as against revenue gap of Rs.950.09 Crore claimed by the Petitioner in the truing up petition for FY 2016-17.

5. Review for FY 2017-18

5.1. Background

NBPDCL has filed the present petition on 5th December, 2017 which includes Annual Performance Review (APR) for FY 2017-18. NBPDCL has submitted that the APR for entire year of FY 2017-18 is based on actual figures for 6 months (i.e April 2017 to September 2017) for components like power purchase, O&M expenses etc. and pro-rata projections and escalations over previous year has been considered, keeping in mind the guiding principles defined by the Commission.

Review for FY 2017-18 is to be done according to the Regulation 8.1 of the Bihar Electricity Regulatory Commission (Multi Year Distribution Tariff) Regulations, 2015 which is reproduced below:

"Where the Aggregate Revenue Requirement and expected revenue from tariff and charges of a Distribution Licensee are covered under a Multi-Year Tariff framework, such Distribution Licensee shall be subject to an annual review of performance and True-up during the Control Period in accordance with these Regulations".

Further, as per Regulation 14 (e) of BERC (MYT) Regulations, 2015, the revised estimated gap/surplus as a result of Review shall not be passed in the ARR of ensuing year.

Accordingly, the "Review" exercise for FY 2017-18 has been undertaken by the Commission on the basis of annual accounts for FY 2016-17 and revised estimates for FY 2017-18 submitted by the Petitioner as per BERC (Multi Year Distribution Tariff) Regulations, 2015.

5.2 Projected Number of consumers, sales and connected load

Petitioner's Submission

The category-wise number of consumers, energy sales and connected load projected by the Petitioner for FY 2017-18 (RE) are as shown in the Table below:

Table 5.1: Projected Number of consumers, sales and connected load for FY 2017-18 (RE)

Category	Number of Consumers	Connected Load (KW)	Energy Sales (MU)
Domestic	**6,401,896**	**4,800,403**	**4,365**
Kutir Jyoti- BPL Consumers	2,818,236	704,559	1,271
Domestic - I	2,348,201	2,546,858	1,651
Domestic - II	1,235,459	1,548,986	1,443
Domestic - III	0		0
Commercial	**317,495**	**688,147**	**743**
Non-Domestic - I	92,127	102,785	78
Non-Domestic - II	225,369	585,362	666
Non-Domestic - III	0	**0**	0
Public Lighting	**268**	**3,467**	**16**
Street Light - I	149	1,013	7
Street Light - II	119	2,454	9
Irrigation	**38,159**	**166,713**	**246**
IAS – I	32,647	107,733	78
IAS – II	5,512	58,981	168
Public Water Works	**873**	**19,584**	**34**
Industrial LT	**13,405**	**124,901**	**270**
LTIS – I	12,752	89,835	246
LTIS - II	653	35,067	24
Industrial HT	**1,008**	**316,705**	**684**
HTS – I	961	205,114	403
HTS - II	40	66,684	149
HTS - III	2	34,170	66
HTSS	5	10,737	66
Railway	**7**	54,900	**63**
Nepal	**1**	**0**	**1,189**
U I	**0**	**0**	**0**
DF	**332,421**	**446,189**	**1,008**
Total	**7,105,534**	**6621009**	**8618.49**

On a query by the Commission NBPDCL had submitted Slab-wise details of Consumers, Connected load and Sales for FY 2017-18 vide email dated 21.02.2018 as below:

Table 5.2: Slab wise details of Number of Consumers, Connected Load and Sales projected for FY 2017-18 (RE)

Category	Consumers	Connected Load (KW)	Sales (MU)
Domestic			
Kutir Jyoti			
Unmetered	13950	3488	36.23
Metered (0-50)	2804286	701071	1235.00
Total - KJ	2818236	704559	1271
DS-I (Rural)			
Unmetered	544548	590616	443.67
Metered			
First 50 Units	1518135	1646569	689.48
51 - 100 Units	183432	198950	113.63
Above 100 Units	102267	110919	404.39
Total	2348382	2547054	1651
DS-II (Urban- Demand Based)			
1-100 U/Month	942655	1180963	488.11
101 - 200 U/Month	151414	189692	374.42
201 -300 U/Month	69451	87009	290.80
above 300 U/Month	71939	91321	289.45
Total	1235459	1548986	1443
NDS-I (Rural)			
Unmetered	3070	1833	1.19
Metered			
1-100 U/Month	71005	78143	38.57
101 - 200 U/Month	7978	10093	19.79
above 200 U/Month	10073	12716	18.30
Total	92127	102785	78
NDS-II (Demand Based)			
Contract Demand < 0.5 kW	7509	10441	10.19
Contract Demand > 0.5 kW			
First 100 Units	173700	445026	329.76
101 - 200 Units	19517	57479	169.18
Above 200 Units	24643	72416	156.44
Total	225369	585362	666
IAS-I (Pvt Tubewell)			
Unmetered	8841	29174	37.02
Metered	23806	78559	41.12
Total	32647	107733	78
IAS-II (State Tubewell)			
Unmetered	2595	31873	90.83
Metered	2918	27108	77.25
Total	5512	58981	168
LTIS			
LTIS-I (Contract Demand < 19 kW)	12752	89835	245.74
LTIS-II (Contract Demand 19-74 kW))	653	35067	24.36

Category	Consumers	Connected Load (KW)	Sales (MU)
Total - LTIS	13405	124901	270
PWW - Public Water Works			
PWW	873	19584	33.98
Total PWW	873	19584	34
Street Light Services			
SS-Metered	149	1013	6.55
SS-Unmetered	119	2454	9.48
Total - Street Light	268	3467	16
HTS-I (11 kV)	961	205114	402.64
HTS-II (33 kV)	40	66684	149.33
HTS-III (132 kV)	2	34170	65.95
HTS-IV (220 kV)	0	0	0.00
HTSS (33 / 11 kV)	5	10737	66.49
Total - HTS & HTSS	1008	316705	684
RTS (132 kV)	7	54900	62.67
Total	6773292	6175016	6422
DF	332421	446189	1007.62
Nepal	1	0	1188.89
Grand Total	**7105534**	**6621009**	**8618.49**

NBPDCL has submitted that for projecting number of consumers for FY 2017-18, the 24x7 Power For All, Har Ghar Bijli and Saubhagya scheme along with large scale initiatives taken by Central and State Governments are taken into consideration. Further, under Chief Minister Seven Resolution programme it is determined to provide electricity to all households by electrifying 45 Lakhs households in next 2 to 3 years. These plan are mainly targeted for rural consumers in KJ, DS-I and IAS-I category and growth rate projected under this category is above normal CAGR as large number of connections are to be released.

Units sold are projected by taking average consumption per consumer per month and multiplying the same to the projected number of consumers to arrive at units sold for a year.

The connected load is calculated by considering average load per consumer as per actuals, CAGR of past years and multiplying it by projected number of consumers.

Commission's Analysis

NBPDCL has considered the input energy supplied to DF as energy sale of DF.

The Commission in the tariff order for FY 2017-18 dated 24.03.2017 of NBPDCL has decided to consider the number of consumers, sales and connected load including DF area and to compute power purchase and other expenses considering LT sales of the Distribution Franchisees.

Accordingly, the Commission has directed NBPDCL to submit the category-wise estimated number of consumers, sales and connected load of Muzaffarpur DF areas for FY 2017-18. The Petitioner has submitted the details in their letter dated 12.01.2018 as given below:

Table 5.3: Projected Number of consumers, Connected Load and Sales of Muzaffarpur DF for FY 2017-18

S. No.	Category	Consumers	Load (KW)	Sales (MU)
1	KJY	144104	36026	86.46
2	DS-I	56139	59626	53.89
3	DS-II	99587	179257	281.03
4	DS-III	0	0	0
5	NDS-I Commercial	5474	6733	4.63
6	NDS-II Commercial	23922	83727	94.81
7	NDS-III Commercial	0	0	0
8	SS-I	6	41	0.26
9	SS-II	412	8521	33.62
10	IAS I	366	1208	0.68
11	IAS II	163	1744	5.49
12	PWW	62	1391	3.48
13	LTIS-I	1857	13082	20.74
14	LTIS-II	166	8914	8.65
15	HTS-I	156	33298	63.31
16	HTS-II	5	8327	15.20
17	HTS-III	0	0	0
18	HTSS	2	4295	101.30
19	RT	0	0	0
	Total	**332421**	**446189**	**774**

NBPDCL expressed its inability to provide slab-wise details of consumers, load and sales stating that DF have not maintained such sub-category wise details.

5.3 Commission's analysis and approval of consumers, sales and connected load

5.3.1 Number of consumers

For NBPDCL area (excluding DF)

It is observed from the number of consumers projected for FY 2017-18 and actual number of consumers for FY 2016-17, the Petitioner has considered addition of new consumers under KJ, DS-I, NDS-I and IAS-I categories as 301954, 380703 and 23500respectively and for other categories the addition of consumers is projected based on CAGR (YoY, 2 Year or 3 year).

For KJ, DS-I, IAS-I categories the consumers as projected by the Petitioner are accepted, keeping in view the massive rural electrification under DDUGJY and Har Ghar Bijli and Saubhagya scheme. The Petitioner has considered a nominal growth of 10% for IAS-II category even though the past growth rates are much higher. The Commission has considered a growth rate of 20% for estimating the consumers of IAS-II category. For SS-I and SS-II there was negative growth in FY 2016-17, hence, 5% growth rate as considered by the Petitioner is accepted. For PWW category the number of consumers shown as 208 for FY 2016-17 seems to be wrong because these figures during earlier years are above 208. Hence, the number of consumers are considered as 679 as per actuals of FY 2015-16 and considering a nominal growth rate of 5% (for 2 years) considered the PWW consumers as 749. For HTS-I category a growth of 7.89% (YoY) is considered because the 49.46% considered by the Petitioner is not a realistic projection.

The category-wise number of consumers and CAGRs, in past 4 years in NBPDCL (excluding DF) are as shown in the Table below:

Table 5.4 : Category wise Number of Consumers in past 4 years

Consumer Category	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	3 Years	2 Years	YoY
Kutir Jyoti- BPL Consumers	9,78,468	12,23,212	18,11,913	25,16,282	37.01%	43.43%	**38.87%**
Domestic – I	7,26,732	11,25,478	15,50,465	1,967,498			
Domestic – II	6,32,713	8,36,001	10,32,008	11,76,543	22.97%	18.63%	**14.01%**
Non-Domestic – I	19,445	33,911	54,144	80,110	60.31%	53.70%	**47.96%**
Non-Domestic – II	87,429	1,28,839	1,67,617	2,14,557	34.88%	29.05%	**28.00%**
Non-Domestic – III	99	173	336	80	-6.86%	-32.00%	**-76.19%**

Consumer Category	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	3 Years	2 Years	YoY
Street Light – I	40	155	147	142	52.55%	-4.29%	**-3.40%**
Street Light – II	72	35	143	113	16.21%	79.68%	**-20.98%**
IAS – I	2,101	2,533	3,493	9,147	63.29%	90.03%	**161.87%**
IAS – II	2,228	2,554	2,968	5,011	31.02%	40.07%	**68.83%**
Public Water Works	**530**	**632**	**679**	**208**	**-26.79%**	**-42.63%**	**-69.37%**
LTIS – I	4,483	6,952	10,065	11,593	37.26%	29.13%	**15.18%**
LTIS – II	344	472	940	653	23.82%	17.62%	**-30.53%**
HTS – I	344	460	596	643	23.18%	18.23%	**7.89%**
HTS – II	15	24	25	25	18.56%	2.06%	**0.00%**
HTS – III	1	2	2	2	25.99%	0.00%	**0.00%**
HTSS	6	3	3	5	-5.90%	29.10%	**66.67%**
Railway	**2**	**4**	**4**	**7**	**51.83%**	**32.29%**	**75.00%**
Nepal	**1**	**1**	**1**	**1**	**0.00%**	**0.00%**	**0.00%**
DF	**1**	**1,90,720**	**2,86,451**	**3,13,499**	**6693.27%**	**28.21%**	**9.44%**
Total	**24,55,090**	**35,52,200**	**49,22,080**	**62,96,205**	**36.88%**	**33.13%**	**27.92%**

The actual category-wise number of consumers during FY 2016-17, addition of new connections/growth rate and the number of consumers projected by the Petitioner for FY 2017-18 (RE) and the same approved by the Commission are as given in the Table below:

Table 5.5: Number of Consumers approved for NBPDCL (excluding DF) for FY 2017-18 (RE)

Sl.no	Category	Actuals for FY 2016-17	Growth rate Considered by Petitioner for projection of FY 2017-18	Consumers Projected for FY 2017-18	Growth rate Considered by Commision	Appropved by Commission for FY 2017-18
1	Kutir Jyoti BPL Consumers	2516282	12.00%	2818236		2818236
2	Domestic-I	1967498	19.35%	2348201		2348201
3	Domestic-II	1176543	5.01%	1235459	14.00%	1341259
4	Domestic-III	85		0		
5	Non-Domestic-I	80110	15.00%	92127		92127
6	Non-Domestic-II	214557	5.04%	225369	20%	257468
7	Non-Domestic-III	80		0		
8	Street Light-I	142	4.93%	149	5%	149
9	Street Light-II	113	5.31%	119	5%	119
10	IAS-I	9147	256.91%	32647		32647
11	IAS-II	5011	10.00%	5512	20%	6013
12	Public Water Works	208	319.71%	873		749
13	LTIS-I	11593	10.00%	12752	15.18%	13353
14	LTIS-II	653	0.00%	653		653
15	HTS-I	643	49.46%	961	7.89%	694
16	HTS-II	25	60.00%	40		25
17	HTS-III	2	0.00%	2		2
18	HTSS	5	0.00%	5		5

19	Railway	7	0.00%	7		7
20	**Total**	**5982704**		**6773112**		**6911707**

For Muzaffarpur DF

The Petitioner has considered growth rates of 6% across all the categories, without considering category-wise past period trend or growth, for projection of number of consumers for FY 2017-18 (RE).

The actual category-wise number of consumers and CAGR in past 4 years in the Muzaffarpur DF are as shown in the Table below:

Table 5.6: Category-wise number of consumers in past 3 years for Muzaffarpur DF area

Sl. No	Category	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	3 Year	2 Year	1 Year
1	**Domestic**	**115204**	**189339**	**259309**	**282762**	34.89%	22.21%	9.04%
2	Kutir Jyoti BPL Consumers	23601	81194	128330	135901	79.24%	29.37%	5.90%
3	Domestic-I	15321	23835	40525	52943	51.18%	49.04%	30.64%
4	Domestic-II	76278	84302	90445	93918	7.18%	5.55%	3.84%
5	Domestic-III	4	8	9	0	-100.00%	-100.00%	-100.00%
6	**Commercial**	**18441**	**21917**	**24895**	**27722**	14.55%	12.47%	11.36%
7	Non-Domestic-I	1116	2071	3321	5162	66.62%	57.88%	55.44%
8	Non-Domestic-II	17313	19820	21539	22560	9.23%	6.69%	4.74%
9	Non-Domestic-III	12	26	35	0	-100.00%	-100.00%	-100.00%
10	Non-Domestic-IV							
11	**Public Lighting**	**4**	**228**	**375**	**395**	362.22%	31.62%	5.33%
12	Street Light-I	4	6	6	6	14.47%	0.00%	0.00%
13	Street Light-II	0	222	369	389		32.37%	5.42%
14	**Irrigation**	**22**	**40**	**111**	**499**	183.07%	253.20%	349.55%
15	IAS-I	16	34	103	345	178.33%	218.54%	234.95%
16	IAS-II	6	6	8	154	194.98%	406.62%	1825.00%
17	**Public Water Works**	**34**	**34**	**34**	**58**	19.49%	30.61%	70.59%
18	**Industrial LT**	**989**	**1355**	**1593**	**1909**	24.51%	18.70%	19.84%
19	LTIS-I	866	1210	1438	1752	26.48%	20.33%	21.84%
20	LTIS-II	123	145	155	157	8.48%	4.06%	1.29%
21	**Industrial HT**	**96**	**116**	**134**	**154**	17.06%	15.22%	14.93%
22	HTS-I	92	111	128	147	16.91%	15.08%	14.84%
23	HTS-II	3	4	4	5	18.56%	11.80%	25.00%
24	HTS-III	0	0	0	0			
25	HTSS	1	1	2	2	25.99%	41.42%	0.00%
26	**Railway**	0	0	0	0			
27	**Nepal**	0	0	0	0			
28	**DF**	0	0	0	0			
29	**Total**	**134790**	**213029**	**286451**	**313499**	**32.49%**	**21.31%**	**9.44%**

By adopting appropriate growth rate for each category, the Commission has estimated the number of consumers for FY 2017-18 (RE). Wherever the CAGRs are above 20%, the Commission has considered a nominal growth of 20%.

The actual category-wise number of consumers during FY 2016-17, growth rate considered and the number of consumers projected for FY 2017-18 (RE) by the Petitioner and the same approved by the Commission are as given in the Table below:

Table 5.7: Number of consumers approved for Muzaffarpur DF for FY 2017-18 (RE)

Sl. No	Category	Consumers for FY 2016-17 (actuals)	Growth rate Considered for projection of FY 2017-18	Consumers Projected for FY 2017-18	Growth rate Considered by Commission	Consumers approved by Commission for FY 2017-18
1	Kutir Jyoti BPL Consumers	135901	6.00%	144104	5.90% (1 Yr)	143919
2	Domestic-I	52943	6.00%	56139	20.00% (Nominal)	63530
3	Domestic-II	93918	6.00%	99587	5.55% (1 Yr)	99130
4	Domestic-III	0		0		
5	Non-Domestic-I	5162	6.00%	5474	20.00% (Nominal)	6194
6	Non-Domestic-II	22560	6.00%	23922	4.74% (Nominal)	23629
7	Non-Domestic-III	0		0		
8	Street Light-I	6	6.00%	6		6
9	Street Light-II	389	6.00%	412	5.42% (1 Yr)	410
10	IAS-I	345	6.00%	366	20.00% (Nominal)	414
11	IAS-II	154	6.00%	163	20.00% (Nominal)	185
12	Public Water Works	58	6.00%	62	20.00% (Nominal)	70
13	LTIS-I	1752	6.00%	1857	20.00% (Nominal)	2102
14	LTIS-II	157	6.00%	166	4.06% (2 Yr)	163
15	HTS-I	147	6.00%	156	14.84% (1Yr)	169
16	HTS-II	5	6.00%	5		5
17	HTS-III	0		0		0
18	HTSS	2	6.00%	2		2
19	Railway	0		0		0
20	**Total**	**313499**		**332421**		**339928**

The Slab-Wise number of consumers approved for FY 2017-18 in review, which are subject to true up when the actual number of consumers are made available are as given in the Tables below:

Table 5.8: Category-wise number of consumers approved for NBPDCL including DF for FY 2017-18 (RE)

Category	NBPDCL	Muzaffarpur	Total
Domestic			
Kutir Jyoti			
Unmetered	13950		13950
Metered (0-50)	2804286		2804286
Total - KJ	2818236	143919	2962155
DS-I (Rural)			
Unmetered	544506		544506
Metered			
First 50 Units	1518018		1518018
51 - 100 Units	183417		183417
Above 100 Units	102259		102259
Total	2348201	63530	2411731
DS-II (Urban- Demand Based)			
1-100 U/Month	1023380		1023380
101 - 200 U/Month	164381		164381
201 -300 U/Month	75399		75399
above 300 U/Month	78100		78100
Total	1341259	99130	1440389
NDS-I (Rural)			
Unmetered	3070		3070
Metered			
1-100 U/Month	71006		71006
101 - 200 U/Month	7978		7978
above 200 U/Month	10073		10073
Total	92127	6194	98321
NDS-II (Demand Based)			
Contract Demand < 0.5 kW	8579		8579
Contract Demand > 0.5 kW			
First 100 Units	198440		198440
101 - 200 Units	22297		22297
Above 200 Units	28152		28152
Total	257468	23629	281097
IAS-I (Pvt Tubewell)			
Unmetered	8841		8841
Metered	23806		23806
Total	32647	414	33061
IAS-II (State Tubewell)			
Unmetered	2830		2830
Metered	3183		3183
Total	6013	185	6198

Category	NBPDCL	Muzaffarpur	Total
LTIS			
LTIS-I (Contract Demand < 19 kW)	13353	2102	15455
LTIS-II (Contract Demand 19-74 kW))	653	163	816
Total - LTIS	14006	2265	16271
PWW - Public Water Works (Demand Based)			
PWW	749	70	819
Total PWW	749	70	819
Street Light Services			
SS-Metered	149	6	155
SS-Unmetered	119	410	529
Total - Street Light	268	416	684
HTS-I (11 kV)	694	169	863
HTS-II (33 kV)	25	5	30
HTS-III (132 kV)	2	0	2
HTS-IV (220 kV)	0	0	0
HTSS (33 / 11 kV)	5	2	7
Total - HTS & HTSS	726	176	902
RTS (132 kV)	7	0	7
Nepal	0		0
Total	**6911707**	**339928**	**7251635**

5.3.2 Connected Load

NBPDCL area

NBPDCL has submitted that the category-wise connected load is calculated considering average load per consumer as per actuals, CAGR of past years and multiplying it by projected number of consumers to arrive at the connected load.

The Commission accepts the methodology followed by the Petitioner for projecting the category-wise connected load for FY 2017-18 (RE). However, wherever the number of consumers are revised, the connected load is also revised.

For PWW category, the connected load per consumer is considered at 19.11 KW based on actuals for FY 2015-16.

Table 5.9: Connected Load approved for NBPDCL (excluding DFs) for FY 2017-18

Sl.no	Category	Projected consumers by Petitioner FY 2017-18	Projected Connected Load (KW) by Petitioner FY 2017-18	Approved Consumers for FY 2017-18	Approved Connected Load by Commission for FY 2017-18 (KW)
1	Kutir Jyoti BPL Consumers	2818236	704559	2818236	704559

Sl.no	Category	Projected consumers by Petitioner FY 2017-18	Projected Connected Load (KW) by Petitioner FY 2017-18	Approved Consumers for FY 2017-18	Approved Connected Load by Commission for FY 2017-18 (KW)
2	Domestic-I	2348201	2546858	2348201	2546858
3	Domestic-II	1235459	1548986	1341259	1681635
4	Non-Domestic-I	92127	1,02,785	92127	102785
5	Non-Domestic-II	225369	5,85,362	257468	668735
6	Street Light-I	149	1,013	149	1014
7	Street Light-II	119	2,454	119	2454
8	IAS-I	32647	1,07,733	32647	107733
9	IAS-II	5512	58,981	6013	64344
10	Public Water Works	873	19,584	749	14313
11	LTIS-I	12752	89,835	13353	94068
12	LTIS-II	653	35,067	653	35067
13	HTS-I	961	2,05,114	694	148069
14	HTS-II	40	66,684	25	41678
15	HTS-III	2	34,170	2	34170
16	HTSS	5	10,737	5	10737
17	Railway	7	54,900	7	54900
18	**Total**	**6773112**	**6174822**	**6911707**	**6313119**

Muzaffarpur area

The Commission has revised the category-wise connected load for Muzaffarpur DF based on the number of consumers approved for FY 2017-18 (RE) as shown in the Table below:

Table 5.10: Connected Load approved for Muzaffarpur DF for FY 2017-18

Sl. No	Category	Projected consumers by petitoner FY 2017-18	Projected Connected Load by Petitioner FY 2017-18 (kW)	Approved Consumers by Commission	Approved Connected Load by Commission (KW)
1	Kutir Jyoti BPL Consumers	144104	36026	143919	35980
2	Domestic-I	56139	59626	63530	67477
3	Domestic-II	99587	179257	99130	178435
4	Non-Domestic-I	5474	6733	6194	7618
5	Non-Domestic-II	23922	83727	23629	82702
6	Street Light-I	6	41	6	41
7	Street Light-II	412	8521	410	8481
8	IAS-I	366	1208	414	1366

Sl. No	Category	Projected consumers by petitoner FY 2017-18	Projected Connected Load by Petitioner FY 2017-18 (kW)	Approved Consumers by Commission	Approved Connected Load by Commission (KW)
9	IAS-II	163	1744	185	1977
10	Public Water Works	62	1391	70	1562
11	LTIS-I	1857	13082	2102	14811
12	LTIS-II	166	8914	163	8773
13	HTS-I	156	33298	169	36033
14	HTS-II	5	8327	5	8327
15	HTS-III	0	0	0	
16	HTSS	2	4295	2	4295
17	Railway	0	0	0	
18	**Total**	**332421**	**446190**	**339928**	**457878**

The category-wise connected load approved for FY 2017-18 in review, which are subject to true up after actuals are made available are as shown in the table below:

Table 5.11: Category-wise connected load approved for NBPDCL including DFs FY 2017-18 (RE)

(kW)

Category	NBPDCL	Muzaffarpur	Total
Domestic			
Kutir Jyoti			
Unmetered	3488		3488
Metered (0-50)	701071		701071
Total - KJ	704559	35980	740539
DS-I (Rural)			
Unmetered	590571		590571
Metered			
First 50 Units	1646442		1646442
51 - 100 Units	198934		198934
Above 100 Units	110910		110910
Total	2546858	67477	2614335
DS-II (Urban- Demand Based)			
1-100 U/Month	1282097		1282097
101 - 200 U/Month	205937		205937
201 -300 U/Month	94460		94460
above 300 U/Month	99142		99142
Total	1681635	178435	1860070
NDS-I (Rural)			
Unmetered	1833		1833
Metered			
1-100 U/Month	78143		78143

Category	NBPDCL	Muzaffarpur	Total
101 - 200 U/Month	10093		10093
above 200 U/Month	12716		12716
Total	102785	7618	110403
NDS-II (Demand Based)			
Contract Demand < 0.5 kW	11928		11928
Contract Demand > 0.5 kW			
First 100 Units	508411		508411
101 - 200 Units	65666		65666
Above 200 Units	82730		82730
Total	668735	82702	751437
IAS-I (Pvt Tubewell)			
Unmetered	29174		29174
Metered	78559		78559
Total	107733	1366	109099
IAS-II (State Tubewell)			
Unmetered	34771		34771
Metered	29573		29573
Total	64344	1977	66321
LTIS			
LTIS-I (Contract Demand < 19 kW)	94068	14811	108879
LTIS-II (Contract Demand 19-74 kW))	35067	8773	43840
Total - LTIS	129135	23584	152719
PWW - Public Water Works (Demand Based)			
PWW	14313	1562	15875
Total PWW	14313	1562	15875
Street Light Services			
SS-Metered	1014	41	1055
SS-Unmetered	2454	8481	10935
Total - Street Light	3468	8522	11990
HTS-I (11 kV)	148069	36033	184102
HTS-II (33 kV)	41678	8327	50005
HTS-III (132 kV)	34170	0	34170
HTS-IV (220 kV)	0	0	0
HTSS (33 / 11 kV)	10737	4295	15032
Total - HTS & HTSS	234654	48655	283309
RTS (132 kV)	54900	0	54900
Nepal	0		0
Total	**6313119**	**457878**	**6770997**

5.3.3 Energy Sales

NBPDCL Area

NBPDCL has submitted that the category-wise sales are projected based on the CAGR of previous years data and considering factors like available average consumption per consumer per month, new consumers to be added. The units sold are projected by taking average consumption per consumer per month and multiplying the same by the projected number of consumers to arrive at units sold for a year.

The Commission accepts the methodology followed by the Petitioner for projecting the category-wise energy sales for FY 2017-18 (RE). However, wherever the number of consumers are revised, the energy sales is also revised. For Kj (unmetered) and SS-II (unmetered) sales are considered as per norms i.e. 50 Units/month/connection for KJ (Unmetered) and 25 Units/Kw/Month for SS-II (Unmetered).

Table 5.12: Energy Sales approved for NBPDCL (excluding DF) for FY 2017-18

Sl. No	Category	Projected consumers by petitioner FY 2017-18	Projected sales (MU) by petitioner FY 2017-18	Approved Consumers for FY 2017-18	Approved Sales (MU) by Commission for FY 2017-18 (RE)
1	Kutir Jyoti BPL Consumers	2818236	1271	2818236	1271.00
2	Domestic-I	2348201	1651	2348201	1,651.00
3	Domestic-II	1235459	1443	1341259	1,566.57
4	Non-Domestic-I	92127	78	92127	78.00
5	Non-Domestic-II	225369	666	257468	760.86
6	Street Light-I	149	7	149	7.00
7	Street Light-II	119	9	119	7.36
8	IAS-I	32647	78	32647	78.00
9	IAS-II	5512	168	6013	183.28
10	Public Water Works	873	34	749	34.00
11	LTIS-I	12752	246	13353	257.59
12	LTIS-II	653	24	653	24.00
13	HTS-I	961	403	694	290.92
14	HTS-II	40	149	25	93.13
15	HTS-III	2	66	2	66.00
16	HTSS	5	66	5	66.00
17	**Railway**	**7**	63	**7**	63.00
18	**Total**	**6773112**	**6422**	**6911707**	**6497.71**
19	**Nepal**		**1188.99**		**1188.89**
20	**Total Sales**	**6773112**	**7610.89**	**6911707**	**7686.60**

Muzaffarpur area

The Commission has revised the category-wise energy sales for Muzaffarpur DF based on number of consumers approved for FY 2017-18 (RE) as shown in the Table below:

Table 5.13: Energy Sales approved for Muzaffarpur DF for FY 2017-18

Sl. No	Category	Projected consumers by Petitioner FY 2017-18	Projected sales (MU) by petition FY 2017-18	Approved Consumers for FY 2017-18	Approved Sales (MU) by Commission for FY 2017-18
1	Kutir Jyoti BPL Consumers	144104	86.46	143919	86.35
2	Domestic-I	56139	53.89	63530	60.99
3	Domestic-II	99587	281.03	99130	279.74
4	Non-Domestic-I	5474	4.63	6194	5.24
5	Non-Domestic-II	23922	94.81	23629	93.65
6	Street Light-I	6	0.26	6	0.26
7	Street Light-II	412	33.62	410	33.46
8	IAS-I	366	0.68	414	0.77
9	IAS-II	163	5.49	185	6.22
10	Public Water Works	62	3.48	70	3.91
11	LTIS-I	1857	20.74	2102	23.48
12	LTIS-II	166	8.65	163	8.51
13	HTS-I	156	63.31	169	68.51
14	HTS-II	5	15.2	5	15.20
15	HTS-III	0		0	
16	HTSS	2	101.3	2	101.30
17	Railway	0		0	
18	**Total**	**332421**	**773.55**	**339928**	**787.59**

The category-wise energy sales, connected load and energy sales approved for FY 2017-18 (RE), in the review, which are subject to true up which the actual energy sales are made available are as given in the Tables below:

Table 5.14: Category-wise Energy Sales approved for NBPDCL (including DF) FY 2017-18 (RE)

Category	NBPDCL	Muzaffarpur	Total
Domestic			
Kutir Jyoti			
Unmetered	8.37		8.37
Metered (0-50)	1262.63		1262.63
Total - KJ	1271.00	86.35	1357.35
DS-I (Rural)			
Unmetered	443.62		443.62
Metered			
First 50 Units	689.41		689.41
51 - 100 Units	113.61		113.61
Above 100 Units	404.35		404.35
Total	1651.00	60.99	1711.99
DS-II (Urban- Demand Based)			
1-100 U/Month	529.99		529.99
101 - 200 U/Month	406.54		406.54
201 -300 U/Month	315.75		315.75
above 300 U/Month	314.29		314.29
Total	1566.57	279.74	1846.31
NDS-I (Rural)			
Unmetered	1.19		1.19
Metered			
1-100 U/Month	38.65		38.65
101 - 200 U/Month	19.83		19.83
above 200 U/Month	18.33		18.33
Total	78.00	5.24	83.24
NDS-II (Demand Based)			
Contract Demand < 0.5 kW	11.64		11.64
Contract Demand > 0.5 kW			
First 100 Units	376.97		376.97
101 - 200 Units	193.40		193.40
Above 200 Units	178.84		178.84
Total	760.86	93.65	854.51
IAS-I (Pvt Tubewell)			
Unmetered	36.96		36.96
Metered	41.04		41.04
Total	78.00	0.77	78.77
IAS-II (State Tubewell)			
Unmetered	99.04		99.04
Metered	84.24		84.24
Total	183.28	6.22	189.50
LTIS			
LTIS-I (Contract Demand < 19 kW)	257.59	23.48	281.07
LTIS-II (Contract Demand 19-74 kW))	24.00	8.51	32.51
Total - LTIS	281.59	31.99	313.58
PWW - Public Water Works (Demand Based)			

Category	NBPDCL	Muzaffarpur	Total
PWW	34.00	3.91	37.91
Total PWW	34.00	3.91	37.91
Street Light Services			
SS-Metered	7.00	0.26	7.26
SS-Unmetered	7.36	33.46	40.82
Total - Street Light	14.36	33.72	48.08
HTS-I (11 kV)	290.92	68.51	359.43
HTS-II (33 kV)	93.13	15.20	108.33
HTS-III (132 kV)	66.00	0.00	66.00
HTS-IV (220 kV)	0.00	0.00	0.00
HTSS (33 / 11 kV)	66.00	101.30	167.30
Total - HTS & HTSS	516.05	185.01	701.06
RTS (132 kV)	63.00	0.00	63.00
Nepal	1188.89		1188.89
Total	**7686.60**	**787.59**	**8474.19**

5.3.4 Summary of total number of consumers, connected load on energy sales approved for FY 2017-18 in Tariff Order dated 24.03.2017, projected by Petitioner in review for FY 2017-18 and approved by the Commission for FY 2017-18 (RE) are as given below:

Details	Approved for FY 2017-18 for FY 2017-18 in Tariff Order dated 24.03.2017	Projected by Petitioner in APR for FY 2017-18	Approved by Commission for FY 2017-18 (RE)
Number of Consumers			
NBPDCL (excluding DFs)	7295754	6773112	6911707
Muzaffarpur DF	346596	332421	339928
Total for NBPDCL	7642350	7105533	7251635
Connected Load (KW)			
NBPDCL (excluding DFs)	5821874	6174822	6313119
Muzaffarpur DF	496848	446190	457878
Total for NBPDCL	6318722	6621012	6770997
Energy Sales (MU)			
NBPDCL (excluding DF)	8565.11	6422.00	7686.60
Muzaffarpur DF	589.91	773.55	787.59
Total for NBPDCL	9155.02	7195.55	8474.19

5.4 Distribution Loss

Petitioner's Submission

NBPDCL has submitted that the State of Bihar and SBPDCL have signed a tripartite MoU of UDAY with the Ministry of Power, Government of India on 22nd February 2016, as per which the distribution losses aims at 24% in FY 2017-18 which is far below the actual losses of the utility. NBPDCL has projected the distribution loss per the trajectory as approved by the Commission in the Tariff Order dated 24.03.2017 as shown in the Table below:

Table 5.15: Distribution Loss trajectory proposed for FY 2017-18

Particulars	FY 2017-18
Distribution Loss	24%

Commission's Analysis

The Commission has observed that there is a provision of subsidy as Operational Funding Requirement (OFR) by the State Government as per MoU of UDAY. The Government of Bihar vide notification dated 05.09.2017 has sanctioned an amount of Rs.1476 crore for FY 2017-18 for both Discoms to meet the additional power purchase cost due to excess AT&C losses than the losses stipulated by the Commission and it is also noted that the Discoms are receiving Rs.123 crore per month and is being shared in the ratio of 69.715 : 30.285 between SBPDCL and NBPDCL. The Commission has estimated the energy requirement for FY 2017-18 considering distribution losses at 24% as such the additional power required to meet the higher losses and cost thereon are not considered for FY 2017-18 in review.

The Commission approves the distribution loss for FY 2017-18 (RE) as proposed by the Petitioner as it is same as approved for FY 2017-18 in the Tariff Order dated 24.03.2017.

Table 5.16: Distribution Loss approved for FY 2017-18 (RE)

Particulars	Approved in Tariff Order dated 24.03.2017	Projected by Petitioner	Approved by Commission for FY 2017-18 (RE)
Distribution Loss	24%	24%	24%

5.5 State Transmission Loss

Petitioner's Submission

NBPDCL has proposed the State Transmission Loss for FY 2017-18 at 3.92% as approved for BSPTCL for FY 2017-18 in the Tariff Order dated 09.03.2017.

Commission's Analysis

The Commission has approved State Transmission loss at 3.92% for FY 2017-18 for BSPTCL in Tariff Order dated 09.03.2017 and also considered at 3.92% in the 'Review' for FY 2017-18 and accordingly considers the State Transmission loss at 3.92% for FY 2017-18 (RE) as proposed by the Petitioner.

5.6 Central Transmission Loss

Petitioner's Submission

NBPDCL has submitted that it has considered weighted average transmission loss of last 52 weeks of Eastern Region and has proposed the Central Transmission loss at 2.26%.

Commission's Analysis

The Commission has observed that the pooled loss of Eastern Region during FY 2017-18 (as on date) is around 2.26% and hence considers the CTU loss at 2.26% for FY 2017-18 (RE) as proposed by the Petitioner.

5.7 Power Purchase

Petitioner's Submission

NBPDCL has submitted that the Discom's rely on allocation from central generating stations and state projects for procuring power for sale in the state. This power has been proposed to be allocated between North and South Bihar in the proportion as determined by the board resolution as detailed below.

Bihar State Power Holding Company Ltd (BSPHCL) issued vide its Resolution No.55-10 dated 14th July 2017 for approval regarding distribution of power purchase agreement between NBPDCL and NBPDCL. The notification states that,

"RESOLVED THAT Power Purchase & Transmission charges bills are to be admitted and payment by both discoms i.e NBPDCL and NBPDCL in the ratio 46:54 respectively w.e.f. 1-4-2017 subjected to the final reconciliation of actual consumption".

RESOLVED FURTHER THAT Chairman cum Managing Director, BSPHCL are hereby authorized for deciding the power consumption ratio subsequently as per the actual consumption of both the DISCOMS based on the average consumption of the last 6 months of power drawal of both the discoms i.e. NBPDCL and NBPDCL"

NBPDCL has submitted that for projecting the power purchase quantum the actual power purchase quantum for the period from April, 2017 to September. 2017 is considered and projected for remaining months based on the following methodology.

Share allocation has been considered as actuals of April 2017 to September 2017.

The Plant Load Factor (PLF) for each plant has been calculated on actual basis of FY 2017-18 and then Petitioner has made a consideration to take highest among the following two plant load factors every month of FY 2017-18 from October 2017 to March 2018.

(a) Normative Plant Load Factor Plant (PLF) provided by Central Electricity Regulatory Commission (CERC) for the thermal and hydro plants and the auxiliary consumptions specified for plants.
(b) Actual Plant Load Factor (PLF) of the thermal, hydro, biomass and solar plants in the same month of previous financial year i.e. FY 2016-17.

For the state plants, PLF highest among the PLF norms specified by BERC and the plant wise auxiliary consumption determined by BERC for thermal, and biomass has been considered.

For the solar plants highest among the CUF of 19%.

Considering the PLF as mentioned above and using the power purchase allocation data, the total number of units purchased were calculated from every source/ plant for every month separately.

The month-wise estimated data from October, 2017 to March, 2018 is added to the actual of April, 2017 to September, 2017.

The Power (MW) and Energy (MU) purchase projected for FY 2017-18 by the Petitioner are as shown in the Table below:

Table 5.17: Total power purchase projected for FY 2017-18 (RE)

S. No.	Power Purchase Sources	Share Allocation (MW)	Energy (MU)
1	Central Sector Stations	1,376.06	8,844.82
2	Talcher – I (2 x 500 MW)	191.59	1,346.71
3	Farakka – I & II (1600 MW)	234.05	1,487.50
4	Farakka – III (500 MW)	49.68	330.89
5	Kahalgaon – I (840 MW)	163.25	1,130.23
6	Kahalgaon – II (1500 MW)	34.36	271.07
7	Barh-II	487.14	3,163.36
8	Korba	-	0.95
9	Rangit – HEP	9.66	55.52
10	Teesta – HEP	49.88	284.42
11	Chukha	36.80	293.69
12	Tala	119.65	480.48
13	Barh Stage-I (3 X 660 MW)	-	-
14	State Generating Stations	438.84	742.07
15	KBUNL 1	101.20	299.15
16	KBUNL 2	121.44	312.11
17	Small Hydro (BSHPCL)	-	2.01
18	Barauni Stage I	101.20	87.40
19	Barauni Stage II	115.00	41.40
20	IPP	119.60	848.15
21	GMR Kamalanga Energy	119.60	848.15
22	Adani Enterprises Limited	-	-
23	JV projects	23.00	80.67
24	Nabinagar Railway (4 X 250 MW)	23.00	80.67
25	Nabinagar Stage-I (3 X 660 MW)	-	-
26	Nabinagar JV (3 X 660 MW) Stage-II	-	-
27	Renewable	103.04	196.46
28	SECI	4.60	9.07
29	ACME Magadh	4.60	7.17
30	ACME Nalanda	6.90	10.17
31	Sunmark	4.60	7.14
32	Avantika	2.30	2.67
33	AZURE	4.60	5.90
34	Udipta Energy & Equipment Pvt ltd	2.30	2.81
35	Glatt	1.38	1.42
36	Welspun 2	6.90	10.41
37	Welspun 1	4.60	6.75
38	Alpha Infraprop	9.20	5.03

S. No.	Power Purchase Sources	Share Allocation (MW)	Energy (MU)
39	Welspun 3	6.90	10.27
40	Response Renewabe Energy	4.60	4.71
41	New Swadeshi Sugar Mill,Narkatiaganj	3.22	8.05
42	Harinagar Sugar Mills,Harinagar	5.06	23.16
43	Bharat SugarMills,Sidhiwalia,Gopalganj	5.06	19.08
44	Lauriya Sugar Mill	9.20	21.94
45	Sugauli Sugar Mill	9.20	21.20
46	Hasanpur Sugar Mills,Samastipur	4.60	10.59
47	Riga Sugar Company Ltd,Sitamarhi	1.38	3.18
48	Siddhashram Rice Mill Cluster Pvt Ltd	0.46	2.27
49	BDBPL	1.38	3.46
50	Open Market Purchase	-	1,267.85
51	IEX/PXIL	-	782.11
52	DB Power	-	-
53	JAYPEE NIGRIE	-	117.81
54	JPL	-	20.28
55	GMR ETL	-	8.01
56	TATA ETL	-	36.74
57	Manikaran Power	-	232.27
58	NEA	-	0.48
59	NVVNL	-	-
60	PVVNL	-	-
61	Adani Short Term	-	9.07
62	UI	-	61.09
63	**Sub Total Power Purchase**	**2,060.54**	**11,980.03**
64	**Transmission charges**	-	-
65	PGCIL	-	-
66	POSOCO & SLDC Charges	-	-
67	BSPTCL charges	-	-
68	BGCL	-	-
69	**Total Power Purchase**	2,060.54	11,980.03
70	Open Market Purchase		
71	**Transfer to Other Discom**		(407.18)
72	**Net Power Purchase**	2,060.54	11,572.85

Commission's Analysis

BSPGCL has not projected any generation from Units 8&9 of BTPS extension project for FY 2017-18. Hence, the Commission has not considered the power purchase of 41.40 MU from Barauni Stage – II. The Commission has approved net generation of 183.76 MU from R&M units 6&7 of BTPS project in review for FY 2017-18 in BSPGCL

Tariff order dated 07.03.2018 for FY 2018-19. Considering the share of NBPDCL at 46% the Commission has considered 84.52 MU (46% of 183.76) from Barauni stage-I.

The Commission vide order dated 12.01.2018 / case no 29/2017, has permitted for preponement of power purchase of 300MW from Jindal India Power Ltd w.e.f. from 15.01.2018 on as and when basis in accordance with terms and conditions of the PSA at discounted tariff of Rs. 3.09/ KWh as requested by BSPHCL because it will help BSPHCL to procure power at cheaper rate of Rs. 3.09/ kWh as and when required or during peak hours, if power price in IEX or Short Term Market is higher than Rs. 3.09 kWh. About 99 MU of energy is anticipated during the period 15.01.2018 to 31.03.2018 at a rate of about 1.4 MU per day as being received since 18.01.2018 and hence considering a share of 46%, 45 MU of purchase of power from this source is factored in the power purchase for FY 2017-18.

On a query from the Commission, NBPDCL vide letter no 169. dated 01.03.2018 submitted that BSP(H)CL has signed a PPA with NTPC for a capacity of 25 MW for Korba STPS Stage-III on 25.09.2017 for a period of 2 years and about 42.23 MU shall be procured from this source during FY 2017-18. From Korba-III Commission has considered 42.23 MU against 0.95 MU projected by petitioner in the petition.

It is also noted that NBPDCL has proposed to sell 407.18 MU to SBPDCL. The Commission has considered 405.13 MU of power transfer to SBPDCL as per the energy balance of SBPDCL for FY 2017-18 (RE).

The Power Purchase, station/source-wise approved by the Commission for FY 2017-18 (RE) is as given in the Table below:

Table 5.18: Power Purchase approved for FY 2017-18 (RE)

S. No.	Power Purchase Sources	Share Allocation (MW)	Projected for FY 2017-18 (RE) (MU)	Approved by Commission for FY 2017-18 (RE) (MU)
1	**Central Sector Stations**	**1,376.06**	**8,844.82**	**8886.10**
2	Talcher – I (2 x 500 MW)	191.59	1,346.71	1346.71

S. No.	Power Purchase Sources	Share Allocation (MW)	Projected for FY 2017-18 (RE) (MU)	Approved by Commission for FY 2017-18 (RE) (MU)
3	Farakka – I & II (1600 MW)	234.05	1,487.50	1487.50
4	Farakka – III (500 MW)	49.68	330.89	330.89
5	Kahalgaon – I (840 MW)	163.25	1,130.23	1130.23
6	Kahalgaon – II (1500 MW)	34.36	271.07	271.07
7	Barh-II	487.14	3,163.36	3163.36
8	Korba	-	0.95	42.23
9	Rangit – HEP	9.66	55.52	55.52
10	Teesta – HEP	49.88	284.42	284.42
11	Chukha	36.80	293.69	293.69
12	Tala	119.65	480.48	480.48
13	Barh Stage-I (3 X 660 MW)	-	-	-
14	**State Generating Stations**	**438.84**	**742.07**	**697.79**
15	KBUNL 1	101.20	299.15	299.15
16	KBUNL 2	121.44	312.11	312.11
17	Small Hydro (BSHPCL)	4.60	2.01	2.01
18	Barauni Stage I	101.20	87.40	84.52
19	Barauni Stage II	115.00	41.40	0.00
20	**IPP**	**119.60**	**848.15**	**848.15**
21	GMR Kamalanga Energy	119.60	848.15	848.15
22	**JV projects**	**23.00**	**80.67**	**80.67**
23	Nabinagar Railway (4 X 250 MW)	23.00	80.67	80.67
24	Nabinagar Stage-I (3 X 660 MW)	-	-	-
25	Nabinagar JV (3 X 660 MW) Stage-II	-	-	-
26	**Renewable**	**103.04**	**196.46**	**196.45**
27	SECI	4.60	9.07	9.07
28	ACME Magadh	4.60	7.17	7.17
29	ACME Nalanda	6.90	10.17	10.17
30	Sunmark	4.60	7.14	7.14
31	Avantika	2.30	2.67	2.67
32	AZURE	4.60	5.90	5.90
33	Udipta Energy & Equipment Pvt ltd	2.30	2.81	2.81
34	Glatt	1.38	1.42	1.42
35	Welspun 2	6.90	10.41	10.41
36	Welspun 1	4.60	6.75	6.75
37	Alpha Infraprop	9.20	5.03	5.03
38	Welspun 3	6.90	10.27	10.27
39	Response Renewabe Energy	4.60	4.71	4.71
40	New Swadeshi Sugar Mill,Narkatiaganj	3.22	8.05	8.05

S. No.	Power Purchase Sources	Share Allocation (MW)	Projected for FY 2017-18 (RE) (MU)	Approved by Commission for FY 2017-18 (RE) (MU)
41	Harinagar Sugar Mills,Harinagar	5.06	23.16	23.16
42	Bharat SugarMills,Sidhiwalia,Gopalganj	5.06	19.08	19.08
43	Lauriya Sugar Mill	9.20	21.94	21.94
44	Sugauli Sugar Mill	9.20	21.20	21.20
45	Hasanpur Sugar Mills,Samastipur	4.60	10.59	10.59
46	Riga Sugar Company Ltd,Sitamarhi	1.38	3.18	3.18
47	Siddhashram Rice Mill Cluster Pvt Ltd	0.46	2.27	2.27
48	BDBPL	1.38	3.46	3.46
49	**Open Market Purchase**	**-**	**1,267.85**	**1312.86**
50	IEX/PXIL	-	782.11	782.11
51	Jindal India Power Limited			45.00
52	DB Power	-	-	-
53	JAYPEE NIGRIE	-	117.81	117.81
54	JPL	-	20.28	20.28
55	GMR ETL	-	8.01	8.01
56	TATA ETL	-	36.74	36.74
57	Manikaran Power	-	232.27	232.27
58	NEA	-	0.48	0.48
59	NVVNL	-	-	-
60	PVVNL	-	-	-
61	Adani Short Term	-	9.07	9.07
62	UI	-	61.09	61.09
63	**Sub Total Power Purchase**	**2065.14**	**11,980.03**	**12022.02**
64	Open Market Purchase			
65	Less: Transfer to Other Discom		(407.18)	(375.08)
66	**Net Power Purchase**	**2065.14**	**11,572.85**	**11,646.94**

5.8 Renewable Power Purchase Obligation

Petitioner's Submission

NBPDCL has submitted that the Commission has notified the BERC (Renewable Purchase Obligation, its Compliance and REC Framework Implementation) Regulations, 2010. Further, there were amendments in the Regulations wherein the RPO was modified In line with the above, the details of the RPO to be met during FY 2017-18 are as given in the Table below:

Table 5.19: RPO to be met for FY 2017-18 (RE) projected by Petitioner

S. No.	Particulars	Unit	FY 2017-18
1	Energy consumption excluding Nepal	MU	7,429.60
2	% of RPO Obligation	%	7.75%
	Solar	%	2.25%
	Non-Solar	%	5.50%
3	MUs required as per RPO for the year	MU	575.79
	Solar	MU	167.16
	Non-Solar	MU	408.63
4	Solar Energy to be procured during the year	MU	167.16
5	Non-Solar Energy to be procured during the year	MU	408.63

The Petitioner is also taking efforts to tie-up solar power through competitive bid process. Hence, the Petitioner has considered the quantum as approved by Hon'ble Commission for FY 2017-18 for Solar and Non-solar. The Petitioner submits that the shortfall may please be allowed to carry forward to next year so as to meet the total RPO on cumulative basis. As has been the practice in the past, in case the Petitioner fails to achieve the Solar and Non-solar RPO, it shall maintain a separate account where the cost of purchase of solar and non-solar power, equivalent to the quantum of shortfall shall be maintained.

Commission's Analysis

The Commission has noted that NBPDCL has proposed to purchase only 83.52 MU of solar energy and 114.94 MU of non-solar energy for FY 2017-18, which will not be sufficient to meet the RPO. NBPDCL is directed to put forth more efforts to procure solar and non-solar power such that they will meet the required percentage as per Renewable Power Purchase Obligation.

The Renewable Energy (RE) to be procured as per RPO Regulations, The RE projected in the Petition and the balance RE to be procured are as given in the Table below:

Table 5.20: Renewable energy purchase obligation considered by Commission for FY 2017-18

S. No.	Particulars	Unit	FY 2017-18
1	Energy consumption excluding Nepal	MU	7285.30
2	% of RPO Obligation	%	7.75%
(i)	Solar	%	2.25%
(ii)	Non-Solar	%	5.50%
3	MUs required as per RPO for the year	MU	564.61
(i)	Solar	MU	163.92
(ii)	Non-Solar	MU	400.69
4	Solar Energy projected during the year	MU	83.52
5	Non-Solar Energy projected during the year	MU	114.94
6	Balance Solar to be procured	MU	80.40
7	Balance Non-solar to be procured	MU	285.75
8	Floor price of solar REC (Rs./kWh)	(Rs./kWh)	1.00
9	Floor price of non solar REC (Rs./kWh)	(Rs./kWh)	1.00
10	Cost of solar REC (Rs. Crore)	**Rs.Cr**	8.04
11	Cost of non-solar REC (Rs. Crore)	**Rs.Cr**	28.58
12	**Total cost of certificate (Rs. Crore)**	**Rs.Cr**	**36.62**

NBPDCL is directed to put forth more efforts to procure the balance non-solar energy required to meet the RPO requirement as detailed in the Table above or otherwise to purchase RECs to meet the RPO. This short fall in solar and non-solar power purchase is factored in the power purchase cost for FY 2017-18.

5.9 Energy Balance

Petitioner's Submission

NBPDCL has projected the energy Balance for FY 2017-18 as shown in the Table below:

Table 5.21: Energy Balance projected for FY 2017-18 (RE)

S. No.	Particulars	Unit	FY 2017-18 (RE)
1	Energy sales	MU	8,618.49
2	Less: Energy supplied to DF area	MU	1,007.62
3	Less: Sales to Nepal	MU	1,188.89
4	Less: UI	MU	0.00
5	Energy sale excluding DF area and Nepal	MU	6,421.98
6	Distribution loss	%	24.00%
7	Distribution loss	MU	2,028.00
8	Energy required (3+5)	MU	8,449.98
9	Add: Energy to DF area including loss for DF area	MU	1,007.62

S. No.	Particulars	Unit	FY 2017-18 (RE)
10	Energy required at Distribution periphery (7+8)	MU	9,457.60
11	Add: Sales to Nepal	MU	1,188.89
12	Total energy required (9+10)	MU	10,646.49
13	State Transmission loss	%	3.92%
14	State Transmission loss	MU	434.37
15	Add: UI sales	MU	0.00
16	**Energy required at State Transmission periphery**	**MU**	**11,080.86**
17	Power Purchase from CGS, SGS and others	MU	11,572.85
18	UI	MU	0.00
19	Power Purchase from CGS	MU	10,884.78
20	Losses in Regional Transmission System (excluding state generating stations)	%	2.26%
21	Losses in Regional Transmission system (MU)	MU	246.00
22	Power Purchase from SGS	MU	442.08
23	Energy available at State Transmission Periphery	MU	11,080.86
24	**Surplus energy (23-16)**	MU	0

Commission's Analysis

It is observed that at Sl.No. 23 in the above table, the petitioner has considered the energy available as 11080.86 instead of 11326.85 (i.e. 11572.85-246) and has shown surplus energy as 'Zero' instead of 245.99 MU.

The Commission has computed the Energy Balance taking into consideration the energy sales, T&D losses, power purchase approved for FY 2017-18 (RE) as detailed in the Table below:

Table 5.22: Energy Balance approved for FY 2017-18 (RE)

S. No.	Particulars	Unit	Project by Petitioner for FY 2017-18 (RE)	Approved by Commission for FY 2017-18 (RE)
1	Energy sales	MU	8,618.49	8474.19
2	Less: Energy supplied to DF area	MU	1,007.62	0.00
3	Less: Sales to Nepal	MU	1,188.89	1188.89
4	Energy sale excluding DF area and Nepal	MU	6,421.98	7285.30
5	Distribution loss	%	24.00%	24.00%
6	Distribution loss	MU	2,028.00	2300.62
7	Energy required (3+5)	MU	8,449.98	9585.92
8	Add: Energy to DF area including loss for DF area	MU	1,007.62	0.00
9	Energy required at Distribution periphery (7+8)	MU	9,457.60	9585.92
10	Add: Sales to Nepal	MU	1,188.89	1188.89
11	Total energy required (9+10)	MU	10,646.49	10774.81
12	State Transmission loss	%	3.92%	3.92%
13	State Transmission loss	MU	434.37	439.61
14	**Energy required at State Transmission periphery**	**MU**	**11,080.86**	**11214.42**
15	Power Purchase from CGS, SGS and others	MU	11,572.85	**12022.02**
16	Power Purchase from CGS	MU	10,884.78	**11127.78**
17	Losses in Regional Transmission System (excluding state generating stations)	%	2.26%	2.26%
18	Losses in Regional Transmission system (MU)	MU	246.00	251.49
19	Power Purchase from SGS	MU	442.08	894.24
20	Energy available at State Transmission Periphery	MU	11,080.86	**11770.53**
21	**Surplus energy (20-14)**	**MU**	**0**	**556.11**
22	Less: Energy transferred to SBPDCL	MU	0	**375.08**
23	**Net surplus energy (23-21)**	MU	0	**181.03**

5.10 Power Purchase Cost

Petitioner's Submission

NBPDCL has submitted that the power purchase cost mainly comprises of fixed charges and energy charges for two part tariff stations i.e. NTPC, NHPC & PTC and it has considered the actual energy charges and fixed cost for these power stations based on actual 12 months data for FY 2016-17 and actual 6 months information from April 2017 to September 2017.

The power purchase cost projections have been undertaken by considering the average of actual fixed cost and fuel costs for the previous 6 months.

The fixed cost projected using the above mentioned method is calculated to be 1.22 INR/kWh. This has also been adopted for the remaining period of FY 2017-18.

The fuel costs computed by the above method is calculated to be 2.59 INR/kWh

The total cost of power purchase per unit has been calculated to be 4.44 INR/kWh inclusive of all charges.

Table 5.23: Power Purchase cost projected for FY 2017-18 (RE)

S. No.	Power Purchase Sources	Current Year (FY 2017-18)								
		Share Allocation (MW)	Energy (MU)	Fixed Charge rate (Rs/MU)	Fixed charge (INR Cr)	Energy Rate (INR/kWh)	Energy Charge (INR Cr)	Other charges (pl. specify) (INR Cr)	Total Charges (INR Cr)	Avg. Tariff Rate (INR/kWh)
1	Central Sector Stations	1,376.06	8,844.82	1.27	1,122.08	2.51	2,217.33	16.68	3,356.09	3.79
2	Talcher – I (2 x 500 MW)	191.59	1,346.71	0.89	120.50	1.60	215.56	7.30	343.35	2.55
3	Farakka – I & II (1600 MW)	234.05	1,487.50	0.98	146.05	2.82	420.17	7.30	573.52	3.86
4	Farakka – III (500 MW)	49.68	330.89	1.77	58.67	2.84	94.07	2.86	155.59	4.70
5	Kahalgaon – I (840 MW)	163.25	1,130.23	1.00	112.63	2.49	281.72	0.24	394.58	3.49
6	Kahalgaon – II (1500 MW)	34.36	271.07	0.88	23.73	2.43	65.87	0.04	89.65	3.31
7	Barh-II	487.14	3,163.36	1.97	624.64	2.92	924.95	(1.12)	1,548.48	4.90
8	Korba	-	0.95	1.42	0.13	1.15	0.11	0.00	0.24	2.57
9	Rangit – HEP	9.66	55.52	1.76	9.77	1.96	10.86	0.01	20.64	3.72
10	Teesta – HEP	49.88	284.42	0.91	25.96	1.16	32.99	0.07	59.02	2.08
11	Chukha	36.80	293.69	-	-	2.29	67.25	(0.03)	67.23	2.29
12	Tala	119.65	480.48	-	-	2.16	103.78	-	103.78	2.16
13	Barh Stage-I (3 X 660 MW)	-	-	-	-	-	-	-	-	-
14	State Generating Stations	438.84	742.07	1.38	102.06	3.41	253.31	-	355.37	4.79
15	KBUNL 1	101.20	299.15	1.41	42.06	3.41	101.97	-	144.03	4.81
16	KBUNL 2	121.44	312.11	1.92	60.00	3.16	98.57	-	158.57	5.08
17	Small Hydro (BSHPCL)	-	2.01	-	-	2.49	0.50	-	0.50	2.49
18	Barauni Stage I	101.20	87.40	-	-	4.10	35.83	-	35.83	4.10
19	Barauni Stage II	115.00	41.40	-	-	3.97	16.44	-	16.44	3.97
20	IPP	119.60	848.15	1.95	165.23	1.13	95.46	42.36	303.05	3.57
21	GMR Kamalanga Energy	119.60	848.15	1.95	165.23	1.13	95.46	42.36	303.05	3.57
22	Adani Enterprises Limited	-	-	-	-	-	-	-	-	-
23	JV projects	23.00	80.67	2.21	17.84	1.99	16.05	-	33.88	4.20

S. No.	Power Purchase Sources	Current Year (FY 2017-18)								
		Share Allocation (MW)	Energy (MU)	Fixed Charge rate (Rs/MU)	Fixed charge (INR Cr)	Energy Rate (INR/kWh)	Energy Charge (INR Cr)	Other charges (pl. specify) (INR Cr)	Total Charges (INR Cr)	Avg. Tariff Rate (INR/kWh)
24	Nabinagar Railway (4 X 250 MW)	23.00	80.67	2.21	17.84	1.99	16.05	-	33.88	4.20
25	Nabinagar Stage-I (3 X 660 MW)	-	-	-	-	-	-	-	-	-
26	Nabinagar JV (3 X 660 MW) Stage-II	-	-	-	-	-	-	-	-	-
27	Renewable	103.04	196.46	-	-	4.67	91.69	-	91.69	4.67
28	SECI	4.60	9.07	-	-	5.62	5.10	-	5.10	5.62
29	ACME Magadh	4.60	7.17	-	-	8.73	6.26	-	6.26	8.73
30	ACME Nalanda	6.90	10.17	-	-	8.73	8.88	-	8.88	8.73
31	Sunmark	4.60	7.14	-	-	7.02	5.01	-	5.01	7.02
32	Avantika	2.30	2.67	-	-	7.69	2.05	-	2.05	7.69
33	AZURE	4.60	5.90	-	-	8.39	4.95	-	4.95	8.39
34	Udipta Energy & Equipment Pvt ltd	2.30	2.81	-	-	7.98	2.25	-	2.25	7.98
35	Glatt	1.38	1.42	-	-	7.02	1.00	-	1.00	7.02
36	Welspun 2	6.90	10.41	-	-	8.64	8.99	-	8.99	8.64
37	Welspun 1	4.60	6.75	-	-	8.70	5.87	-	5.87	8.70
38	Alpha Infraprop	9.20	5.03	-	-	7.02	3.53	-	3.53	7.02
39	Welspun 3	6.90	10.27	-	-	8.56	8.79	-	8.79	8.56
40	Response Renewabe Energy	4.60	4.71	-	-	7.02	3.31	-	3.31	7.02
41	New Swadeshi Sugar Mill,Narkatiaganj	3.22	8.05	-	-	-	-	-	-	-
42	Harinagar Sugar Mills,Harinagar	5.06	23.16	-	-	5.34	12.37	-	12.37	5.34
43	Bharat SugarMills,Sidhiwalia, Gopalganj	5.06	19.08	-	-	5.04	9.62	-	9.62	5.04
44	Lauriya Sugar Mill	9.20	21.94	-	-	-	-	-	-	-
45	Sugauli Sugar Mill	9.20	21.20	-	-	-	-	-	-	-
46	Hasanpur Sugar Mills,Samastipur	4.60	10.59	-	-	0.01	0.01	-	0.01	0.01
47	Riga Sugar Company Ltd,Sitamarhi	1.38	3.18	-	-	-	-	-	-	-
48	Siddhashram Rice Mill Cluster Pvt Ltd	0.46	2.27	-	-	7.41	1.68	-	1.68	7.41

S. No.	Power Purchase Sources	Current Year (FY 2017-18)								
		Share Allocation (MW)	Energy (MU)	Fixed Charge rate (Rs/MU)	Fixed charge (INR Cr)	Energy Rate (INR/kWh)	Energy Charge (INR Cr)	Other charges (pl. specify) (INR Cr)	Total Charges (INR Cr)	Avg. Tariff Rate (INR/kWh)
49	BDBPL	1.38	3.46	-	-	5.80	2.01	-	2.01	5.80
50	Open Market Purchase	-	1,267.85	-	-	4.02	509.10	1.93	511.03	4.03
51	IEX/PXIL	-	782.11	-	-	3.95	309.32	1.93	311.25	3.98
52	DB Power	-	-	-	-	-	-	-	-	-
53	JAYPEE NIGRIE	-	117.81	-	-	2.82	33.17	-	33.17	2.82
54	JPL	-	20.28	-	-	2.87	5.81	-	5.81	2.87
55	GMR ETL	-	8.01	-	-	3.19	2.56	-	2.56	3.19
56	TATA ETL	-	36.74	-	-	3.83	14.05	-	14.05	3.83
57	Manikaran Power	-	232.27	-	-	4.65	108.01	-	108.01	4.65
58	NEA	-	0.48	-	-	2.72	0.13	-	0.13	2.72
59	NVVNL	-	-	-	-	-	-	-	-	-
60	PVVNL	-	-	-	-	-	-	-	-	-
61	Adani Short Term	-	9.07	-	-	4.77	4.33	-	4.33	4.77
62	UI	-	61.09	-	-	5.19	31.73	-	31.73	5.19
63	Sub Total Power Purchase	2,060.54	11,980.03	1.17	1,407.20	2.66	3,182.93	60.97	4,651.11	3.88
64	Transmission charges	-	-	-	-	-	-	-	667.21	-
65	PGCIL	-	-	-	-	-	-	-	319.75	-
66	POSOCO & SLDC Charges	-	-	-	-	-	-	-	5.73	-
67	BSPTCL charges	-	-	-	-	-	-	-	257.34	-
68	BGCL	-	-	-	-	-	-	-	84.39	-
69	**Total Power Purchase**	2,060.54	11,980.03	1.17	1,407.20	2.66	3,182.93	60.97	5,318.32	4.44
70	**Sale of Power to Other Discom**		(407.18)			4.44	-180.76		-180.76	4.44
71	**Net Power Purchase**	**2,060.54**	**11,572.85**	**1.22**	**1,407.20**	**2.59**	**3,002.17**	**60.97**	**5,137.56**	**4.44**

Commission's Analysis

NBPDCL has considered the average of per unit fixed cost, variable cost and other costs based on actual 12 months data for FY 2016-17 and actuals of 1st half year of FY 2017-18 for estimating the power purchase cost from various sources.

The Commission has noted that even though energy purchase is considered, energy charges are not shown by the Petitioner for the following RE sources in the above Table.

(i) New Swadeshi Sugar Mill
(ii) Launiya Sugar Mill
(iii) Sugauli Sugar Mill
(iv) Riga Sugar company

There was no purchase of energy from the above sources during 1st half year of FY 2017-18. The Commission has considered the energy charges for the above RE sources based on the PPAs.

The power purchase cost during April, 2017 to November, 2017 as per the bills for Central Generating Stations, IPPs and JV projects are as given in the Table below:

Table 5.24: Power Purchase cost during April, 2017 to November, 2017 (8 Months)

Sl. No.	Power Purchase Sources	Energy (MU)	Fixed Charges (Rs.Cr)	Fixed rate (Rs./kWh)	Energy Charges (Rs.Cr)	Energy rate (Rs./kWh)	Mis. Charges (Rs.Cr)	Total Charges Rs. Cr.	Avg. Tariff Rate Rs./ kWh
1	**Central Sector Stations**	**4,228.65**	**520.04**	**1.23**	**932.27**	**2.20**	**4.13**	**1,456.44**	**3.44**
2	Talcher – I (2 x 500 MW)	666.84	59.54	0.89	107.53	1.61	4.38	171.44	2.57
3	Farakka – I & II (1600 MW)	631.65	60.54	0.96	171.63	2.72	0.15	232.32	3.68
4	Farakka – III (500 MW)	143.19	25.51	1.78	39.27	2.74	(0.63)	64.16	4.48
5	Kahalgaon – I (840 MW)	535.34	53.47	1.00	123.50	2.31	0.10	177.07	3.31
6	Kahalgaon – II (1500 MW)	145.36	12.93	0.89	32.61	2.24	0.02	45.56	3.13
7	Barh-II	1,445.81	286.64	1.98	331.39	2.29	0.06	618.09	4.28
8	Korba	1.04	0.15	1.42	0.12	1.15	0.00	0.27	2.57
9	Rangit – HEP	31.16	5.42	1.74	5.70	1.83	0.01	11.13	3.57
10	Teesta – HEP	174.70	15.84	0.91	20.27	1.16	0.04	36.14	2.07
11	Chukha	176.04	-	-	40.31	2.29	-	40.31	2.29
12	Tala	277.52	-	-	59.94	2.16	-	59.94	2.16

Sl. No.	Power Purchase Sources	Energy (MU)	Fixed Charges (Rs.Cr)	Fixed rate (Rs./kWh)	Energy Charges (Rs.Cr)	Energy rate (Rs./kWh)	Mis. Charges (Rs.Cr)	Total Charges Rs. Cr.	Avg. Tariff Rate Rs./ kWh
13	**State Generating Stations**	**250.72**	**50.21**	2.00	**75.99**	3.03	**-**	**126.20**	5.03
14	KBUNL 1	127.53	17.84	1.40	42.14	3.30	-	59.98	4.70
15	KBUNL 2	110.51	32.37	2.93	28.66	2.59	-	61.02	5.52
16	**IPP**	**358.55**	**69.89**	1.95	**38.68**	1.08	**15.00**	**123.57**	3.45
17	GMR Kamalanga Energy	358.55	69.89	1.95	38.68	1.08	15.00	123.57	3.45

The Commission has considered the fixed charges and energy as per the above Table for computing the power purchase cost of CGS, IPPs and SGS. Others cost are considered only for GMR as open access charges have to be paid.

For small Hydro, Barauni-I, the approved rates as per tariff orders are considered.
For renewable power purchase, rates as per PPAs which are same as per bills during FY 2017-18 are considered. For new stations and open market purchase, the rates as projected are considered.

For Jindal India power limited the rate as per approved rate in the order dated 12.01.2018 (Case no 29/2017) is considered.
The power purchase quantum from various sources as approved in table 5.18 is considered for computing power purchase cost as per energy balance shown in table 5.22, there is a surplus energy of 181.03 MU. As the surplus energy arrived is meagre the Commission has not reduced the quantity from any other sources considering Merit order. However, the Commission directs the petitioner to strictly follow the Merit order Dispatch while scheduling the energy from various stations/sources.

The power purchase cost approved for FY 2017-18 (RE) is as given in the Table below:

Table 5.25: Power Purchase Cost approved for FY 2017-18 (RE)

Sl. No.	Power Purchase Sources	Energy (MU)	Fixed Charge rate (Rs./kWh)	Fixed Charge (Rs. Cr)	Energy Rate (Rs./kWh)	Energy charge (Rs. Cr)	Other charges (Rs. Cr)	Total Charges (Rs. Cr)	Avg. Tariff Rate (Rs./kWh)
1	**Central Sector Stations**	**8886.10**	**1.26**	**1121.43**	**2.24**	**1986.92**	**0.00**	**3108.35**	**3.50**
2	Talcher – I (2 x 500 MW)	1346.71	0.90	120.79	1.64	220.42	0.00	341.21	2.53
3	Farakka – I & II (1600 MW)	1487.50	0.96	142.82	2.73	405.48	0.00	548.30	3.69
4	Farakka – III (500 MW)	330.89	1.76	58.31	2.75	91.02	0.00	149.33	4.51
5	Kahalgaon – I (840 MW)	1130.23	0.99	112.34	2.31	260.77	0.00	373.11	3.30
6	Kahalgaon – II (1500 MW)	271.07	0.89	24.10	2.24	60.79	0.00	84.89	3.13
7	Barh-II	3163.36	1.96	621.00	2.31	729.40	0.00	1350.40	4.27
8	Korba	42.23	1.42	5.98	1.15	4.84	0.00	10.83	2.56
9	Rangit – HEP	55.52	1.78	9.91	1.83	10.16	0.00	20.07	3.61
10	Teesta – HEP	284.42	0.92	26.18	1.16	32.99	0.00	59.17	2.08
11	Chukha	293.69	0.00	0.00	2.29	67.25	0.00	67.25	2.29
12	Tala	480.48	0.00	0.00	2.16	103.78	0.00	103.78	2.16
13	Barh Stage-I (3 X 660 MW)	-							
14	**State Generating Stations**	**697.79**	**1.92**	**134.25**	**3.07**	**214.26**	**0.00**	**348.51**	**4.99**
15	KBUNL 1	299.15	1.42	42.50	3.29	98.37	0.00	140.88	4.71
16	KBUNL 2	312.11	2.94	91.75	2.59	80.74	0.00	172.48	5.53
17	Small Hydro (BSHPCL)	2.01	0.00	0.00	2.49	0.50	0.00	0.50	2.49
18	Barauni Stage I	84.52	0.00	0.00	4.10	34.65	0.00	34.65	4.10
19	Barauni Stage II								
20	**IPP**	**848.15**	**1.95**	**165.15**	**1.1**	**92.99**	**19.39**	**277.52**	**3.27**
21	GMR Kamalanga Energy	848.15	1.95	165.15	1.10	92.99	19.39	277.52	3.27
22	**JV projects**	**80.67**	**2.24**	**18.07**	**1.99**	**16.05**	**0.00**	**34.12**	**4.23**
23	Nabinagar Railway (4 X 250 MW)	80.67	2.24	18.07	1.99	16.05	0.00	34.12	4.23
24	Nabinagar Stage-I (3 X 660 MW)	-						0.00	
25	Nabinagar JV (3 X 660 MW) Stage-II	-						0.00	
26	**Total Renewable**	**196.45**	**0.00**	**0.00**	**6.47**	**127.19**	**0.00**	**127.19**	**6.47**
27	SECI	9.07	0	0	5.85	5.31	-	5.31	5.85

Sl. No.	Power Purchase Sources	Energy (MU)	Fixed Charge rate (Rs./kWh)	Fixed Charge (Rs. Cr)	Energy Rate (Rs./kWh)	Energy charge (Rs. Cr)	Other charges (Rs. Cr)	Total Charges (Rs. Cr)	Avg. Tariff Rate (Rs./kWh)
28	ACME Magadh	7.17	-	-	8.73	6.26	-	6.26	8.73
29	ACME Nalanda	10.17	-	-	8.73	8.88	-	8.88	8.73
30	Sunmark	7.14	-	-	7.02	5.01	-	5.01	7.02
31	Avantika	2.67	-	-	7.69	2.05	-	2.05	7.69
32	AZURE	5.90	-	-	8.39	4.95	-	4.95	8.39
33	Udipta Energy & Equipment Pvt ltd	2.81	-	-	7.98	2.24	-	2.24	7.98
34	Glatt	1.42	-	-	7.02	1.00	-	1.00	7.02
35	Welspun 2	10.41	-	-	8.64	8.99	-	8.99	8.64
36	Welspun 1	6.75	-	-	8.7	5.87	-	5.87	8.70
37	Alpha Infraprop	5.03	-	-	7.87	3.96	-	3.96	7.87
38	Welspun 3	10.27	-	-	8.56	8.79	-	8.79	8.56
39	Response Renewabe Energy	4.71	-	-	7.02	3.31	-	3.31	7.02
40	New Swadeshi Sugar Mill,Narkatiaganj	8.05	-	-	4.57	3.68	-	3.68	4.57
41	Harinagar Sugar Mills,Harinagar	23.16	-	-	5.34	12.37	-	12.37	5.34
42	Bharat SugarMills,Sidhiwalia,	19.08	-	-	5.04	9.62	-	9.62	5.04
43	Lauriya Sugar Mill	21.94	-	-	5.34	11.72	-	11.72	5.34
44	Sugauli Sugar Mill	21.20	-	-	5.34	11.32	-	11.32	5.34
45	Hasanpur Sugar Mills,Samastipur	10.59	-	-	5.97	6.32	-	6.32	5.97
46	Riga Sugar Company Ltd,Sitamarhi	3.18	-	-	5.84	1.86	-	1.86	5.84
47	Siddhashram Rice Mill Cluster Pvt Ltd	2.27	-	-	7.41	1.68	-	1.68	7.41
48	BDBPL	3.46	-	-	5.8	2.01	-	2.01	5.80
49	**Open Market Purchase**	**1312.86**	**0.00**	**0.00**	**3.98**	**522.67**	**0.00**	**522.67**	**3.98**
50	IEX/PXIL	782.11			3.94	308.15		308.15	3.94
51	Jindal Power	45.00			3.09	13.91		13.91	3.09
52	DB Power	-						0.00	
53	JAYPEE NIGRIE	117.81			2.82	33.22		33.22	2.82
54	JPL	20.28			2.86	5.80		5.80	2.86
55	GMR ETL	8.01			3.17	2.54		2.54	3.17

Sl. No.	Power Purchase Sources	Energy (MU)	Fixed Charge rate (Rs./kWh)	Fixed Charge (Rs. Cr)	Energy Rate (Rs./kWh)	Energy charge (Rs. Cr)	Other charges (Rs. Cr)	Total Charges (Rs. Cr)	Avg. Tariff Rate (Rs./kWh)
56	TATA ETL	36.74			3.99	14.66		14.66	3.99
57	Manikaran Power	232.27			4.65	108.01		108.01	4.65
58	NEA	0.48			2.72	0.13		0.13	2.72
59	NVVNL	-							
60	PVVNL	-							
61	Adani Short Term	9.07			5.08	4.61		4.61	5.08
62	UI	61.09			5.18	31.64		31.64	5.18
63	**Sub Total Power Purchase**	**12022.02**	**1.197**	**1438.90**	**2.462**	**2960.08**	**19.39**	**4418.36**	**3.675**
64	Transfer To other Discom (SBPDCL)	-375.08						-137.85	3.675
65	Less: Surplus Energy	-181.03						-66.53	3.675
66	**Total Power Purchase**	**11465.91**	**1.255**	**1438.90**	**2.582**	**2960.08**	**19.39**	**4213.98**	**3.675**
67	Solar REC to meet RPO (80.4)							8.04	
68	Non Solar REC to meet RPO (285.8)							28.58	
69	**Total**	**11465.91**	**1.255**	**1438.90**	**2.582**	**2960.08**	**19.39**	**4250.59**	**3.707**

5.11 Transmission Charges

Petitioner's Submission

NBPDCL has submitted that calculation of PGCIL charges is done by taking the average of first 6 months actuals of FY 2017-18 for the next six months. It is also submitted that further the Petitioner also pays BSPTCL, POSOCO charges and Open Access charges which are projected in the similar way as projected for PGCIL charges.

NBPDCL has requested to approve the transmission and related charges for inter-state as well as intra-state transmission transactions for FY 2017-18 as given in Table below:

Table 5.26 : Transmission charges projected for FY 2017-18 (RE)

(Rs. Crore)

Utilities	Transmission Charge
PGCIL Charges	319.75
POSOCO & SLDC Charges	5.73
BSPTCL charges	257.34
BGCL Charges	84.39
Total transmission Charges	**667.21**

Commission's Analysis

The transmission charges approved for BSPTCL, SLDC and BGCL for FY 2017-18 in the tariff order dated 09.03.2017 which are already being billed by them during the current year are considered in the ratio of 46:54 approved by BSP(H)CL for NBPDCL and NBPDCL. The PGCIL and POSOCO charges are considered based on the actuals during April, 2017 to September, 2017 which are as shown in the Table below. The transmission charges approved for FY 2017-18 are as given in the Table below:

Table5.27 : PGCIL charges from April, 2017 to September, 2017 (6 Months) for both DISCOMs

Sl.No	Month	PGCIL	POSOCO
1	April-17	66.81	0.39
2	March-17	74.48	0.39
3	Jun-17	78.68	0.39
4	Jul-17	64.02	0.38

5	Aug-17	56.18	0.41
6	Sep-17	61.67	0.40
7	**Total**	401.85	2.36

The PGCIL and POSCO charges are computed considering the above actual for 6 months and prorated for 12 months for FY 2017-18 and are considered in the approved ratio of 46 : 54 for NBPDCL and SBPDCL respectively.

Table 5.28: Transmission Charges approved for FY 2017-18 (RE)

S. No.	Particulars	Projected by Petitioner for FY 2017-18 (RE)	Approved by Commission for FY 2017-18 (RE)
1	PGCIL & ULDC Charges	319.75	369.70
2	POSOCO Charges	5.73	2.17
3	BSPTCL Charges	257.34	286.84
4	SLDC Charges		2.50
5	BGCL Charges	84.39	94.19
6	**Total Transmission Charges**	**667.21**	**755.40**

5.12 Total Power Purchase Cost

The total power purchase cost approved by the Commission for FY 2017-18 (RE) is as shown in the Table below:

Table 5.29: Total Power Purchase Cost approved for FY 2017-18 (RE)

S. No.	Particulars	Projected by Petitioner for FY 2017-18 (RE)		Approved by Commission for FY 2017-18 (RE)	
		(MU)	(RS. Cr)	(MU)	(RS. Cr)
1	Power Purchase	11980.03	4651.11	11,465.91	4,213.98
2	Transmission Charges	-	667.21	-	755.40
3	Total Power Purchase Cost	-	5318.32	-	4,969.38
4	Less: Rebate at 1%	-	-	-	49.69
5	Net power purchase cost (3-4)	-	5318.32	-	4,919.69
6	Solar and Non solar REC to meet RPO			-	36.62
7	**Power purchase (5+6)**			-	4,956.31

The power purchase cost, including transmission charges approved in the above Table will be reviewed while truing up the ARR for FY 2017-18 based on the actuals.

5.13 Capital Expenditure

Petitioner's submission:

NBPDCL has submitted that it has estimated capex, capitalisation and funding taking into account the recent developments and targets to be achieved under various schemes during the forthcoming years.

NBPDCL has projected huge investment under various schemes for FY 2017-18 as given below:

Sl. No.	Name of the scheme	FY 2017-18 (Rs. Crore)
1	BRGF Phase-I	600.58
2	BRGF Phase-II	
3	BRGF Phase-II part C	
4	BRGF Phase-II RE portion	
5	RAPDRP Part A	67.37
6	RAPDRP Part B	
7	NABARD Phase VIII	9.16
8	NABARD Phase XI	7.36
9	MP/CM LAD	9.01
10	Deposit Scheme	5.07
11	ADB	20.86
12	Burnt DTR - State Plan	43.47
13	ACA State Plan	10.10
14	State Plan	144.50
15	IPDS	38.64
16	RGGVY 11th Plan Phase I	1198.60
17	RGGVY 11th Plan Phase II	
18	RGGVY 12th Plan	
19	DDUGJY	136.44
20	**Total**	**2291.16**

NBPDCL has submitted the details of opening CWIP, investment during the year, capitalisation and funding of capex for FY 2017-18 as detailed in the Table below:

Table 5.30: CWIP, Capitalisation and Funding of capitalisation projected for FY 2017-18 (RE)

(Rs. Crore)

Sl. No.	Particulars	Approved in MYT order dated 21.03.2016	Revised and approved in Tariff order dated 24.03.2017	Projected by NBPDCL for FY 2017-18 (RE)
1	Opening CWIP	4454.53	1904.09	6827.52

Sl. No.	Particulars	Approved in MYT order dated 21.03.2016	Revised and approved in Tariff order dated 24.03.2017	Projected by NBPDCL for FY 2017-18 (RE)
2	New Investment	3069.62	5744.38	6557.08
3	**Less: Capitalisation (4+5)**	**3647.85**	**5702.74**	**2291.16**
4	Opening CWIP	2113.04	1523.27	1832.93
5	New Investment	1534.81	4179.47	458.23
6	**Closing CWIP (1+2-3)**	**3876.30**	**1945.73**	**11093.44**
7	**Funding**			
8	**CWIP Capitalisation (9+10+11)**	**2113.04**	**1523.27**	**1832.93**
9	Grant	1377.51	404.95	971.51
10	Equity	183.88	1069.56	652.92
11	Loan	551.65	48.76	208.50
12	**New Investment (13+14+15)**	**1534.82**	**4179.47**	**458.23**
13	Grant	1000.56	1111.08	242.88
14	Equity	133.57	2934.61	163.23
15	Loan	400.69	133.78	52.12
16	**Total Capitalisation (8+12)**	**3647.86**	**5702.74**	**2291.16**
17	**Total Grant (9+13)**	**2378.07**	**1516.03**	**1214.39**
18	**Total Equity (10+14)**	**317.45**	**4004.17**	**816.15**
19	**Total Loan (11+15)**	**952.34**	**182.54**	**260.62**

Commission's analysis:

The Petitioner has projected the revised capital investment and capitalisation Rs.6557.08 Crore and Rs.2291.16 Crore (Table 52) for FY 2017-18 (RE) and furnished the scheme-wise details in Annexure-XII (B) enclosed to the petition.

The Petitioner has projected funding of the capex capitalised in respect of opening CWIP and new investment made during FY 2017-18 through Grants, Equity and Loans based on the funding of the schemes shown in Annexure-XII (B) enclosed to the petition.

The Petitioner vide letter no.COM/NB/74/17 (PART) 186 dated 07.03.2018 has submitted that Govt. of India has launched “Pradhan Mantri Sahaj Bijli Har Ghar Yojana” popularly known as Saubhagya Scheme to achieve universal household electrification in the Country. The scheme has provision of providing free electricity connections to the economically poor households (identified under Socio Economic Caste Census 2011) and connection to APL (Above Poverty Line) households with consumer contribution of Rs.500. The Scheme is funded through Grant from GoI and the Discoms shall collect Rs.500 per household in 10 equal monthly instalments. The amount collected shall be refunded to GoI. Release of number of services and collection of consumer contribution shall be known only on implementation and completion of scheme and accordingly the grants shall be adjusted by consumer contribution in the relevant year. As such, the grant received under DDUGJY for APL connections from GoI is considered as grant for FY 2017-18 and also for FY 2018-19.

The Petitioner has projected capitalisation of new investment at Rs.458.23 crore and against the opening CWIP of Rs.1832.93 crore totalling to Rs.2291.16 crore. The Commission opines that the Petitioner shall be in a better position to monitor the projects/works implementation and their completion. The Commission has considered total capitalisation of Rs.2291.16 crore for FY 2017-18 as projected by the Petitioner.

The Commission has considered funding of capitalisation, based on the scheme-wise details furnished by the Petitioner in Annexure XII (B) of the petition, as given below:

Table 5.31: Funding of Capitalisation considered for FY 2017-18 (RE)

(Rs. Crore)

Sl. No.	Planned Scheme	Capitalisation 2017-18			
		Grant	Equity	Loan	Total
1	BRGF		600.58		600.58
2	NABARD Phase VIII	9.16			9.16
3	NABARD Phase XI	7.36			7.36
4	MP/CM LAD	9.01			9.01
5	RGGVY	1078.74		119.86	1198.60
6	IPDS	23.18	3.86	11.59	38.64
7	DDUGJY	81.86	13.64	40.93	136.44
8	RAPDRP	60.63		6.74	67.37
9	State Plan		144.50		144.50
10	ACA State plan		10.10		10.10
11	Burnt meters State plan		43.47		43.47
12	ADB			20.86	20.86

13	Deposit scheme	5.07			5.07
14	**Total**	**1275.02**	**816.16**	**199.98**	**2291.16**

The Commission has considered opening CWIP at Rs.6827.53 Crore for FY 2017-18 based on the closing CWIP approved in true up for FY 2016-17.

Accordingly, the Commission considers the capitalisation of opening CWIP, new investment and funding as detailed in the Table below:

Table 5.32: CWIP, Capitalisation and funding of capitalization considered for FY 2017-18

(Rs. Crore)

Sl. No.	Particulars	Approved in MYT order dated 21.03.2016	Revised and approved in Tariff order dated 24.03.2017	Projected by NBPDCL for FY 2017-18 (RE)	Approved in review for FY 2017-18 (RE)
1	Opening CWIP	4454.53	1904.09	6827.52	6827.53
2	New Investment	3069.62	5744.38	6557.08	6557.08
3	**Less: Capitalisation (4+5)**	**3647.85**	**5702.74**	**2291.16**	**2291.16**
4	Opening CWIP	2113.04	1523.27	1832.93	1832.93
5	New Investment	1534.81	4179.47	458.23	458.23
6	**Closing CWIP (1+2-3)**	**3876.30**	**1945.73**	**11093.44**	**11093.45**
7	**Funding**				
8	**CWIP Capitalisation (9+10+11)**	**2113.04**	**1523.27**	**1832.93**	**1832.93**
9	Grant	1377.51	404.95	971.51	1020.02
10	Equity	183.88	1069.56	652.92	652.93
11	Loan	551.65	48.76	208.50	159.98
12	**New Investment (13+14+15)**	**1534.82**	**4179.47**	**458.23**	**458.23**
13	Grant	1000.56	1111.08	242.88	255.00
14	Equity	133.57	2934.61	163.23	163.23
15	Loan	400.69	133.78	52.12	40.00
16	**Total Capitalisation (8+12)**	**3647.86**	**5702.74**	**2291.16**	**2291.16**
17	**Total Grant (9+13)**	**2378.07**	**1516.03**	**1214.39**	**1275.02**
18	**Total Equity (10+14)**	**317.45**	**4004.17**	**816.15**	**816.16**
19	**Total Loan (11+15)**	**952.34**	**182.54**	**260.62**	**199.98**

5.14 Interest during Construction (IDC)

Petitioner's submission:

The Petitioner has not projected IDC for FY 2017-18.

Commission's analysis:

The Commission has observed from the audited accounts for FY 2016-17, the Petitioner is not charging the IDC to the capital works. Similarly, no IDC is charged to capex in earlier year audited accounts also. As such, the Commission has not considered IDC for FY 2017-18 in review.

5.15 Gross Fixed Assets

Petitioner's submission

NBPDCL has submitted the computation of GFA based on the opening GFA and capitalisation schedule for FY 2017-18 as detailed in the Table below:

Table 5.33: Gross Fixed Assets projected for FY 2017-18 (Rs. Crore)

Sl. No.	Particulars	Approved in MYT order dated 21.03.2016	Revised and approved in Tariff order dated 24.03.2017	Projected by NBPDCL for FY 2017-18 (RE)
1	Opening GFA	8867.43	16122.32	5158.21
2	Additions during the year	3647.85	5702.74	2291.16
3	Add : IDC	61.90	11.87	--
4	Add: Employee cost capitalised	9.52	10.16	--
5	**Closing GFA (1 to 4)**	**12586.70**	**21847.08**	**7449.37**

Commission's analysis:

The Commission has considered the capitalisation at Rs.2291.16 Crore (Table 5.32) in review for FY 2017-18. The Commission has considered closing GFA as on 31st March 2017 at Rs.5158.20 Crore in true up for FY 2016-17. Accordingly, the same is considered as opening GFA for FY 2017-18 and further updated with the additions during the year 2017-18 to arrive at the closing GFA as on 31st March 2018.

The opening GFA, additions to assets during the year and closing GFA for FY 2017-18, arrived at by the Commission is as detailed in the Table below:

Table 5.34: Gross Fixed Assets considered for FY 2017-18 (Rs. Crore)

Sl. No.	Particulars	Approved in MYT order dated 21.03.2016	Revised and approved in Tariff order dated 24.03.2017	Projected by NBPDCL for FY 2017-18 (RE)	Approved in review for FY 2017-18 (RE)
1	Opening GFA	8867.43	16122.32	5158.21	5158.20
2	Additions during the year	3647.85	5702.74	2291.16	2291.16
3	Add : IDC	61.90	11.87	--	--
4	Add: Employee cost capitalised	9.52	10.16	--	--
5	**Closing GFA (1 to 4)**	**12586.70**	**21847.08**	**7449.37**	**7449.36**

5.16 Depreciation

Petitioner's submission:

NBPDCL has submitted that depreciation is computed by applying weighted average rate of depreciation on the average GFA adopting the standard practice that depreciation shall not be allowed on Land and on assets created through grants. NBPDCL has adopted weighted average rate of depreciation of 5.89% on GFA and 6.27% on grants (assets created through grants) for for FY 2017-18.

The Petitioner has projected the depreciation for FY 2017-18 as detailed in the Table below:

Table 5.35: Depreciation projected for FY 2017-18

(Rs. Crore)

Sl. No.	Particulars	Approved in MYT order dated 21.03.2016	Revised and approved for FY 2017-18 in order dated 24.03.2017	Projected by NBPDCL for FY 2017-18 (RE)
1	Opening GFA	8867.43	--	5158.21
2	Less: Value of land	987.08	--	1004.68
3	Net opening GFA (1-2)	7880.35	15108.17	4153.53
4	Additions during the year (excl. value of land)	3647.85	5702.74	2235.75
5	Expenses capitalised	61.90	11.87	--
6	IDC	9.52	10.16	--
7	Closing GFA (3+4+5+6)	11599.62	20832.93	6389.27
8	Average GFA (3+7)/2	9739.99	17970.55	5271.40
9	Weighted average rate of depreciation	5.08%	4.95%	5.89%
10	Gross Depreciation (8*9)	494.79	889.54	310.49

Sl. No.	Particulars	Approved in MYT order dated 21.03.2016	Revised and approved for FY 2017-18 in order dated 24.03.2017	Projected by NBPDCL for FY 2017-18 (RE)
11	Opening Grants	8033.25	12082.29	2043.14
12	Grants during the year	2378.07	1516.03	1185.02
13	Total Grants (11+12)	10411.33	13598.33	3228.16
14	Average Grants (11+13)/2	9222.29	12840.31	2635.65
15	Weighted average rate of Depreciation	5.08%	4.95%	6.27%
16	Depreciation for GFA on Grants (14*15)	468.49	635.60	165.28
17	Depreciation for GFA on Loans (9-16)	**26.30**	**253.95**	**145.21**

NBPDCL has requested the Commission to approve the computation of depreciation for FY 2017-18.

Commission's analysis:

The Commission has examined the computation of depreciation for FY 2017-18. The weighted average rate of depreciation is projected at 5.89% in respect of GFA and 6.27% in respect of Grants.

The Petitioner has projected capitalisation at Rs.2235.75 Crore (excluding value of land Rs.55.41 crore from total capitalisation of Rs.2291.16 crore) and grants at Rs.1185.02 Crore (excluding grants relating to land Rs.29.37 crore from total grants of Rs.1214.39 crore) for computation of depreciation during the year 2017-18.

The Commission has considered capitalisation at Rs.2291.16 Crore and Grants at Rs.1275.02 Crore based on the capitalisation for FY 2017-18 as discussed in the foregone relevant paragraphs. However, for the purpose of depreciation the capitalisation Rs.2235.75 crore (excluding value of land of Rs.55.41 crore) and grants Rs.1245.65 crore (excluding grants relating to land Rs.29.37 crore as projected by the Petitioner) are considered.

Regulation 73 (2) (a) (ii) of the BERC (Terms and Conditions for Determination of Tariff) Regulations 2007, specifies that "***Land is not a depreciable asset and its cost***

shall be excluded from the capital cost".

The Commission has considered the closing depreciable GFA value at Rs.4153.52 Crore and closing grants at Rs.4311.20 Crore in truing up for FY 2016-17. Accordingly, the Commission has considered the value of assets at Rs.4153.52 Crore as opening depreciable GFA and Rs.4311.20 Crore as opening grants for FY 2017-18. The Commission has considered weighted average rate of depreciation at 4.98% in line with the weighted average rate of depreciation considered for FY 2016-17 in true up.

The opening GFA, additions to GFA, closing GFA, rate of depreciation and depreciation on assets created out of grants and depreciation considered by the Commission for FY 2017-18 is as detailed in the Table below:

Table 5.36: Depreciation considered for FY 2017-18 (Rs. Crore)

Sl. No.	Particulars	Approved in MYT order dated 21.03.2016	Revised and approved for FY 2017-18 in order dated 24.03.2017	Projected by NBPDCL for FY 2017-18 (RE)	Approved for FY 2017-18 (RE)
1	Opening GFA	8867.43	--	5158.21	--
2	Less: Value of land	987.08	--	1004.68	--
3	Net opening GFA (1-2)	7880.35	15108.17	4153.53	4153.52
4	Additions during the year (excl. value of land)	3647.85	5702.74	2235.75	2235.75
5	Expenses capitalised	61.90	11.87	--	--
6	IDC	9.52	10.16	--	--
7	Closing GFA (3+4+5+6)	11599.62	20832.93	6389.27	6389.27
8	Average GFA (3+7)/2	9739.99	17970.55	5271.40	5271.40
9	Weighted average rate of depreciation	5.08%	4.95%	5.89%	4.98%
10	Gross Depreciation (8*9)	494.79	889.54	310.49	262.52
11	Opening Grants	8033.25	12082.29	2043.14	4311.20
12	Grants during the year	2378.07	1516.03	1185.02	1245.65
13	Total Grants (11+12)	10411.33	13598.33	3228.16	5556.85
14	Average Grants (11+13)/2	9222.29	12840.31	2635.65	4934.03
15	Weighted average rate of Depreciation	5.08%	4.95%	6.27%	4.98%%
16	Depreciation on Grants (14*15)	468.49	635.60	165.28	245.71
17	Depreciation for GFA on Loans (9-16)	**26.30**	**253.95**	**145.21**	**16.80**

The Commission, accordingly, considers the depreciation at Rs.16.80 crore in

review for FY 2017-18.

5.17 Interest on Loans

Petitioner's submission:

NBPDCL has submitted that opening balance of GFA funded through debt is taken as Rs.3610.75 crore which is the closing balance as determined in true up for FY 2016-17. Addition to debt is considered at 70% of the addition GFA and subtracted by 70% of total grants contributing to the addition to fixed assets. The normative repayment is considered equivalent to depreciation. The weighted average rate of interest is considered @ 10.03%. NBPDCL has projected the interest charges for FY 2016-17 as detailed in the Table below:

Table 5.37: Interest on loans projected for FY 2017-18 (Rs. Crore)

Sl. No.	Particulars	Approved in MYT order dated 21.03.2016	Revised and approved for FY 2017-18 in order dated 24.03.2017	Projected by NBPDCL for FY 2017-18 (RE)
1	Amount of total asset at the beggining			3610.75
2	Less: assets created through grants at the beginning			1430.20
3	Additions during the year			1603.81
4	Less: assets created through grants during the year			829.51
5	Net assets			2954.85
6	Less: Mormative repayment			145.21
7	Amount of debt (Loan)			3210.19
8	Average debt			3210.19
9	Amount of loan eligible for interest			3210.19
10	Interest on normative loan			--
11	Opening loan	996.84	2726.72	--
12	Additions during the year	952.34	2946.12	--
13	Normative repayment	26.30	253.95	--
14	Closing loan	1922.88	5418.89	--
15	Average loans	1459.86	4072.80	3210.19
16	Interest rate/weighted average rate	9.96%	9.96%	10.03%
17	**Interest Charges**	**145.40**	**405.65**	**322.08**

NBPDCL has requested the Commission to approve interest on loans for FY 2016-17 as per above Table.

Commission's analysis:

The Commission has examined the computation of projected interest on loans of the Petitioner. The Petitioner has computed weighted average rate of interest at 10.03% for FY 2017-18 as given below:

Sl. No.	Particulars	FY 2017-18
1	**Opening Balance**	**283.65**
	REC Loans	169.84
	APDRP and R-APDRP	49.94
	ADB	63.87
2	**Addition during the year**	**10.00**
	ADB	10.00
3	**Repayment of loans**	**44.00**
	REC Loans	35.50
	APDRP and R-APDRP	8.50
4	**Closing balance**	**249.65**
	REC Loans	134.34
	APDRP and R-APDRP	41.44
	ADB	73.87
5	**Average Loans (1+4)/2**	**266.65**
6	**Interest on Loans**	**26.75**
	REC Loans	13.69
	APDRP & R-APDRP	4.11
	ADB	8.95
7	**Weighted average rate of interest**	**10.03%**

The Commission has examined the computation of weighted average rate of interest projected by the Petitioner for FY 2017-18. Addition to loans during FY 2017-18 is not in commensurate with the capital investment plan of Rs.6557.08 crore projected by the Petitioner. Hence, the Commission, however, provisionally considers the weighted average rate of interest at 4.06% in line with the interest rate considered in true up for FY 2016-17, subject to true up based on audited accounts for FY 2017-18.

The Petitioner has claimed interest expenses considering the debt : equity in the ratio of 70 : 30 respectively of the GFA after adjustment of grants. The Commission has aptly discussed the subject at paragraph 4.17 in true up for FY 2016-17 and needs no further substantiation of Commission's analysis.

Regulation 25 of the BERC (Multi Year Distribution Tariff) Regulations 2015 specifies;

"25. Treatment of Interest on loan:

(a) The Distribution Licensee shall provide detailed loan-wise, project-wise and utilization-wise details of all the loans.

(b) If the equity actually deployed is more than 30 % of the capital cost, equity in excess of 30 % shall be treated as normative loan:

Provided that where equity actually deployed is less than 30% of the capital cost, the actual loan shall be considered for determination of interest on loan:

(c) Actual loan or normative loan, if any, shall be referred as gross normative loan in this Regulation.

(d) ………………..

(e) The repayment for the control period shall be deemed to be equal to the depreciation allowed for the year.

(f) …………

(g) The rate of interest shall be the weighted average rate of interest calculated on the basis of actual loan portfolio at the beginning of each year of the control period, in accordance with terms and conditions of relevant loan agreements, or bonds or non-convertible debentures:

Provided that if no actual loan is outstanding but normative loan is still outstanding, the last available weighted average rate of interest shall be applicable.

Provided further that the interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest:

Provided also that exception shall be made for the existing loans which may have different terms as per the agreements already executed if the Commission is satisfied that the loan has been contracted for and applied to identifiable and approved projects:

(h) ……………….

(i) ……………….

(j) Addition to loan during the year for interest purpose will be restricted to the quantum of assets capitalized and put to use.

The Commission has considered opening loan for FY 2017-18 in review based on the closing loan approved in true up for FY 2016-17. The addition to loan is considered based on the capitalisation considered in Table 5.32. The Commission has considered the addition to loan based on the funding of Capitalisation and grants in terms of regulation 25(j), as given below:

Table 5.38: Equity and Debt (normative) considered for FY 2017-18

Sl. No.	Particulars	Amount (Rs. Crore)
1	Capitalisation during FY 2017-18	2291.16
2	Less: capitalisation funded through grants	1275.02
3	Net capitalisation to be considered for Debt : Equity (1-2)	1016.14
4	Debt @70% (3*70%)	711.30
5	Equity @30% (3*30%)	304.84

The Commission, in terms of regulation 25(e) of BERC (Multi Year Distribution Tariff) Regulations 2015, has considered repayment of loan equal to the depreciation allowed for the year.

The rate of interest on loans is considered at 4.06% in review for FY 2017-18 based on the interest rate considered in true up for FY 2016-17 in terms of regulation 25(g) of BERC (Multi Year Distribution Tariff) Regulations 2015.

The Commission has approved closing loan balance at Rs.574.08 Crore in true up for FY 2016-17 and the same is considered as opening loan balance for FY 2017-18. The addition to loan is considered in line with funding of capitalisation for FY 2017-18 as shown in the Table 5.38 above.

The Commission, considering the above, has computed interest on loans in review for FY 2017-18 as detailed in the Table below:

Table 5.39: Interest on loan considered for FY 2017-18 (Rs. Crore)

Sl. No.	Particulars	Approved in MYT order dated 21.03.2016	Revised and approved for FY 2017-18 in order dated 24.03.2017	Projected by NBPDCL for FY 2017-18 (RE)	Approved for FY 2017-18 (RE)
1	Opening loan	996.84	2726.72	--	574.08
2	Additions during the year	952.34	2946.12	--	711.30
3	Normative repayment	26.30	253.95	--	16.80
4	Closing loan (1+2-3)	1922.88	5418.89	--	1268.58
5	Average loans (1+4)/2	1459.86	4072.80	3210.19	921.33
6	Interest rate/weighted average rate	9.96%	9.96%	10.03%	4.06%
7	**Interest Charges (5x6)**	**145.40**	**405.65**	**322.08**	**37.41**

The Commission, accordingly, has considered Rs.37.41 Crore towards interest on loans for FY 2017-18 (RE).

5.18 Other finance charges

Petitioner's submission:

The Petitioner has projected other finance charges for FY 2017-18 based on the charges approved in true up for FY 2016-17 with escalation at 10% over the previous year as given in the Table below:

Table 5.40: Other finance charges projected for FY 2017-18 (Rs. Crore)

Sl. No.	Particulars	Approved in MYT order dated 21.03.2016	Revised and approved for FY 2017-18 in order dated 24.03.2017	Projected by NBPDCL for FY 2017-18 (RE)
1	Other finance charges as approved in truing up for FY 2016-17	28.27	31.19	60.87
2	Escalation percentage	10.00%	10.00%	10.00%
3	Add: increase in finance charges	2.83	3.11	6.09
4	Total Other finance charges	31.10	34.30	66.96

Commission's analysis:

The Commission has approved other finance charges at Rs.21.77 crore in true up for FY 2016-17 based on the audited accounts for FY 2016-17. The Commission has considered escalation at 10% year on year in respect of other finance charges for the MYT control period in Tariff Order dated 21.03.2016 and accordingly, the escalation is considered at the same level for FY 2017-18 in review. The Commission, accordingly, has considered other finance charges for FY 2017-18 as given in the Table below:

Table 5.41: Other finance charges considered for FY 2017-18

(Rs. Crore)

Sl. No.	Particulars	Approved in MYT order dated 21.03.2016	Revised and approved for FY 2017-18 in order dated	Projected by NBPDCL for FY 2017-18 (RE)	Approved in review for FY 2017-18 (RE)
1	Other finance charges as approved in true up for FY 2016-17	28.27	31.19	60.87	21.77
2	Escalation percentage	10.00%	10.00%	10.00%	10.00%
3	Add: increase in finance charges	2.83	3.11	6.09	2.18
4	**Other finance charges**	**31.10**	**34.30**	**66.96**	**23.95**

The Commission, accordingly, has considered Rs.23.95 Crore towards other finance charges for FY 2017-18 (RE).

5.19 Operation and Maintenance (O&M) Expenses

5.19.1 Inflationary indexation

Petitioner's submission

NBPDCL has submitted that O&M expenses include employee expenses, R&M cost and Administration and general expenses. The O&M expenses are projected for FY 2017-18 as discussed in the relevant head of expenses i.e. Employee cost, R&M expenses and A&G expenses.

Commission's analysis:

Regulation 22 of the BERC (Multi Year Distribution Tariff) Regulations, 2015 specify;

Regulation 22: Operation & Maintenance Expenses

(a) The Commission shall stipulate a separate trajectory of norms for each of the components of O&M expenses viz. Employee cost, Repair and Maintenance (R&M) expense and Administrative and General (A&G) expense.

…………

(b) Norms shall be defined in terms of combination of number of personnel per 1000 consumers and number of personnel per substation along with annual expenses per personnel for Employee expenses; combination of A&G expense per personnel

and A&G expense per1000 consumers for A&G expenses and R&M expense as percentage of gross fixed assets for estimation of R&M expenses.

(c) ………..

(d) ………..

(e) …………

(f) The norms in the trajectory shall be specified over the control period ………..

(g) ……….

(h) ………..

(i) In absolute analysis, Distribution Licensee's audited account of operations for last three years, expenses claimed for control period, historically approved cost and prudence check shall be used by the Commission to estimate values of norms.

(j) ………………

The Commission,in paragraph 7.27.1 of the Tariff Order dated 21.03.2016 has opined that "…………………… *NBPDCL has been functioning independently from 01.11.2012 and accordingly, reporting operational and financial performance. NBPDCL has two years of full year (12 months period) financial statements i.e. audited annual accounts for FY 2013-14 and FY 2014-15. As per the regulation, the norms shall be determined based on last 3 (three) years of O&M expenses. Since the NBPDCL has only two years of audited annual accounts of FY 2013-14 and FY 2014-15, the Commission advocates* ***determining norms for O&M expenses from the next MYT control period***".

Since the norms are not determined, the Commission considers the O&M expenses viz. Employee cost, R&M expenses and A&G expenses as deliberated in the relevant expenditure heads in the following paragraphs.

5.19.2 Employee Costs

Petitioner's submission:

NBPDCL has projected the employee expenses for FY 2017-18 based on the actual employee cost as per audited accounts of FY 2016-17. The projections have been made based on the employment plan and cost thereon towards additional manpower. It is submitted that pay revision in line with 7th Central Pay Commission recommendation has been considered and the pay revision impact is considered at multiplying factor of 2.62 for projecting employee cost for FY 2017-18. New manpower of approximately 400 employees is projected and the terminal benefits and other benefits are considered with an increase of @10% for FY 2017-18. The Petitioner has projected employee cost for FY 2017-18 (RE) as detailed in the Table below:

Table 5.42: Employee Cost projected for FY 2017-18 (Rs. Crore)

Sl. No.	Particulars	Approved in MYT order dated 21.03.2016	Revised and approved for FY 2017-18 in order dated 24.03.2017	Projected by NBPDCL for FY 2017-18 (RE)
1	Employee expenses	180.88	195.42	237.63
2	Inflationary index	5.25%	3.94%	--
3	Add: Inflationary increase	9.50	7.70	--
4	**Employee Cost**	**190.38**	**203.12**	**237.63**
5	Less: Capitalisation	9.52	10.16	--
6	**Total Employee Cost**	**180.86**	**192.96**	**237.63**

The Petitioner has requested the Commission to approve the employee expenses for FY 2017-18 as per the Table above.

Commission's analysis:

Regulation 22.1 of BERC (Multi Year Distribution Tariff) Regulations, 2015 specify;

Regulation 22.1: Employee cost

Employee cost shall be computed as per the approved norm escalated by consumer price index (CPI), adjusted by provisions for expenses beyond the control of the Distribution Licensee and one time expected expenses, such as recovery/adjustment of terminal benefits, implication of pay commission, arrears and interim relief, governed by the following formula:

*EMPn = (EMPb * CPI inflation) + Provision*
Where:
EMPn: Employee expense for the year n

EMPb: Employee expense as per the norm
CPI inflation: is the average increase in the consumer price index (CPI) for immediately preceding three years.
Provision: Provision for expenses beyond control of the Distribution Licensee and expected one-time expenses as specified above.

Till the norms is specified by the Commission the employee cost shall be determined on the basis of actual historical cost.

As per Regulation 22 (a) of the BERC (Multi Year Distribution Tariff) Regulations, 2015 the Commission shall stipulate a separate trajectory of norms for each of the component of O&M expenses viz. Employee cost, R&M expense and A&G expense. The Commission opined at paragraph 7.27.1 in Tariff order dated 21.03.2016 that norms shall be determined for O&M expenses from the next MYT control period in view of non availability of last 3 (three) years audited accounts of operations.

Regulation 22.1 of the BERC (Multi Year Distribution Tariff) Regulations, 2015 specify that till the norms is specified by the Commission the employee cost shall be determined on the basis of actual historical cost.

The Commission, in view of the above regulation, considers the employee cost (actual) reported in the audited accounts of FY 2016-17 as base year historical employee cost for arriving at the employee cost for FY 2017-18 in review.

The Commission has computed the average increase in the CPI for immediately preceding three years i.e. FY 2014-15 and FY 2016-17 which worked out to 3.24% (CAGR) as given hereunder:

Particulars	Index points
Average consumer price index points for 2016-17 (A)	276.00
Average consumer price index points for 2014-15 (B)	250.83
No of years (C)	3
CAGR – CPI (A/B)^(1/C)-1	3.24%

The Commission, as specified in the regulation 22.1, has considered the employee cost approved in true up for FY 2016-17 as base employee cost with year on year escalation for inflationary indexation at 3.24% as given above. The Commission has not considered capitalisation of employee cost in review for FY 2017-18 as the audited accounts for FY 2016-17 do not show expenses capitalised.

The Commission has considered pay revision impact at 15% for FY 2017-18 on the overall employee cost of previous year in terms of the recommendations of the 7th Central Pay Commission, subject to true up based on actuals reported through audited accounts for FY 2017-18.

The Commission, accordingly, has considered the employee cost as detailed in the Table below:

Table 5.43: Employee Cost considered for FY 2017-18 (Rs. Crore)

Sl. No.	Particulars	Approved in MYT order dated 21.03.2016	Revised and approved for FY 2017-18 in order dated 24.03.2017	Projected by NBPDCL for FY 2017-18 (RE)	Approved in review for FY 2017-18 (RE)
1	Employee expenses	180.88	195.42	237.63	188.13
2	Inflationary index	5.25%	3.94%	--	3.24%
3	Add: Inflationary increase	9.50	7.70	--	6.10
4	Pay revision impact @15% (on 1)	--	--	--	36.65
4	**Employee Cost**	**190.38**	**203.12**	**237.63**	**230.88**
5	Less: Capitalisation	9.52	10.16	--	--
6	**Total Employee Cost**	**180.86**	**192.96**	**237.63**	**230.88**

The Commission, accordingly, considers the employee cost at Rs.230.88 Crore for FY 2017-18 (RE) as detailed in the above Table.

5.19.3 Repairs and Maintenance (R&M) Expenses

Petitioner's submission:

NBPDCL has submitted that R&M expenses primarily include costs related to repair of different class of fixed assets, etc. It is further submitted that Regulation 22.2 provides the methodology for projecting R&M expenses as follows:

Regulation 22.2: Repairs and Maintenance (R&M) Expenses

Repairs and Maintenance expense shall be calculated as percentage (as per the norm determined) of Opening Gross Fixed Assets for the year governed by following formula:

*R&Mn = Kb * GFAn*

Where

R&Mn : Repairs and Maintenance expense for n^{th} year

GFAn : Opening Gross Fixed Assets for n^{th} year

Kb : Percentage point as per the norm

NBPDCL has computed the 'K' factor based on the available 3 (three) years audited accounts for FY 2014-15 to FY 2016-17 as given below

Sl. No.	Particulars	FY 2014-15	FY 2015-16	FY 2016-17
1	Opening GFA	4004	4299	4574
2	R&M Expense for the year	59.85	64.98	49.21
3	% of R&M expenses to GFA (2/1)*100	1.49%	1.51%	1.08%
4	**Average % of R&M expenses to GFA**	**1.35%**		

NBPDCL has projected R&M expenses for FY 2017-18 adopting 'K' factor on the opening GFA as given in the Table below:

Table 5.44: R & M expenses projected for FY 2017-18 (Rs. Crore)

Sl. No.	Particulars	Approved in MYT order dated 21.03.2016	Revised and approved for FY 2017-18 in order dated 24.03.2017	Projected by NBPDCL for FY 2017-18 (RE)
1	Opening GFA	8867.43	16122.32	--
2	K factor	1.06%	1.21%	--
3	**R & M expenses**	**93.99**	**195.08**	**69.72**

NBPDCL has requested the Commission to approve the R&M expenses for FY 2017-18 (RE) as projected in the Table above.

Commission's analysis

The Commission has examined the R&M expenses projected the by the Petitioner for

FY 2017-18. The Petitioner has projected the R&M expenses

The Commission, in terms of Regulation 22.2 of BERC (Multi Year Distribution Tariff) Regulations 2015, has computed (based on 3 (three) years audited accounts from FY 2013-14 to FY 2015-16) and approved the ‘K’ factor at 1.21% (i.e. R&M norm) for MYT control period of FY 2016-17 to FY 2018-19 in Tariff order dated 24.03.2017. The ‘K’ factor (i.e. R&M norm) is applicable for the entire MYT control period of FY 2016-17 to FY 2018-19 and accordingly, the R&M expenses shall be considered by applying ‘K’ factor on the opening GFA (year on year).

The Commission accordingly, considers the ‘K’ factor for allowing R&M expenses on the Opening GFA for FY 2017-18 in review as detailed in the Table below:

Table 5.45: R&M expenses considered for FY 2017-18 (Rs. Crore)

Sl. No.	Particulars	Approved in MYT order dated 21.03.2016	Revised and approved for FY 2017-18 in order dated 24.03.2017	Projected by NBPDCL for FY 2017-18 (RE)	Approved in review for FY 2017-18 (RE)
1	Opening GFA	8867.43	16122.32	--	5158.20
2	K factor	1.06%	1.21%	--	1.21%
3	**R & M expenses**	**93.99**	**195.08**	**69.72**	**62.41**

The Commission, accordingly, considers R&M expenses at Rs.62.41 Crore in review for FY 2017-18.

5.19.4 Administration and General (A&G) Expenses

Petitioner’s submission

NBPDCL has submitted that Administration and General expenses mainly comprise of rents, telephone and other communication expenses, professional charges, conveyance and travelling expenses etc. The Petitioner has projected A&G expenses for FY 2017-18 on the basis of actual expenses incurred from April 2017 to September 2017 (6 months) and projected for full year. The NBPDCL has estimated the A&G expenses at Rs.103.27 Crore for FY 2017-18 as furnished in Table below:

Table 5.46: A & G Expenses projected for FY 2017-18 (Rs. Crore)

Sl. No.	Particulars	Approved in MYT order dated 21.03.2016	Revised and approved for FY 2017-18 in order dated 24.03.2017	Projected by NBPDCL for FY 2017-18 (RE)
1	A&G Expenses	50.03	58.90	103.27
2	Inflationary index	2.63%	--	--
3	Inflationary increase	1.32	--	--
4	**Total A & G expenses**	**51.35**	**58.90**	**103.27**

NBPDCL has requested the Commission to approve the A&G expenses for FY 2017-18 as detailed in the Table above.

Commission analysis:

The Regulation 22.3 of BERC (Multi Year Distribution Tariff) Regulations, 2015 specify;

Regulation 22.3: Administration and General (A&G) Expense

A&G expense shall be computed as per the norm escalated by wholesale price index (WPI), adjusted by provisions for confirmed initiatives (IT etc initiatives as proposed by the Distribution Licensee and validated by the Commission) or other expected one-time expense and shall be governed by the following formula:

*A&Gn = (A&Gb * WPI inflation) + Provision*
Where:
A&Gn : A&G expense for the year n

A&Gb : A&G expense as per the norm

WPI inflation : is the average increase in the Wholesale Price Index (WPI) for immediately preceding three years.

Provision : Cost for initiatives or other one-time expenses as proposed by the Distribution Licensee and validated by the Commission.

Till the norm of A&G expenses is specified by the Commission, the actual historical cost will be considered for determination of A&G expenses.

The Commission, in paragraph 7.27.1 of the Tariff order dated 21.03.2016, has opined that norms shall be determined for O&M expenses from the next MYT control period in view of non availability of last 3 (three) years audited accounts of operations.

Regulation 22.1 of the BERC (Multi Year Distribution Tariff) Regulations, 2015 specify that till the norms is specified by the Commission the A&G expense shall be determined on the basis of actual historical cost.

The Commission, in view of the above regulations, considers the actual A&G expenses reported in the audited accounts of FY 2016-17 as base year historical A&G expenses.

The Commission has computed the average increase in the WPI for immediately preceding three years from FY 2014-15 to FY 2016-17 which worked out to (-) 0.67% (CAGR) as given below:

Particulars	**Index points**
Average Wholesale price index points for 2016-17 (A)	111.62
Average Wholesale price index points for 2014-15 (B)	113.88
No of years (C)	3
CAGR – WPI (A/B)^(1/C)-1	-0.67%

The Commission observes that the CAGR of three years WPI has worked out to negative i.e. (-) 0.67%. The Commission opines that the A&G expenses shall incline to increase year on year. Hence, the Commission advocate appropriate to consider the A&G expenses for FY 2017-18 in review, at the same level as approved in true up based on audited accounts for FY 2017-18, subject to true up.

The Commission accordingly, has considered the A&G expenses for FY 2017-18 as detailed in the Table below:

Table 5.47: A & G Expenses considered for FY 2017-18 (Rs. Crore)

Sl. No.	Particulars	Approved in MYT order dated 21.03.2016	Revised and approved for FY 2017-18 in order dated 24.03.2017	Projected by NBPDCL for FY 2017-18 (RE)	Approved in review for FY 2017-18 (RE)
1	A&G expenses	50.03	58.90	103.27	77.21
2	Inflationary index	2.63%	--	--	--
3	Inflationary increase	1.32	--	--	--
4	**A&G expenses**	**51.35**	**58.90**	**103.27**	**77.21**

The Commission, accordingly, considers Rs.77.21 Crore towards Administration and General Expenses for FY 2017-18 in review.

5.19.5 Allocation of Holding Company Expenses

Petitioner’s submission

NBPDCL has submitted that as per Schedule ‘F’, the Holding Company shall handle all issues relating to the subsidiary companies in respect of the testing divisions, training department at Headquarter and all the departments of the Corporate head office viz. General Administration, Accounts and Finance, IT, Stores & Purchase, Transmission/Distribution/Generation, Personnel, Publicity, Legal, Vigilance & Security, Commercial, Planning, Civil Engineering, Transmission (O&M), Rural Electrification, shall constitute “Common Services” which shall continue to provide services to all successor entities during the interregnum period, until issue of further transfer notifications allocating the employees to respective companies.

The NBPDCL has estimated the Holding Company expenses for FY 2017-18 (RE) duly escalating at 10% over the actual holding company expenses approved in true up for FY 2016-17 as given in Table below:

Table 5.48: Holding Company Expenses projected for FY 2017-18 (Rs. Crore)

Particulars	Approved in MYT order dated 21.03.2016	Revised and approved for FY 2017-18 in order dated 24.03.2017	Projected by NBPDCL for FY 2017-18 (RE)
Holding company expenses	7.17	10.84	5.92

NBPDCL has requested the Commission to approve the holding company expenditure as part of overall O&M expenditure for FY 2017-18 (RE).

Commission's analysis:

The Petitioner has projected holding company expenses at Rs.5.92 crore in review for FY 2017-18 considering escalation at 10.00% for inflationary increase over the holding company expenses approved (Rs.5.38 crore) in true up for FY 2016-17.

The Commission has approved Rs.5.38 Crore in true up for FY 2016-17 based on the audited accounts for FY 2016-17 and the same is considered as base year expenses and escalated at 10.00% for inflationary increase for FY 2017-18. The Commission has provisionally considered the holding company expenses for FY 2017-18 (RE), as projected by the Petitioner, in terms of Bihar State Electricity Reforms Transfer Scheme, 2012 as detailed in the Table below:

Table 5.49: Holding Company expenses considered for FY 2017-18

(Rs. Crore)

Particulars	Approved in MYT order dated 21.03.2016	Revised and approved for FY 2017-18 in order dated 24.03.2017	Projected by NBPDCL for FY 2017-18 (RE)	Approved in review for FY 2017-18 (RE)
Holding company expenses	7.17	10.84	5.92	5.92

5.19.6 Summary of Operation and Maintenance (O&M) Expenses

The summary of the revised O & M expenses considered in review for FY 2017-18 (RE) are as tabulated below:

Table 5.50: Total O&M cost considered by the Commission for FY 2017-18 (RE)

(Rs. Crore)

Sl. No.	Particulars	Approved in MYT order dated 21.03.2016	Revised and approved for FY 2017-18 in order dated 24.03.2017	Projected by NBPDCL for FY 2017-18 (RE)	Now approved for FY 2017-18 in review
1	Employee cost	190.38	203.12	237.63	230.88
2	R&M expenses	93.99	195.08	69.72	62.41
3	A&G Expenses	51.35	58.90	103.27	77.21
4	Holding company Expenses	7.17	10.84	5.92	5.92
5	**Total O & M cost**	**342.89**	**467.94**	**416.54**	**376.42**
5	Less: Employee cost capitalised	9.52	10.16	--	--
6	**Total O& M cost**	**333.37**	**457.78**	**416.54**	**376.42**

The Commission considers total O&M expenses at Rs.376.42 Crore in review for FY 2017-18 (RE).

5.20 Return on Equity

Petitioner's submission:

NBPDCL has submitted that computation of Return on Equity is estimated as per regulation 27 of BERC (Multi Year Distribution Tariff) Regulations 2015. The RoE is calculated on the basis of closing balance of fixed assets as claimed in true up for FY 2016-17 and 30% of addition in GFA is added which is further reduced by 30% of the grant contributing to addition to fixed assets.

NBPDCL has submitted that keeping in mind the relevant regulation has computed the return on equity for FY 2017-18 as detailed in the Table below:

Table 5.51: Return on Equity projected for FY 2017-18 (Rs. Crore)

Sl. No.	Particulars	Projected by NBPDCL for FY 2017-18 (RE)
1	Amount of total assets at the beginning	1547.46
2	Less: assets created from grant at the beginning	612.94
3	Addition during the year	687.35
4	Less: Additions created through grants	355.51
5	Net assets	1266.36

Sl. No.	Particulars	Projected by NBPDCL for FY 2017-18 (RE)
6	Average equity	1406.91
7	Rate of Return per annum %	16.00%
8	**Return on Equity**	**225.11**

NBPDCL has requested the Commission to consider the RoE as per the computations furnished in the Table above for FY 2017-18 (RE)

Commission's analysis

The Commission has examined the computation of RoE claim of NBPDCL.

The Regulation 27 of the BERC (Multi Year Distribution Tariff) Regulations 2015, specify;

(a) Return on equity shall be computed on 30% of the capital base or actual equity, whichever is lower:

Provided that assets funded by consumer contribution, capital subsidies/grants and corresponding depreciation shall not form part of the capital base. Actual equity invested in the Distribution Licensee as per book value shall be considered as perpetual and shall be used for computation in this regulation:

(b) The return on the equity invested shall be allowed from the date of start of commercial operation:

(c) The project which will be commissioned w.e.f. 01.04.2016 will be allowed RoE of 15.50% and if project is completed in schedule period 0.5% incentives in form of RoE will be allowed.

As per above regulation, RoE shall be computed on 30% of the net Capital base (after reducing the value of consumer contributions, capital subsidies/grants) or actual equity whichever is lower. Further, RoE shall be allowed @14% on the net capital base as on 31.03.2016 and @15.50% on the net capital base w.e.f. 01.04.2016.

The Petitioner had claimed RoE on the 30% of the net capital base (excluding grants). The Commission has elaborate discussed the issue (i.e.methodology followed by the Petitioner) in paragraph 4.6 of this order and needs no further corroboration.

The Commission has approved Rs.440.86 crore as closing equity to end of 31.03.2016 and accordingly, has considered RoE @14% as per regulation 27(c).

Further, the Commission has also approved closing equity of Rs.9.33 crore for FY 2016-17 in respect of assets capitalised with effect from 1.4.2016 which is considered as opening equity for FY 2017-18.

The Commission has approved capitalisation at Rs.2291.16 Crore and grants at Rs.1275.02 crore for FY 2017-18 as shown in Table 5.31 above. Further, in view of the Regulations 27, for the purpose of computation of Return on Equity, has considered equity @30% of capital base (net of grants) in respect of investment capitalised during the year FY 2017-18 in review as given below.

Sl. No.	Particulars	Amount (Rs. Crore)
1	Capitalisation during FY 2017-18	2291.16
2	Less: capitalisation funded through grants	1275.02
3	Net capitalisation (1-2)	1016.14
4	Debt @70% (3*70%)	711.30
5	Equity @30% (3*30%)	304.84

Accordingly, the Commission has computed return on equity for FY 2017-18 as detailed in the Table below:

Table 5.52: Return on Equity approved for FY 2017-18

(Rs. Crore)

Sl. No.	Particulars	Approved in MYT order dated 21.03.2016	Revised and approved for FY 2017-18 in order dated 24.03.2017	Projected by NBPDCL for FY 2017-18 (RE)	Approved for FY 2017-18 in review
1	Closing equity to end of 31.03.2016		440.86		440.86
2	Rate of return on equity %		14.00%		14.00%
3	Return on Equity		61.72		61.72
	Equity with effect from 1st April 2016				
4	Opening equity		962.13		9.33
5	Equity addition during the year FY 2017-18		1262.62		304.84
6	Closing equity (4+5)		2224.75		314.17
7	Average equity (4+6)/2	482.95	1593.44	1406.91	161.75
8	Rate of return on equity with effect from 1.4.2016	15.50%	15.50%	16.00%	15.50%
9	Return on equity (7*8)	74.86	246.98	225.11	25.07
10	**Total Return on equity (3+9)**	**74.86**	**308.70**	**225.11**	**86.79**

The Commission, accordingly, approves Return on Equity at Rs.86.79 Crore in review for FY 2017-18.

5.21 Contribution to Contingency Reserve

Petitioner's submission:

The Petitioner has not projected contribution to contingency reserve for FY 2017-18 in the petition.

Commission's analysis:

The Commission has considered contribution to contingency reserve of Rs.75.78 crore in review for FY 2017-18 in Tariff order dated 24.03.2017.

Regulation 24 (a) of the BERC (Multi Year Distribution Tariff) Regulations, 2015 specify "*if the distribution licensee has made an appropriation to the Contingency Reserve, a sum not less than 0.25 per cent and not more than 0.5 per cent of the original cost of fixed assets shall be allowed annually towards such appropriation in the calculation of ARR*".

The Commission has approved opening GFA at Rs.5158.20 crore for FY 2017-18 (Table 5.32). The opening GFA approved includes assets revalued of Rs.965.91 Crore. The Commission, in terms of regulation 24(a) (as above) has reduced the value of assets revalued to arrive at the original cost of GFA and considered 0.5% on the original cost of GFA. The Opening GFA, assets revalued, contingency reserve considered for FY 2017-18 is given in the Table below:

Table 5.53: Contribution to Contingency Reserve approved for FY 2017-18

(Rs. Crore)

Sl. No.	Particulars	Approved for FY 2017-18
1	Opening GFA	5158.20
2	Less: Assets revalued	965.91
3	Original cost of GFA	4192.29
4	% of Appropriation to Contingency	0.50%
5	**Contingency reserve (3* 4)**	**20.96**

The Commission approves contribution to contingency reserve at Rs.20.96 crore for FY 2017-18.

5.22 Interest on Security Deposit

Petitioner's submission:

NBPDCL has submitted that interest on Security Deposit has been considered as per prevailing RBI Bank Rate of 7.75%. The Petitioner has projected interest on security deposit for FY 2017-18 as detailed in the Table below:

Table 5.54: Interest on security deposit projected for FY 2017-18 (RE)

(Rs. Crore)

Sl. No.	Particulars	Projected by NBPDCL for FY 2017-18 (RE)
1	Opening Security Deposit	271.54
2	Addition / (Deletion)	37.73
3	Closing Security Deposit	309.27
4	Average Security Deposit	290.40

Sl. No.	Particulars	Projected by NBPDCL for FY 2017-18 (RE)
5	RBI Bank Rate	7.75%
6	Interest on Security Deposit	22.51

The Petitioner has requested the Commission to approve the computation of interest on security deposit for FY 2017-18 as detailed in the Table above.

Commission's analysis:

The Commission has examined the computation of interest on security deposit claimed by the Petitioner. The Petitioner has submitted that prevailing RBI Bank Rate @ 7.75% is considered.

The BERC (Multi Year Distribution Tariff) Regulations 2015, Regulation 26 (iii) specifies that "*Provided further that interest shall be allowed on consumer security deposits and security deposits from Distribution system users at the Bank Rate as of the date on which the petition for determination of tariff is accepted by the Commission".*

Section 47(1)(a) of the Electricity Act, 2003 specifies that any person who requires a supply of electricity to give reasonable security in respect of the electricity supplied to such person. The BERC Supply Code Regulations 2007 specifies that the distribution licensee shall pay interest at the RBI Bank rate, applicable on security deposits taken from the consumers. The interest amount of previous financial year shall be adjusted in the energy bill issued in May/June of each financial year depending on billing cycle.

The security deposits from the consumers, according to the audited accounts of FY 2016-17, are at Rs.271.54 Crore. The Commission has considered the net addition to consumer security deposits at Rs.37.73 crore as projected by the Petitioner for FY 2017-18. The RBI rate as on 1st April 2017 is at 6.25%.

The Commission considers the interest on consumer's security deposit in review for FY 2017-18 as given in the Table below:

Table 5.55: Interest on security deposit considered for FY 2017-18 (RE)

(Rs. Crore)

Sl. No.	Particulars	Approved in MYT order dated 21.03.2016	Revised and approved for FY 2017-18 in order dated 24.03.2017	Projected by NBPDCL for FY 2017-18 (RE)	Approved in review for FY 2017-18
1	Opening Security Deposit	278.74	268.89	271.54	271.55
2	Addition during the year	40.00	35.07	37.73	37.73
3	Closing Security Deposit (1+2)	318.74	303.96	309.27	309.28
4	Average Security Deposit (1+3)/2	298.74	286.43	290.40	290.42
5	RBI Bank Rate	7.50%	6.75%	7.75%	6.25%
6	Interest on Security Deposit (4*5)	22.41	19.33	22.51	18.15

The Commission considers interest on Consumer's Security Deposit at Rs.18.15 crore for FY 2017-18 in review.

5.23 Deposit for Renewable Power Purchase Obligation

Commission's analysis:

The Commission in terms of BERC (Renewable Purchase Obligation, its compliance and REC Framework Implementation) Regulations 2010 had approved the amount @ forbearance price of Solar and Non-solar REC for non-compliance of targeted RPO in the relevant year tariff orders as detailed hereunder:

Sl. No.	RPO obligation for the year	Solar		Non-solar		Total shortfall MU	Total amount to be deposited	Approved and considered in ARR of
		Shortfall MU	Amount to be deposited	Shortfall MU	Amount to be deposited			
1	2010-11 to FY 2012-13	5.51	7.38			5.51	7.38	Tariff order for FY 2014-15
2	2013-14	17.72	10.28	53.53	17.66	71.25	27.94	Tariff order for FY 2015-16.
3	2014-15	28.67	16.63	56.99	18.81	35.44	35.44	Tariff order for FY 2016-17
4	2015-16	49.05	28.45	143.65	47.40	192.70	75.85	Tariff order for FY 2017-18. (Rs.17.17 cr Solar and Rs.21.55 cr Non-solar totalling to Rs.38.72 cr allowed in ARR for FY 2017-18 and balance (Rs.37.13 cr) to be borne by the utility).

5	2016-17	50.38	29.22	195.71	64.58	246.09	93.80	Tariff order for FY 2018-19. (Rs.17.63 cr Solar and Rs.29.36 cr Non-solar totalling to Rs.46.99 cr considered and taken into ARR for FY 2017-18 and balance Rs.46.81 cr to be borne by the utility).
6	**Total RPO**	**151.33**	**91.96**	**449.88**	**148.45**	**550.99**	**240.41**	

The Commission directed NBPDCL to deposit the amounts into a separate fund with a bank as per BERC RPO Regulations during the relevant years and submit the proof of such deposit to the Commission. The Petitioner vide letter no.49 dated 06.03.2017 has informed that Rs.70.76 crore in two installments (Rs.35.32 crore and Rs.35.44 crore) was deposited into a separate bank account on 16.08.2016 and 31.03.2017. The Commission, in view of deposit of Rs.70.76 crore in a separate bank account in FY 2016-17 has considered the RPO obligation of Rs.70.76 crore as pass through in the ARR for FY 2016-17 in truing up.

The Commission in order dated 16.06.2017 in case no.16/2016 emphasised that "*there had been no order of Hon'ble Supreme Court with respect to imposition of ban on trading of REC through IEX/PXIL till 31.03.2017. The Hon'ble Supreme Court passed the order on 08.05.2017 imposing ban on the trading of REC for eight weeks from the date of its order. Hence there was no embargo on purchasing REC by the Discoms for RPO obligation up to financial year 2014 till 31st March 2017*".

NBPDCL vide letter no.69 dated 23.01.2018 had submitted the copies of Non-solar RE Certificates purchased for Rs.38.124 crore (254.16 MUs) to end of FY 2016-17 as given below:

Sl. No.	Financial year	Non-solar MUs
1	Till FY 2013-14	53.53
2	FY 2014-15	56.98
3	FY 2015-16	143.65
4	FY 2016-17	--
5	Total	254.16
6	No of RE certificates (Numbers)	254160
7	**Cost @Rs.1500/- per RE Certificate (in Rs. crore)**	**Rs.38.124 crore**

It is observed from the RE certificates that the BSPHCL had purchased two RE certificates for (i) 649780 and (ii) 242060 totaling to 891840 (649780+242060) on behalf of Discoms i.e. SBPDCL 637680 (637.68 MUs) and NBPDCL 254160 (254.160 MUs) for a total consideration of Rs.133.776 crore. The Commission, accordingly, considers the total Rs.133.776 crore towards Non-solar RE certificates purchases and allocated Rs.95.652 crore (for 637.68 MU) to SBPDCL and Rs.38.124 crore (for 254.16 MU) to NBPDCL.

The Commission in its order dated 23.02.2018 in case no.16/2016 has directed Discoms to fulfill its renewable power purchase obligation through purchase of non-solar REC against its total solar RPO requirement till FY 2016-17 in view of non-availability of solar REC in the market as per the BERC RPO Regulations.

SBPDCL vide letter no.207 dated 14.03.2018 had submitted the copies of Non-solar RECs purchased, relating to NBPDCL, for 236.819 MU for Rs.35.52 crore (@Rs.1500/- per RE) during FY 2017-18 in fulfillment of RPO to end of FY 2016-17. Further, a RE certificate for purchase of 109.001 MU is also purchased by BSPHCL on behalf of Discoms i.e. SBPDCL and NBPDCL, however no breakup details were furnished. In the absence of details, the Commission has considered balance RPO (60.01 MU) to be fulfilled by NBPDCL and adjusted against this REC i.e. 109.001 MU and balance MUs of 48.991 MUs (109.001-60.01) adjusted for SBPDCL.

The status of compliance of RPO obligation to the end of FY 2016-17 and purchase of RECs in FY 2017-18 is as under:

Sl. No.	RPO obligation for the year	Solar		Non-solar		Total shortfall MU	Total amount to be deposited	Approved and considered in ARR of
		Shortfall MU	Amount to be deposited	Shortfall MU	Amount to be deposited			
1	2010-11 to FY 2012-13	5.51	7.38			5.51	7.38	Tariff order for FY 2014-15

2	2013-14	17.72	10.28	53.53	17.66	71.25	27.94	Tariff order for FY 2015-16. Revised vide order in Case No.18/2015 dated 14.07.2015.
3	2014-15	28.67	16.63	56.99	18.81	35.44	35.44	Tariff order for FY 2016-17
4	2015-16	49.05	28.45	143.65	47.40	192.70	75.85	Tariff order for FY 2017-18. (Rs.23.46 cr Solar and Rs.29.42 cr Non-solar totalling to Rs.52.88 cr allowed in ARR for FY 2017-18 and balance (Rs.50.74 cr) to be borne by the utility).
5	2016-17	50.38	29.22	195.71	64.58	246.09	93.80	Tariff order for FY 2018-19. (Rs.17.63 cr Solar and Rs.29.36 cr Non-solar totalling to Rs.46.99 cr considered and taken into ARR for FY 2017-18 and balance Rs.46.81 cr to be borne by the utility).
6	**Total RPO**	**151.33**	**91.96**	**449.88**	**148.45**	**550.99**	**240.41**	
7	Less: REC purchased					254.16	38.12	Lr.No.69 dated 23.01.2018
8	Less: REC purchased					236.82	35.52	Lr.No.207 dated 14.03.2018
9	Less: REC purchased					60.01	9.00	Lr.No.207 dated 14.03.2018 (BSPHCL had purchased 109.001 RECs on behalf of Discoms and allocated to SBPDCL and NBPDCL)
10	**REC to be purchased**	**151.33**	**91.96**	**449.88**	**148.45**	**0.00**	**157.76**	

It can be observed from Table above, the NBPDCL has purchased total shortfall solar and non-solar quantity i.e. MUs to the end of FY 2016-17 at a total cost of Rs.82.64 crore (38.12+35.52+9.00).

The Commission has allowed Rs.35.32 crore in true up for FY 2016-17 based on the actual deposit made in a separate bank account during FY 2016-17. The total RECs purchase is at Rs.82.64 crore as such the Commission has now considered the balance amount of Rs.47.32 crore (82.64-35.32) as pass through in the ARR for FY 2017-18.

The Commission, accordingly, considers Rs.47.32 crore towards RPO in ARR for FY 2017-18 relating to balance RPO to end of FY 2016-17.

The Commission has also factored Rs.10.65 crore and Rs.34.96 crore totaling Rs.45.61 crore towards cost of 106.50 MU solar and 349.60 MU non-solar RE in power purchase cost for FY 2017-18 to meet its Solar and Non-solar renewable purchase obligation for FY 2017-18.

The Commission directs the NBPDCL to deposit Rs.157.76 crore (Regulatory fund after purchasing the RECs as shown in the table above) in to a separate bank account immediately and report compliance duly furnishing the Account no., Name of the Bank, amount deposited and date of deposit. The amount so deposited shall not be withdrawn without the consent of the Commission.

5.24 Non-Tariff Income

Petitioner's submission:

NBPDCL has submitted that non tariff income for FY 2017-18 is projected based on the non-tariff income in FY 2016-17 with escalation at 10% as detailed in the Table below:

Table 5.56: Projected Non-tariff Income for FY 2017-18 (RE)

(Rs. Crore)

Sl. No.	Particulars	Projected by NBPDCL for FY 2017-18 (RE)
1	Base Non-tariff income	216.01
2	Rate of Increase	10.00%
3	Increase in non tariff income	21.60
4	**Net non-tariff income**	**237.61**

Commission analysis:

The Commission in true up for FY 2016-17 has considered non-tariff income of Rs.164.24 Crore (excluding rebate on payment of power purchase bills) and same is considered as base non-tariff income for FY 2017-18. The Commission has considered rate of escalation at 10% as adopted for FY 2017-18 in MYT order dated 21.03.2016. The Commission, accordingly, has considered non tariff income for FY 2017-18 (RE) as detailed in the Table below.

Table 5.57: Non-tariff income considered for FY 2017-18

(Rs. Crore)

Sl. No.	Particulars	Approved in MYT order dated 21.03.2016	Revised and approved for FY 2017-18 in order dated 24.03.2017	Projected by NBPDCL for FY 2017-18 (RE)	Approved for FY 2017-18 in review
1	Net Non-tariff income	167.93	175.22	216.01	164.24
2	Rate of Increase	10.00%	10.00%	10.00%	10.00%
3	Increase in non tariff Income	16.79	17.52	21.60	16.42
4	Sub-total	184.72	192.74	237.61	180.66
5	Additional income due to release of new connections	--	74.19	--	--
6	**Total Non-tariff income**	**184.72**	**266.93**	**237.61**	**180.66**

The Commission, accordingly, considered non-tariff income at Rs.180.66 Crore for FY 2017-18 (RE) as detailed in the Table above.

5.25 Interest on working capital

Petitioner's submission:

NBPDCL has submitted that, in terms of Regulation 26 of BERC (Multi Year Distribution Tariff) Regulations 2015, the O&M expenses for 1 month is considered and further enhanced by estimated annual revenue requirement for 2 months and 40% of the R&M expenses for 1 month. The gross working capital requirement is reduced by depreciation, RoE for 1 month, consumer security deposit and grant for 2 months. Subsidy from State Government is considered equivalent to 2 months and the rate of interest applied on the proposed working capital is @14.75% as per the SBI advance rate.

The Petitioner has also submitted that they have taken short term loans from REC and PFC for payment of power purchase liability in addition to other short term loans on which Discom is bearing huge interest burden and incurring interest on working capital at a higher level than as calculated as per normative requirement.

NBPDCL has projected interest on working for FY 2017-18 computed based on the norms as detailed in the Table below:

Table 5.58: Interest on working capital projected for FY 2017-18 (RE)

(Rs. Crore)

Sl. No.	Particulars	Approved in MYT order dated 21.03.2016	Revised and approved for FY 2017-18 in order dated 24.03.2017	Projected by NBPDCL for FY 2017-18 (RE)
1	O&M expenses (1 month)	27.78	38.15	34.71
2	Two months equivalent expected revenue	1325.27	1078.43	1038.19
3	Maintenance spares @40% of R&M expenses for one month	3.13	6.50	2.32
4	**Sub-total (1+2+3)**	**1356.18**	**1123.08**	**1075.23**
5	**Less**: (i) Power purchase cost, transmission charges and load dispatch charges of one month	622.88	419.18	428.13
	(ii) Depreciation, return on equity and contribution to contingency reserve	70.33	106.40	61.72
	(iii) Security Deposits from consumers	318.74	303.96	24.20
	(iv) Grant received from the State Govt. for power purchase and other O&M expenses	--	--	--
6	Sub-total (5(i)+5(ii)+5(iii)+5(iv))	1011.95	829.54	514.05
7	**Net working capital requirement (4-6)**	**344.23**	**293.54**	**561.18**
8	Rate of interest %	14.75%	14.00%	14.75%
9	**Interest on working capital (7*8)**	**50.77**	**41.10**	**82.77**

The Petitioner has requested the Commission to approve the interest on working capital for FY 2017-18 as detailed in the Table above.

Commission analysis

The Commission has examined the computation of interest on working capital submitted by the Petitioner. The Petitioner has considered additional one month O&M expenses following repealed regulations. Further, the Petitioner has reduced depreciation and RoE equivalent to one (1) month only, whereas the two months receivables considered for working capital requirement include two months of depreciation and RoE and accordingly, shall be reduced from the working capital requirement for the year. The Commission has considered depreciation and RoE equivalent to two months for the purpose of computation of working capital requirement for FY 2017-18. Further, the Petitioner has reduced Security Deposit from consumers at Rs.24.20 crore (average SD 290.40/12=24.20) for one month only whereas total value of SD available with the utility shall be reduced for computing working capital requirement. The Commission, accordingly, has considered total SD from consumers at Rs.309.28 crore (closing SD) for the purpose of computation of working capital requirement for FY 2017-18.

The BERC (Multi Year Distribution Tariff) (First Amendment) Regulations, 2017 notification dated 30.06.2017 came in force on 15.07.2017 i.e. from the date of publication in the Bihar Gazette specify;

Regulation 26: The Distribution Licensee shall be allowed interest on estimated level of working capital for the financial year, computed as follows:

(a) Two months equivalent of expected revenue
(b) Maintenance spares @40% of R&M expenses for one month
***Less**:*
(i) Power purchase cost, transmission charges and load dispatch charges of one month
(ii) Depreciation, return on equity and contribution to contingency reserves equivalent to two months
(iii) Security deposits from consumers, if any.

Provided that the interest on working capital shall be on normative basis and rate of interest shall be equal to the State Bank Advance Rate (SBAR) as of the date on which petition for determination of tariff is accepted by the Commission.

Provided further that interest shall be allowed on consumer security deposits and security deposits from Distribution system users at the Bank Rate as of the date on which the petition for determination of tariff is accepted by the Commission.

Provided further that if, the State Government is providing resource gap grant or subsidy, working capital shall be reduced by that amount.

The Commission has computed the interest on working capital as per the norms prescribed in the BERC (Multi Year Distribution Tariff) (First Amendment) Regulations, 2017 notification dated 30.06.2017. The SBI Advance rate as on 1st April 2017 is at 14.05% and accordingly, the same is applied on the working capital for computing interest on working capital in review for FY 2017-18.

The Commission observes that the subsidy of Rs.1165.60 crore projected by the Petitioner represent tariff subsidy extended to the consumers by the State Government being received @ Rs.97.13 crore per month during FY 2017-18. The amount shall be considered as tariff income only but not the subsidy from GoB. Hence, the Commission has not considered Rs.1165.60 crore as subsidy from GoB for FY 2017-18 and accordingly for computation of working capital requirement for FY 2017-18.

The Commission based on the expenses/costs approved, has computed the working capital and interest on working capital in terms of regulation 26 (first amendment) dated 30.06.2017, for FY 2017-18 in review as detailed in the Table below:

Table 5.59: Interest on working capital considered for FY 2017-18 (RE)

(Rs. Crore)

Sl. No.	Particulars	Approved in MYT order dated 21.03.2016	Revised and approved for FY 2017-18 in order dated 24.03.2017	Projected by NBPDCL for FY 2017-18 (RE)	Approved in review for FY 2017-18
1	O&M expenses (1 month)	27.78	38.15	34.71	--
2	Two months equivalent expected revenue	1325.27	1078.43	1038.19	904.40
3	Maintenance spares @40% of R&M expenses for one month	3.13	6.50	2.32	2.08
4	**Sub-total (1+2+3)**	**1356.18**	**1123.08**	**1075.23**	**906.48**
5	**Less**: (i) Power purchase cost, transmission charges and load dispatch charges of one month	622.88	419.18	428.13	413.03
	(ii) Depreciation, return on equity and contribution to contingency reserve	70.33	106.40	61.72	20.76
	(iii) Grant received from the State Govt. for power purchase and other O&M expenses	318.74	303.96	24.20	309.28
	(iv) Security Deposits from consumers	--	--	--	--
6	Sub-total (5(i)+5(ii)+5(iii)+5(iv))	1011.95	829.54	514.05	743.06
7	**Net working capital requirement (4-6)**	**344.23**	**293.54**	**561.18**	**163.42**
8	Rate of interest %	14.75%	14.00%	14.75%	14.05%
9	**Interest on working capital (7*8)**	**50.77**	**41.10**	**82.77**	**22.96**

The Commission, accordingly, considers interest on working capital at Rs.22.96

crore in review for FY 2017-18.

5.26 Revenue from sale of power at existing tariff

Petitioner's submission

NBPDCL has submitted the category wise revenue based on the existing tariff for FY 2017-18 as detailed in the Table below:

Table 5.60: Projected Revenue from sale of power at existing tariff for FY 2017-18 (RE)

Category	Sales (MU)	FY 2017-18 (RE)	ABR (Rs./kWh)
Domestic	**4,365.17**	**1,608.0**	**3.68**
Kutir Jyoti- BPL Consumers	1,271.23	305.6	2.40
Domestic – I	1,651.16	557.4	3.38
Domestic – II	1,442.78	744.9	5.16
Commercial	**743.42**	**548.4**	**7.38**
Non-Domestic – I	77.85	32.1	4.12
Non-Domestic - II	665.57	516.3	7.76
Public Lighting	**16.03**	**14.5**	**9.06**
Street Light – I	6.55	5.1	7.86
Street Light – II	9.48	9.4	9.90
Irrigation	**246.22**	**180.0**	**7.31**
IAS – I	78.14	15.6	2.00
IAS – II	168.08	164.3	9.78
Public Water Works	**33.98**	**36.5**	**10.75**
Industrial LT	**270.10**	**194.9**	**7.22**
LTIS – I	245.74	172.2	7.01
LTIS – II	24.36	22.7	9.31
Industrial HT	**684.40**	**542.0**	**7.92**
HTS – I	402.64	337.3	8.38
HTS – II	149.33	118.2	7.92
HTS – III	65.95	53.1	8.05
HTSS	66.49	33.4	5.03
Railway	**62.67**	**61.6**	**9.84**
Nepal	**1,188.89**	**665.4**	**5.60**
DF	**1,007.62**	**442.1**	**4.39**
Total	**8,618.49**	**4,293.4**	**4.98**

Commission's analysis

The Commission has observed that the Petitioner has computed the revenue from sale of power to consumers after reducing the element of subsidy from the applicable tariff of the relevant category. It is pertinent to state that the electricity consumption charges (electricity bill) of the consumers is being paid partly by GoB (to the extent of tariff subsidy announced by the GoB) and partly (balance amount) by the consumer concerned. It can be construed that the amount paid by the GoB is part of tariff revenue only but not subsidy. Had the Government not reimbursed the part of the tariff subsidized by it, the SBPDCL would have to recover the full tariff from the consumers.

The Commission has estimated the revenue from sale of power for FY 2017-18 (RE) by applying the category-wise approved tariff for FY 2017-18 on the approved sales for FY 2017-18 (RE).

For Muzaffarpur DF area, the input energy is considered as sale to DF and the weighted average per unit rate as per MoU is considered i.e., 7 months of FY 2017-18 and 5 months of FY 2018-19.

For sale of power to Nepal, the average per unit rate as per actuals during FY 2017-18 is considered for FY 2018-19 as per the Minutes of 11th Power Exchange Committee Meeting on 08.08.2017.

Table 5.61: Revenue from sale of power at existing tariff considered for FY 2017-18 (RE)

Sl. No.	Category	Sales (MU)	Average billing Rate (Rs./kWh)	Revenue (Rs. Crore)
1	Kutir Jyoti	1271.00	6.02	765.52
2	DS-I	1,651.00	6.56	1,083.60
3	DS-II	1,566.57	6.72	1,052.74
4	NDS-I	78.00	6.70	52.28
5	NDS-II	760.86	8.16	620.97
6	IAS-I	78.00	8.06	62.90
7	IAS-II	183.28	9.78	179.25
8	Public Water Works	34.00	11.03	37.49
9	SS Metered	7.00	7.86	5.51
10	SS Unmetered	7.36	15.00	11.04
11	LTIS-I	257.59	7.42	191.22

Sl. No.	Category	Sales (MU)	Average billing Rate (Rs./kWh)	Revenue (Rs. Crore)
12	LTIS-II	24.00	10.23	24.55
13	HTIS-I	290.92	8.92	259.64
14	HTIS-II	93.13	8.62	80.31
15	HTIS-III	66.00	8.85	58.40
16	HTSS	66.00	5.63	37.15
17	RT	63.00	10.31	64.95
18	DF	1,007.62	4.39	442.35
19	Nepal	1,188.89	6.15	731.17
	Total	**8694.22**	**6.63**	**5761.02**

The detailed computation of the expected revenue with existing tariff for FY 2017-18 (RE) is provided as Annexure IV

5.26 Resource gap funding from State Government for FY 2017-18

Petitioner's submission

The Petitioner has submitted that the total subsidy to be received for FY 2017-18 is Rs.1165.60 Crore. The Petitioner has furnished utilization of subsidy amount and balance amount to be adjusted against revenue gap as detailed in the Table below:

Table 5.62: Resource Gap utilization projected for FY 2017-18

Sl. No.	Particulars	Projected by NBPDCL for FY 2017-18 (RE)
1	Proposed resource gap grant from State Govt.	1165.60
2	Less: Disallowed power purchase funded through State Govt. grant/subsidy	--
3	Available Revenue Subsidy	1165.60

Commission's analysis:

The Commission observes that the subsidy of Rs.1165.60 crore projected by the Petitioner represent tariff subsidy extended to the consumers by the State Government being received @ Rs.97.13 crore per month during FY 2017-18. The amount shall be considered as tariff income only but not the subsidy from GoB. The Commission has considered revenue from sale of power as per the applicable category-wise tariff notified by the Commission in Tariff order dated 24.03.2017.

Hence, the Commission has not considered Rs.1165.60 crore as subsidy from GoB for FY 2017-18 as detailed in the Table below:

Table 5.63: Resource Gap utilization considered for FY 2017-18

(Rs. Crore)

Sl. No.	Particulars	Projected by NBPDCL for FY 2017-18 (RE)	Approved in review for FY 2017-18 (RE)
1	Proposed resource gap assistance from State Government	1165.60	--
2	Less: Disallowed power purchase funded through State Govt. grant	--	--
3	Available balance resource gap assistance	1165.60	--

5.27 Annual Revenue Requirement and Revenue Gap at existing tariff projected for FY 2017-18 (RE)

Petitioner's submission:

The Petitioner has submitted that the gross ARR consists of the power purchase costs, interest and finance cost, O&M cost, depreciation and interest on working capital duly adjusted for non-tariff income and other income. The Petitioner has computed the total revenue requirement for FY 2017-18 against approved revenue requirement by the Commission for FY 2017-18 in Tariff Order dated 21.03.2016, as detailed in the Table below:

Table 5.64: ARR and Revenue Gap/(Surplus) projected for FY 2017-18 (RE)

(Rs. Crore)

Sl. No.	Particulars	Approved in MYT order dated 21.03.2016	Revised and approved for FY 2017-18 in order dated 24.03.2017	Projected by NBPDCL for FY 2017-18 (RE)
1	Purchase of power	6885.54	4489.71	4470.35
2	PGCIL & Other transmission charges	358.82	342.62	325.48
3	BSPTCL transmission charges	230.16	249.43	341.73
4	BGCL charges		81.78	
5	SLDC charges		2.18	
6	Less: 1% rebate		(51.66)	
7	**O & M Expenses (a+b+c+d)**	**333.37**	**457.78**	**416.54**

Sl. No.	Particulars	Approved in MYT order dated 21.03.2016	Revised and approved for FY 2017-18 in order dated 24.03.2017	Projected by NBPDCL for FY 2017-18 (RE)
	a. Employee expenses	180.86	192.96	237.63
	b. R&M expenses	93.99	195.08	69.72
	c. A&G expenses	51.35	58.90	103.27
	d. Holding company expenses allocated	7.17	10.84	5.92
8	Depreciation	26.30	253.95	145.21
9	Interest on loans	145.40	405.65	322.08
10	Other finance charges	31.10	34.30	66.96
11	Return on equity	74.86	308.70	225.11
12	Interest on SD	22.41	19.33	22.51
13	Deposit for RPO obligation	--	38.72	--
14	Contribution to Contingency Reserve	39.51	75.78	--
15	Less: IDC	(61.90)	(11.87)	--
16	Interest on working capital	50.89	41.10	82.77
17	**Total Revenue requirement**	**8136.45**	**6737.52**	**6418.74**
18	Less:: Non-tariff income	184.72	266.93	189.59
19	Less: Expenditure disallowed due to excess T&D losses	--	--	--
20	**Net Revenue requirement**	**7951.73**	**6470.60**	**6229.15**
21	Revenue from Existing tariff	--	6378.63	4293.45
22	**Gross Gap / (Surplus)**	**7951.73**	**91.97**	**1935.70**
23	Add: Recovery of (Surplus) FY 2015-16	--	(346.59)	--
24	Add: Recovery of (Surplus) FY 2016-17 (incl. carrying cost)	--	--	1160.30
25	**Net Gap / (Surplus) before subsidy**	**7951.73**	**(254.62)**	**3096.00**
26	Subsidy from State Government	--	--	1165.60
27	Subsidy used for disallowed power	--	--	--
28	Subsidy available for revenue gap	--	--	1165.60
29	**Net Gap / (Surplus) after subsidy**	**7951.73**	**(254.62)**	**1930.40**

Commission analysis:

The Commission has computed the net annual revenue requirement based on the costs approved in the preceding paragraphs in the review as detailed in the Table below:

Table 5.65: ARR and Revenue Gap/(Surplus) considered for FY 2017-18

(Rs. Crore)

Sl. No.	Particulars	Approved in MYT order dated 21.03.2016	Revised and approved for FY 2017-18 in order dated 24.03.2017	Projected by NBPDCL for FY 2017-18 (RE)	Approved for FY 2017-18 in review
1	Purchase of power	6885.54	4489.71	4470.35	4213.98
2	PGCIL & Other transmission charges	358.82	342.62	325.48	371.87
3	BSPTCL transmission charges	230.16	249.43	341.73	286.84
4	BGCL charges		81.78		94.19
5	SLDC charges		2.18		2.50
6	Less: 1% rebate		(51.66)		(49.69)
7	RE purchases				36.62
8	**O & M Expenses (a+b+c+d)**	**333.37**	**457.78**	**416.54**	**376.42**
	a. Employee expenses	180.86	192.96	237.63	230.88
	b. R&M expenses	93.99	195.08	69.72	62.41
	c. A&G expenses	51.35	58.90	103.27	77.21
	d. Holding company expenses allocated	7.17	10.84	5.92	5.92
9	Depreciation	26.30	253.95	145.21	16.80
10	Interest on loans	145.40	405.65	322.08	37.41
11	Other finance charges	31.10	34.30	66.96	23.95
12	Return on equity	74.86	308.70	225.11	86.79
13	Interest on SD	22.41	19.33	22.51	18.15
14	Deposit for RPO obligation	--	38.72	--	47.32
15	Contribution to Contingency Reserve	39.51	75.78	--	20.96
16	Less: IDC	(61.90)	(11.87)	--	--
17	Interest on working capital	50.89	41.10	82.77	22.96
18	**Total Revenue requirement**	**8136.45**	**6737.52**	**6418.74**	**5607.06**
19	Less:: Non-tariff income	184.72	266.93	189.59	180.66
20	Less: Expenditure disallowed due to excess T&D losses	--	--	--	--
21	**Net Revenue requirement**	**7951.73**	**6470.60**	**6229.15**	**5426.40**
22	Revenue from Existing tariff	--	6378.63	3628.05	5029.85
22	Revenue from sale of power - Nepal			665.40	731.17
23	**Gross Gap / (Surplus)**	**7951.73**	**91.97**	**1935.70**	**(334.62)**
24	Add: Recovery of (Surplus) FY 2015-16	--	(346.59)	--	(346.59)
25	Add: Recovery of (Surplus) FY 2016-17 (incl. carrying cost)	--	--	1160.30	--
26	**Net Gap / (Surplus) before subsidy**	**7951.73**	**(254.62)**	**3096.00**	**(681.21)**
27	Subsidy from State Government	--	--	1165.60	--
28	Subsidy used for disallowed power	--	--	--	--
29	Subsidy available for revenue gap	--	--	1165.60	--
30	**Net Gap / (Surplus) after subsidy**	**7951.73**	**(254.62)**	**1930.40**	**(681.21)**

The Commission approves the net ***revenue Surplus*** of Rs.681.21 Crore in review for FY 2017-18 (RE) subject to final truing up as and when the audited annual accounts for FY 2017-18 are submitted by the Petitioner.

As per the Regulation 14 (e) of BERC (MYT) Regulations, 2015 the estimated gap/surplus as a result of Review shall not be passed in the ARR of ensuing year i.e. FY 2018-19.

6. ARR for FY 2018-19

6.1 Background

NBPDCL has submitted the present petition on 5th December, 2017 for approval of Aggregate Revenue Requirement (ARR) and determination of Retail Supply Tariff for FY 2018-19.

The Commission has undertaken determination of Aggregate Revenue Requirement (ARR) for FY 2018-19 on the basis of audited accounts for FY 2016-17, revised estimates submitted by the Petitioner for FY 2017-18 and projections for FY 2018-19 and BERC (Multi-Year Distribution Tariff) regulations, 2015.

6.2 Consumer Category

NBPDCL serves about 62.96 Lakh consumers as on March, 2017 and the consumers are broadly categorized as under:

LT Category:

- Domestic
- Non-Domestic
- Public Lighting
- Irrigation
- Public Water Works
- Industry

HT Category:

- Industry
- Railway Traction

NBPDCL serves the consumers at different voltages at which the consumers avail supply.

6.3 Historical Assessment of number of consumers, sales and connected load

The category-wise number of consumers, energy sales and connected load, actuals during the past 4 years and the CAGRs are as shown in the Tables below:

Table 6.1: Category-wise number of consumers for FY 2013-14 to FY 2016-17

Consumer Category	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	3 Years	2 Years	YoY
Kutir Jyoti- BPL Consumers	9,78,468	12,23,212	18,11,913	25,16,282	37.01%	43.43%	38.87%
Domestic – I	7,26,732	11,25,478	15,50,465	1967498	39.37%	32.22%	26.90%
Domestic – II	6,32,713	8,36,001	10,32,008	11,76,543	22.97%	18.63%	14.01%
Non-Domestic – I	19,445	33,911	54,144	80,110	60.31%	53.70%	47.96%
Non-Domestic – II	87,429	1,28,839	1,67,617	2,14,557	34.88%	29.05%	28.00%
Non-Domestic – III	99	173	336	80	-6.86%	-32.00%	-76.19%
Street Light – I	40	155	147	142	52.55%	-4.29%	-3.40%
Street Light – II	72	35	143	113	16.21%	79.68%	-20.98%
IAS – I	2,101	2,533	3,493	9,147	63.29%	90.03%	161.87%
IAS – II	2,228	2,554	2,968	5,011	31.02%	40.07%	68.83%
Public Water Works	530	632	679	208	-26.79%	-42.63%	-69.37%
LTIS – I	4,483	6,952	10,065	11,593	37.26%	29.13%	15.18%
LTIS – II	344	472	940	653	23.82%	17.62%	-30.53%
HTS – I	344	460	596	643	23.18%	18.23%	7.89%
HTS – II	15	24	25	25	18.56%	2.06%	0.00%
HTS – III	1	2	2	2	25.99%	0.00%	0.00%
HTSS	6	3	3	5	-5.90%	29.10%	66.67%
Railway	2	4	4	7	51.83%	32.29%	75.00%

Table 6.2: Category-wise Energy Sales for FY 2013-14 to FY 2016-17

Consumer Category	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	3 Years	2 Years	YoY
Kutir Jyoti- BPL Consumers	366.02	506.37	811.17	848.69	32.36%	29.46%	**4.63%**
Domestic – I	491.92	668.04	1,067.76	1,522.29	45.73%	50.95%	**42.57%**
Domestic – II	749.19	999.87	1,329.85	1,196.06	16.87%	9.37%	**-10.06%**
Non-Domestic – I	17.6	27.94	43.02	67.7	56.68%	55.66%	**57.37%**
Non-Domestic – II	279.82	387.3	489.63	638.52	31.65%	28.40%	**30.41%**
Street Light – I	10.79	6.66	10.55	6.24	-16.69%	-3.20%	**-40.85%**
Street Light – II	15.27	4.33	10.36	9.03	-16.06%	44.41%	**-12.84%**
IAS – I	12.19	10.68	24.19	7.4	-15.33%	-16.76%	**-69.41%**
IAS – II	92.64	92.51	106.69	152.8	18.15%	28.52%	**43.22%**
Public Water Works	24.26	28.33	26.43	30.16	7.53%	3.18%	14.11%
LTIS – I	56.22	78.25	85.65	145.4	37.26%	36.31%	**69.76%**
LTIS – II	34.14	43.13	47.06	17.95	-19.29%	-35.49%	**-61.86%**
HTS – I	193.96	201.73	250.6	269.41	11.58%	15.56%	**7.51%**
HTS - II	74.17	79.03	87.59	93.24	7.93%	8.62%	**6.45%**
HTS - III	25.67	49.64	80.42	65.95	36.96%	15.26%	**-17.99%**
HTSS	57.65	41.49	14.8	45.59	-7.53%	4.82%	**208.04%**
Railway	12.05	18.29	22.26	62.67	73.26%	85.11%	181.54%

Table 6.3: Category wise sanctioned / contracted load for FY 2013-14 to FY 2016-17

Consumer Category	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	3 Years	2 Years	YoY
Kutir Jyoti- BPL Consumers	8,39,282	8,91,501	11,56,172	3,53,591	-25.03%	-37.02%	-69.42%
Domestic – I	6,34,266	10,74,457	15,27,880	19,75,877	46.05%	35.61%	29.32%
Domestic – II	7,23,949	9,21,340	11,35,781	13,78,615	23.95%	22.32%	21.38%
Non-Domestic – I	13,736	34,338	55,533	85,122	83.68%	57.45%	53.28%
Non-Domestic – II	2,25,963	2,92,875	3,94,174	5,46,352	34.22%	36.58%	38.61%
Street Light – I	1,623	3,218	4,031	965	-15.91%	-45.24%	-76.06%
Street Light – II	1,729	774	5,391	2,337	10.57%	73.77%	-56.65%
IAS – I	7,528	8,333	11,105	29,627	57.88%	88.56%	166.79%
IAS – II	28,458	27,949	31,514	53,412	23.35%	38.24%	69.49%
Public Water Works	8,217	10,003	12,975	4,666	-17.19%	-31.70%	-64.04%
LTIS – I	36,588	45,813	73,276	22,880	-14.49%	-29.33%	-68.78%
LTIS – II	13,600	16,317	33,385	33,397	34.91%	43.06%	0.04%
HTS – I	68,722	1,04,163	1,19,295	1,37,247	25.93%	14.79%	15.05%
HTS – II	26,360	38,131	39,269	41,636	16.46%	4.49%	6.03%
HTS – III	24,003	34,170	34,170	34,170	12.49%	0.00%	0.00%
HTSS	13,353	3,987	8,787	10,737	-7.01%	64.10%	22.19%
Railway	19,440	1,40,400	43,200	54,900	41.35%	-37.47%	27.08%

6.4 Category-wise number of Consumers, Connected Load and Sales projected by petitioner for FY 2018-19

Petitioner's Submission

NBPDCL has submitted that the projections are made keeping in view the 24X7 Power For All, Har Ghar Bijli and Saubhagya scheme which aims for over all development of power sector in the State and the "Chief Minister Seven Resolutions" program, the primary objective of which is to electrify approximately 20.99 Lakh house-holds in North Bihar in next 2 to 3 years. These initiatives are expected to mainly impact the rural consumers who would be under Kutir Jyoti, DS-I and IAS-I categories and growth rate projected under these categories is above normal CAGR, since large number of new connections are to be released in ensuing years.

NBPDCL has submitted that the following general approach has been followed for projection of number of consumers, connected load and energy sales for all categories for FY 2018-19.

- Approach followed for projections of all categories.

The consumer numbers are projected by taking the base year as FY 2017- 18 and then applying a CAGR as observed over the past few years.

For projecting the connected load, an average connected load per consumer has been taken as per the actual data of the past few years. This has then been multiplied by projected number of consumers to arrive at the connected Load.

The energy sales has been projected by considering the average consumption per consumer per month and multiplying the same by the projected number of consumers.

The number of years taken for estimating the CAGR however varies since the trend in certain categories is impacted by multiple other factors, and taking a uniform period for calculating the CAGR skews the outcome.

In addition to the CAGR, it has also been ensured that other factors impacting demand, such as growth in the number of consumers, enhanced power procurement, strengthening of distribution network for enhancing quality of supply, energy efficiency and DSM measures etc., have been adequately incorporated to reflect a realistic demand scenario.

Category-wise number of Consumers, Sales and connected Load projected by Petitioner for FY 2018-19 are as given in the Table below:

Table 6.4: Number of consumers, sales and connected load projected for NBPDCL for FY 2018-19

Category	Consumers for FY 2018-19	Sales for FY 2018-19 (MU)	Connected Load for FY 2018-19 (KW)
Domestic	**7,201,858**	**5,450.68**	**5748545**
Kutir Jyoti- BPL Consumers	3,156,424	1,515.08	789106
Domestic - I	2,748,201	2,223.25	3219154
Domestic - II	1,297,232	1,712.35	1740286
Domestic - III	0.00	0.00	**0.00**

Category	Consumers for FY 2018-19	Sales for FY 2018-19 (MU)	Connected Load for FY 2018-19 (KW)
Commercial	**337,976**	**784.48**	**745639**
Non-Domestic - I	101,339	85.64	118717
Non-Domestic - II	236,637	698.84	626922
Non-Domestic - III	0	0.00	0.00
Public Lighting	**281**	**16.83**	**3641**
Street Light - I	157	6.88	1064
Street Light - II	125	9.96	2577
Irrigation	**156,210**	**522.95**	**569922**
IAS - I	150,147	338.06	504792
IAS - II	6,063	184.88	65130
Public Water Works	**917**	**35.67**	**20563**
Industrial LT	**14,681**	**294.67**	**140579**
LTIS - I	14,028	270.32	103759
LTIS - II	653	24.36	36820
Industrial HT	**1,084**	**716.15**	**339538**
HTS - I	1,037	434.39	225715
HTS - II	40	149.33	68018
HTS - III	2	65.95	34853
HTSS	5	66.49	10952
Railway	**7**	**62.67**	**54900**
Nepal	**1**	**1,188.89**	**0.00**
U I	**0**	**0.00**	**0.00**
M/s Essel Vidyut Vitran-DF	**349,042**	**1,058.00**	468498
Total	**8,062,057**	**10,131.00**	**8091825**

Commission's Analysis

6.5 Analysis of category wise number of consumers, energy sales and connected load

On a query from the Commission NBPDCL has submitted the Slab-wise details of Consumers, Connected load and Sales for FY 2018-19 vide email dated 21.02.2018.

Table 6.5: Slab-wise details of Number of consumers, sales and connected load projected by NBPDCL for FY 2018-19

Category	Consumers	Connected Load (KW)	Sales (MU)
Domestic			
Kutir Jyoti			
Unmetered	15624	3906	43.18
Metered (0-50)	3140800	785200	1471.90
Total - KJ	3156424	789106	1515
DS-I (Rural)			
Unmetered	637308	746522	597.39
Metered			
First 50 Units	1776739	2081214	928.37
51 - 100 Units	214678	251467	152.99
Above 100 Units	119688	140198	544.50
Total	2748412*	3219401*	2223
DS-II (Urban- Demand Based)			
1-100 U/Month	989788	1326812	579.31
101 - 200 U/Month	158985	213119	444.37
201 -300 U/Month	72924	97754	345.13
above 300 U/Month	75536	102599	343.54
Total	1297232	1740286	1712
NDS-I (Rural)			
Unmetered	3377	2117	1.31
Metered			
1-100 U/Month	78106	90255	42.43
101 - 200 U/Month	8776	11657	21.77
above 200 U/Month	11081	14687	20.13
Total	101339	118717	86
NDS-II (Demand Based)			
Contract Demand < 0.5 kW	7885	11182	10.69
Contract Demand > 0.5 kW			
First 100 Units	182385	476623	346.24
101 - 200 Units	20493	61561	177.64
Above 200 Units	25875	77557	164.26
Total	236637	626922	699
IAS-I (Pvt Tubewell)			
Unmetered	40660	136698	160.17
Metered	109487	368094	177.89
Total	150147	504792	338
IAS-II (State Tubewell)			
Unmetered	2854	35196	99.91
Metered	3209	29934	84.97
Total	6063	65130	185

Category	Consumers	Connected Load (KW)	Sales (MU)
LTIS			
LTIS-I (Contract Demand < 19 kW)	14028	103759	270.32
LTIS-II (Contract Demand 19-74 kW))	653	36820	24.36
Total - LTIS	14681	140579	295
PWW - Public Water Works			
PWW	917	20563	35.67
Total PWW	917	20563	36
Street Light Services			
SS-Metered	157	1064	6.88
SS-Unmetered	125	2577	9.96
Total - Street Light	281	3641	17
HTS-I (11 kV)	1037	225715	434.39
HTS-II (33 kV)	40	68018	149.33
HTS-III (132 kV)	2	34853	65.95
HTS-IV (220 kV)	0	0	0.00
HTSS (33 / 11 kV)	5	10952	66.49
Total - HTS & HTSS	1084	339538	716
RTS (132 kV)	7	54900	62.67
Total	7713225	7623574	7884
DF	349042	468498	1058.00
Nepal	1	0	1188.89
Grand Total	8062057	8091825	10131.00

* corrected summation is considered

The Commission opines that proper estimation of category-wise energy sales for FY 2018-19 is essential to arrive at the quantum of power to be purchased and the likely revenue by sale of energy. The Commission has adopted an Adjusted Trend Analysis method for demand forecasting which assumes to follow the same trend as in the past. The trend based approach has to be adjusted based on judgement for some specific categories.

The following paragraphs highlight the approach and assumptions used for projecting the category wise number of consumers, connected load and energy sales for FY 2018-19 by the Petitioner and analysis and approval of the same by the Commission.

6.5.1 Kutir Jyoti (KJ)

(i) **Consumers :** NBPDCL has submitted that there is a major drive to enhance access to electricity in the State and majority of new potential consumers would fall under KJ, DS-I and IAS-I categories and approximately 3.38 Lakh KJ consumers would be added in FY 2018-19 and projected 31,56,424 KJ consumers for FY 2018-19.

The Commission approves the number of Kutir Jyoti consumers for FY 2018-19 at 31,56,424 as projected by the Petitioner, since massive electrification of un-electrified villages and households are going under various schemes and also all households have to be electrified by FY 2018-19 as per '24X7 Power For All' programme.

(ii) **Connected Load:** NBPDCL has submitted that the connected load for this category is projected considering average load per consumer at 250 Watt.

The Commission has revised the normative maximum allowable connected load for KJ category as 250 Watt per consumer in the Tariff Order for FY 2017-18 from the earlier norm of 100 watt per consumer. Accordingly, the Commission approves the connected load of Kutir Jyoti category for FY 2018-19 as 789106 KW as projected by the petitioner.

(iii) **Sales:** NBPDCL has submitted that monthly consumption of 40 kWh per consumer per month is considered to arrive at estimated sales for FY 2018-19.

It is noted that petitioner has projected 43.18 MU for KJ (Unmetered) which works out to 230.30 units/month/connection. The approved norms is 50 units/months/connection for this category. The Commission, considering the norm of 50 units per month per consumer, approves the sales of Kutir Jyoti unmetered at 9.37 MU and the balance 33.81 MU (43.18-9.37) sales in metered category for Kutir Jyoti Metered. Accordingly, the sales for KJ category is approved at 1515.08 MU for FY 2018-19.

The number of consumers, connected load and energy sales for FY 2018-19 projected by the Petitioner and approved by the Commission are as given in the Table below:

Table 6.6: Approved number of consumers, connected load and sale of KJ category for FY 2018-19.

Particulars	No. of consumers	Connected Load (KW)	Sales (MU)
Projected	3156424	789106	1515.08
Approved			
Unmetered	15624	3906	9.37
Metered	3140800	785200	1505.71
Total	3156424	789106	1515.08

6.5.2 Domestic Service – I (DS-I)

(i) **Consumers :** NBPDCL has submitted that about 32.98 lakh consumers need to be electrified by end of FY 2018-19; 4.00 lakh consumers are considered to be added to this category.

The Commission accepts the proposal of the Petitioner in view of '24X7 Power For All' and 'Chief Minister Seven Resolutions' programme and approve the number of consumers under Domestic- I category for FY 2018-19 at 2748412 as projected by the Petitioner as all rural households have to be electrified by FY 2018-19.

(ii) **Connected Load:** NBPDCL has submitted that the overall connected load for this category has been projected considering 5% escalation on average connected load per consumer for FY 2017-18.

In view of the improving economical conditions in Rural areas, the Commission accepts the proposal of the Petitioner. The average connected load estimated for FY 2017-18 is 1.08 per consumer and with 5% escalation, it works out to 1.13 KW per consumer. The Commission approves the connected load of Domestic – I category for FY 2018-19 at 3219401 as projected by the Petitioner.

(iii) **Sales:** NBPDCL has submitted that the sales in this category are projected considering 5% growth rate in average consumption per consumer per month in FY 2017-18.

It is noted that the petitioner has projected 597.39 MU for DS-I unmetered category which works out to 78.11 units/month/connection. The Norms stipulated for this category is 75 units per month per consumer. Accordingly, the Commission considering the average consumption at 75 units/month/connection approved the sales at 573.58 MU for DS-I Unmetered category and remaining sales in DS-I metered category for FY 2018-19.

The number of consumers, connected load and energy sales for FY 2018-19 projected by the Petitioner and approved by the Commission are as given in the Table below:

Table 6.7: Approved number of consumers, connected load and sale of DS-I category for FY 2018-19.

Particulars	No. of consumers	Connected Load (KW)	Sales (MU)
Projected	2748412	3219401	2223.25
Approved			
Unmetered	637308	746522	573.58
Metered	2111104	2472879	1649.65
Total	2748412	3219401	2223.25

6.5.3 Domestic Service - II (DS-II)

(i) **Consumers :** NBPDCL has submitted that the number of consumers is projected by considering a growth rate of 5% on the total number of consumers projected in this category for FY 2017-18.

3 year, 2 year and 1 year CAGR is 22.97%, 8.63% and 14.01% respectively. The Commission considers a growth rate of 8.63% (2 Year CAGR) over the number of consumers estimated for FY 2017-18 and approves the total number of consumers under DS-II category as 1428537 for FY 2018-19.

(ii) **Connected Load:** NBPDCL has submitted that the connected load is projected by considering 10% growth rate on average load per consumer for FY 2017-18.

The average connected load per consumer for FY 2017-18 (RE) is 1.17 KW. Considering a nominal 5% growth rate on the average connected load per consumer, the Commission approves the connected load for DS-II category for FY 2018-19 as 1757584 KW.

(iii) **Sales:** NBPDCL has submitted that the sales are projected by considering 10% growth rate on average consumption per consumer per month in FY 2017-18.

The average consumption per consumer per month for DS-II in FY 2017-18 (RE) is 97.33 kWh. Considering the average consumption per consumer per month at 97.33 kWh as per actuals in FY 2017-18 and considering a growth rate of 5%, the Commission approves the sales for DS-II category at 1751.95 MU for FY 2018-19.

The number of consumers, connected load and energy sales for FY 2018-19 projected by the Petitioner and approved by the Commission are as given in the Table below:

Table 6.8: Approved number of consumers, connected load and sale of DS-II category for FY 2018-19.

Particulars	No. of consumers	Connected Load (KW)	Sales (MU)
Projected	1297232	1740286	1712.35
Approved	1428537	1,757,584	1751.95

6.5.4 Non-Domestic Service – I (NDS-I)

(i) **Consumers :** NBPDCL has submitted that the number of consumers is projected considering a growth rate of 10% on the number of consumers projected for FY 2017-18 and also submitted that there are not many significant consumers left un-electrified in this sub-category.

The Commissions approves the number of consumer for NDS-I category as 101339 for FY 2018-19 as projected in view of the explanation given by the Petitioner.

(ii) **Connected Load:** NBPDCL has submitted that a nominal growth rate of 2.5% on average load per consumer in FY 2017-18, which comes to 1.116 KW is considered for projecting the connected load.

It is noted that the Petitioner has considered a growth rate of 5%, while computing the average load per consumer. The average connected load per consumer in FY 2017-18 is 1.116 KW and it works out to 1.17 KW with escalation of 5%. The Commission approves the connected load of NDS-I category as 118717 KW for FY 2018-19 as projected by the Petitioner.

(iii) **Sales:** NBPDCL has submitted that the sales have been projected by considering the average consumption per consumer per month of FY 2016-17 and multiplying with total number of consumers.

It is noted that the petitioner has projected 1.31 MU for NDS-I unmetered category and the average consumption per month per consumer is working out to 32.33 units/month/consumer. The approved norm for this category is

50 units per month per consumer. As the projection of unmetered sales is within the norms, the Commission approves the sales of NDS-I category at 85.64 MU for FY 2018-19 as projected by the petitioner.

The number of consumers, connected load and energy sales for FY 2018-19 projected by the Petitioner and approved by the Commission are as given in the Table below:

Table 6.9: Approved number of consumers, connected load and sale of NDS-I category for FY 2018-19.

Particulars	No. of consumers	Connected Load (KW)	Sales (MU)
Projected	101339	118717	85.64
Approved			
Unmetered	3377	2117	1.31
Metered	97962	116600	84.33
Total	101339	118717	85.64

6.5.5 Non-Domestic Service - II (NDS-II)

(i) **Consumers :** NBPDCL has submitted that number of consumers are projected considering a growth rate of 5% on the number of consumers ending FY 2017-18.

It is noted that the 3 Year, 2 Year, 1 Year CAGRs are 34.88%, 29.05%, 28.00% respectively. However, the Commission considering a nominal growth rate of 10% over the projected number of consumers for FY 2017-18 and approves the number of consumers of NDS-II category as 259614 for FY 2018-19.

(ii) **Connected Load:** NBPDCL has submitted that for projecting connected load a growth rate of 2% on average load per consumer in FY 2017-18 is considered.

The average connected load per consumer of NDS-II in FY 2017-18 is 2.60 KW. Considering a growth rate of 2% it will be 2.65 KW per consumer and multiplying the same with approved number of consumers the Commission approves the connected load of NDS-II category as 688496 KW for FY 2018-19.

(iii) Sales: NBPDCL has submitted that for projecting the sales, no growth rate on average consumption per month in FY 2016-17 is considered.

However, the Commission considering a nominal growth rate of 5% over the average of consumption per month per consumer as per actual in FY 2016-17, approves the sales for NDS-II category as 670.45 MU for FY 2018-19.

The number of consumers, connected load and energy sales for FY 2018-19 projected by the Petitioner and approved by the Commission are as given in the Table below:

Table 6.10: Approved number of consumers, connected load and sale of NDS-II category for FY 2018-19.

Particulars	No. of consumers	Connected Load (KW)	Sales (MU)
Projected	236637	626922	698.84
Approved	259614	688496	670.45

6.5.6 Street Light (Metered) - SS - I

(i) Consumers : NBPDCL has submitted that the trend of number of consumers in this sub-category is quite uneven and for projecting number of consumers, a nominal growth rate of 5% has been assumed.

It is noted that there is a decreasing trend in growth of consumers of this category. The Petitioner has considered a nominal growth of 4.93% for estimating connections for FY 2017-18 (RE). Therefore, the Commission considers a growth rate of 5% on the number of consumers estimated for FY 2017-18 and approves the number of consumers of SS-I category as 157 for FY 2018-19 as projected by the Petitioner.

(ii) **Connected Load:** NBPDCL has submitted that for Demand side Management, 150 Watt lamps are replaced with 40/50 Watt sodium vapour lamps which has reduced the average connected load per consumer drastically in FY 2016-17. Therefore, average connected load per consumer for FY 2018-19 is considered same as during FY 2016-17.

The Commission accepted the reasoning of the petitioner and approves the connected load of SS-I category at 1064 KW for FY 2018-19 as projected by the Petitioner.

(iii) **Sales:** NBPDCL has submitted that the sale for FY 2018-19 are projected considering the average consumption per consumer per month during FY 2016-17.

The Commission accepts the reasoning of the petitioner and approves the sales for SS-I category as 6.88 MU for FY 2018-19 as projected by the petitioner.

The number of consumers, connected load and energy sales for FY 2018-19 projected by the Petitioner and approved by the Commission are as given in the Table below:

Table 6.11: Approved number of consumers, connected load and sale of SS-I category for FY 2018-19.

Particulars	No. of consumers	Connected Load (KW)	Sales (MU)
Projected	157	1064	6.88
Approved	157	1064	6.88

6.5.7 Street Light (Un-Metered) - SS - II

(i) **Consumers :** NBPDCL has submitted that for projecting number of consumers nominal growth rate of 5% is considered.

The Commission accepts the proposal of the Petitioner and approves the number of consumers of SS-II category as 125 for FY 2018-19 as projected by the Petitioner.

(ii) **Connected Load:** NBPDCL has submitted that for projecting the connected load the average load per consumer during FY 2016-17 is considered.

The Commission accepts the same and considers the connected load of SS-II category as 2577 KW for FY 2018-19as projected by Petitioner.

(iii) **Sales:** NBPDCL has submitted that for projecting the sales average consumption per consumer per month during FY 2016-17 is considered.

It is noted that petitioner has projected 9.96 MU for SS-II unmetered which works out to 322 units/kw/month. The approved norms for this category is 25 units/100Watt/month. The Commission based on the norm of 25 units/100Watt/month, approves the sales of SS-II unmetered category as 7.73 MU for FY 2018-19.

The number of consumers, connected load and energy sales for FY 2018-19 projected by the Petitioner and approved by the Commission are as given in the Table below:

Table 6.12: Approved number of consumers, connected load and sale of SS-II category for FY 2018-19.

Particulars	No. of consumers	Connected Load (KW)	Sales (MU)
Projected	125	2577	9.96
Approved	125	2577	7.73

6.5.8 IAS-I (Private Wells)

(i) **Consumers :** NBPDCL has submitted that the state has been taking major steps to ensure that a significant portion of the agriculture pump sets that are currently operating on Diesel Generating sets to be converted to operation on grid connected electricity and 11 Lakh Pump Sets are operating in Bihar and so the consumers in this category are increasing beyond normal CAGR. NBPDCL has submitted that for projecting the number of consumers approximately 1.18 Lakh new connections are considered.

The Commission has observed that 1,17,500 new connections are considered to be added during FY 2018-19. In view of the explanation given by the Petitioner, the Commission approves the number of consumers of IAS-I category as 1,50,147 for FY 2018-19 as projected by the Petitioner.

(ii) **Connected Load:** NBPDCL has submitted that for projecting the connected load a growth rate of 1.88% on average load per consumer for FY 2017-18 is considered.

It is observed that average connected load per consumer in FY 2016-17 is 3.24 KW and in FY 2017-18 (RE) is 3.30 KW i.e., an increase of 1.85%.

The Commission accepts the proposal of the Petitioner and approves the connected load of IAS-I category as 504792 KW for FY 2018-19 as projected by the petitioner.

(iii) **Sales:** NBPDCL has projected 338.00 MU submitting that for IAS-I category only 3 months consumption of 75% new connections to be added in FY 2018-19 is considered, since most of the connections will be released during the last quarter of FY 2018-19.

The Petitioner has projected 160.14 MU for IAS-I unmetered category. The average consumption per KW per annum works out to 670 kWh. The norm for this category as approved by the Commission in earlier years is 1485 kWh per KW per annum. As the projected consumption is within the limit of the approved norms, the Commission approves the sales of IAS-I category as 338.00 MU for FY 2018-19 as projected by Petitioner.

The number of consumers, connected load and energy sales for FY 2018-19 projected by the Petitioner and approved by the Commission are as given in the Table below:

Table 6.13: Approved number of consumers, connected load and sale of IAS-I category for FY 2018-19.

Particulars	No. of consumers	Connected Load (KW)	Sales (MU)
Projected	150147	504792	338.00
Approved			
Unmetered	40660	136698	160.14
Metered	109487	368094	177.86
Total	150147	504792	338.00

6.5.9 IAS-II (State Tube Wells)

(i) Consumers : NBPDCL has submitted that there is a constant growth of around 30% every year in this category; considered a nominal growth rate of 10%.

It is noted that there is increasing trend in growth of consumers of this category varying 31.02% to 68.83% during FY 2013-14 to FY 2016-17. Since this is a category of state tube wells, considering a nominal growth rate of 10% as proposed by the Petitioner on the number of consumers estimated for FY 2017-18, the Commission approves the number of consumers of IAS-II category as 6063 for FY 2018-19 as projected by the Petitioner.

(ii) Connected Load: NBPDCL has submitted that for projecting the connected load a growth rate of 0.39% (1 Year CAGR) on average load per consumer for FY 2017-18 is considered.

The average connected load, per consumer during FY 206-17 is 10.66 KW and in FY 2017-18 (RE) is 10.70 i.e., there is a growth of 0.38% in FY 2017-18 (RE).

The Commission considering a growth of 0.38% on average load per consumer in FY 2017-18, approves the connected load of IAS-II category as 65130 KW for FY 2018-19.

(iii) **Sales:** NBPDCL has submitted that the energy sales are projected considering the same average consumption per consumer per month as in FY 2016-17.

It is noted that the Petitioner has projected the energy sales at 99.91 MU for IAS-II unmetered which works out 2838.67 kWh per KW per annum. The norm for the category approved by the Commission is 3620 kWh per KW per annum. As the projected consumption is within the limit of approved norm the Commission approves the sales for IAS-II category at 184.88 MU for FY 2018-19, as projected by the Petitioner.

The number of consumers, connected load and energy sales for FY 2018-19 projected by the Petitioner and approved by the Commission are as given in the Table below:

Table 6.14: Approved number of consumers, connected load and sale of IAS-II category for FY 2018-19.

Particulars	No. of consumers	Connected Load (KW)	Sales (MU)
Projected	6063	65130	184.88
Approved			
Unmetered	2854	35196	99.91
Metered	3209	29934	84.97
Total	6063	65130	184.88

6.5.10 Public Water Works (PWW)

(i) **Consumers :** NBPDCL has submitted that for projecting number of consumers a nominal growth rate of 5% is considered as the variation in the corresponding period was uneven. The petitioner has projected the consumers as 917 considering a growth of 5% growth on 873 number projected for FY 2017-18.

It is noted that the number of consumers shown as per actuals for FY 2016-17 are 208 which is less than the number of consumers in earlier years. The number of consumers during FY 2013-14, FY 2014-15, FY 2015-16 are 530, 632, 679. However, the Commission considers a nominal Year on Year growth rate of 19% on the number of consumers of FY 2015-16 (for 3 Years) for estimating the consumers for FY 2018-19.

Accordingly, the Commission approves the number of consumers of PWW category as 904 for FY 2018-19.

(ii) **Connected Load:** NBPDCL has submitted that the connected load is projected by considering average load per consumer for FY 2017-18.

It is noted that the Petitioner has considered average load of 22.43 KW per consumer. The Commission considers the average connected load per consumer as per actuals of FY 2015-16 at 19.11 kWh. The Commission approves the connected load of PWW category as 17275 KW for FY 2018-19..

(iii) **Sales:** NBPDCL has submitted that for projecting energy sales the average consumption per consumer per month same as in FY 2016-17 is considered.

It is noted that the average consumption per consumer per month during FY 2016-17 is 12083.33 kWh and the same in FY 2015-16 is 3243.74 kWh.

The Commission considers the average consumption per consumer per month at 3243.74 kWh as per actuals of FY 2015-16 and considering a nominal growth rate of 5% on this specific consumption, approves the sales as 36.95 MU for PWW category for FY 2018-19.

The number of consumers, connected load and energy sales for FY 2018-19 projected by the Petitioner and approved by the Commission are as given in the Table below:

Table 6.15: Approved number of consumers, connected load and sale of PWW category for FY 2018-19.

Particulars	No. of consumers	Connected Load (KW)	Sales (MU)
Projected	917	20563	35.67
Approved	904	17275	36.95

6.5.11 LTIS- I

(i) **Consumers :** NBPDCL has submitted that for projecting the number of consumers growth rate of 10% is considered.

3 Year, 2 Year, 1 Year CAGRs are 37.26%, 29.13%, 15.18% respectively. Considering the CAGR of 15.18% (1 Year CAGR) the Commission approves the number of consumers as 15379 for LTIS-I category for FY 2018-19.

(ii) **Connected Load:** NBPDCL has submitted that for projecting the connected load average load per consumer as on 30th September, 2017 is considered.

It is observed that the Petitioner has considered average load per consumer as 7.40 KW which is very huge and , whereas the same as per actuals in FY 2016-17 is 1.97 KW. Considering, the average load per consumer as 1.97 KW, the Commission approves the connected load as 30297 KW for LTIS-I category for FY 2018-19.

(iii) **Sales:** NBPDCL has submitted that for projecting energy sales, average consumption per consumer per month in FY 2016-17 is considered.

It is noted that the average consumption per consumer per month is 1045.17 kWh in FY 2016-17 and the Petitioner has considered 1605.84 kWh for projecting sales for FY 2018-19.

The Commission considering a nominal growth rate of 5% on sales specific consumption in FY 2016-17 actuals, approves the sale as 202.53 MU for LTIS-I category for FY 2018-19.

The number of consumers, connected load and energy sales for FY 2018-19 projected by the Petitioner and approved by the Commission are as given in the Table below:

Table 6.16: Approved number of consumers, connected load and sale of LTIS-I category for FY 2018-19.

Particulars	No. of consumers	Connected Load (KW)	Sales (MU)
Projected	14028	103759	270.32
Approved	15379	30297	202.53

6.5.12 LTIS- II

(i) **Consumers :** NBPDCL has submitted that for projecting number of consumers no growth rate is considered. Since the historical trend of this category is uneven.

It is noted that the number of consumers are shown as 472, 940 and 653 for FY 2014-15, 2015-16 and FY 2016-17 i.e., higher number of consumers was considered during FY 2015-16.

The Commission considers a nominal growth of 5% on actual consumers of FY 2016-17 and approves the number of consumers as 686 for LTIS-II category for FY 2018-19.

(ii) **Connected Load:** NBPDCL has submitted that for projecting the connected load average load per consumer as in FY 2016-17 is considered.

It is noted that average load per consumer in FY 2016-17 is 51.14 KW. The Commission accepts the proposal of the Petitioner and multiplying the approved number of consumers by 51.17 KW, approves the connected load at 38082 KW for LTIS-II category for FY 2018-19.

(iii) Sales: NBPDCL has submitted that for projecting sales, average consumption per consumer per month is considered.

It is noted that the sales per consumer per month is 2290.71 kWh for FY 2016-17 and the Petitioner has considered the same as 3108.73 for FY 2018-19. There is negative growth during FY 2016-17 in the sales for this category. Therefore, the Commission considers the consumption per consumer per month at 2290.71 kWh as per actuals of FY 2016-17 and considering a nominal growth rate of 5% approves the sales for LTIS-II category as 19.80 MU for FY 2018-19.

The number of consumers, connected load and energy sales for FY 2018-19 projected by the Petitioner and approved by the Commission are as given in the Table below:

Table 6.17: Approved number of consumers, connected load and sale of LTIS-II category for FY 2018-19.

Particulars	No. of consumers	Connected Load (KW)	Sales (MU)
Projected	653	36820	24.36
Approved	686	38082	19.80

6.5.13 High Tension Supply – I (HTS-I)

(i) Consumers : NBPDCL has submitted that recently there is an increasing trend in addition of HTS-I category consumers due to conversion of LTIS consumers and addition of new consumers. NBPDCL has submitted that for projecting number of consumers a growth rate of 7.89% (1 Year CAGR) is considered.

It is noted that the CAGRs of 3 Year, 2 Year, 1Year are 23.18%, 18.23%, 7.89% respectively during the period FY 2013-14 to FY 2016-17. The Commission approves the total number of consumers as 1037 for HTS-I category for FY 2018-19 as projected by the petitioner.

(ii) **Connected Load:** NBPDCL has submitted that for projecting connected load, average load per consumer for FY 2016-17 is considered.

It is noted that the average connected load per consumer in FY 2016-17 is 213.45 KW. The Commission considers the connected load per consumer at 213.45 kW as per actuals of FY 2016-17 and multiplying with approved number of consumers approves the connected load for HTS-I category as 221348 KW for FY 2018-19.

(iii) **Sales:** NBPDCL has submitted that for projecting sales, average consumption per consumer per month in FY 2017-18 is considered.

It is noted that the average consumption per consumer per month for FY 2016-17 is 34915.76 kWh and the Petitioner has considered 34907.59 kWh for projecting the sales for FY 2018-19.

The growth in sales for this category during FY 2016-17 is less than that during FY 2016-17.

The Commission considers the average consumption per consumer per month as 34915.76 kWh as per actual of FY 2016-17 and escalating at a nominal growth rate of 5% approves the sales for HTS-I category as 456.22 MU for FY 2018-19.

The number of consumers, connected load and energy sales for FY 2018-19 projected by the Petitioner and approved by the Commission are as given in the Table below:

Table 6.18: Approved number of consumers, connected load and sale of HTS-I category for FY 2018-19.

Particulars	No. of consumers	Connected Load (KW)	Sales (MU)
Projected	1037	225715	434.39

Approved	1037	221348	456.22

6.5.14 High Tension Supply – II (HTS-II)

(i) **Consumers :** NBPDCL has submitted that for projecting the number of consumers no growth rate is considered and projected the consumers at 40 as projected for FY 2017-18.

The Commission has approved the number of consumers at 25 for FY 2017-18 based on past period numbers of consumers and hence approves the number of consumers for HTS-II category as 25 for FY 2018-19 as projected by the Petitioner.

(ii) **Connected Load:** NBPDCL has submitted that for projecting the connected load, average load per consumer for FY 2016-17 is considered.

It is noted that the average load per consumer in FY 2016-17 is 1665.44 KW. The Commission considers the average load per consumer at 1665.44 KW and multiplying with approved number of consumers, approves the connected load for HTS-II category as 41636 KW for FY 2018-19.

(iii) **Sales:** NBPDCL has submitted that for projecting the sales, average consumption per consumer per month for FY 2017-18 is considered.

It is noted that the average consumption per consumer per month in FY 2016-17 is 310800 kWh and the Petitioner has considered the same for projecting sales for FY 2018-19. There is a decreasing trend in growth rate of energy sales; 3 Year, 2 Year and 1 Year CAGRs are 7.93%, 8.62% and 6.45% respectively. The Commission considers the growth rate of only 6.45% (1 Year CAGR) on the specific consumption as per actual in FY 2016-17 and approves the sales for HTS-II category as 99.25 MU for FY 2018-19.

The number of consumers, connected load and energy sales for FY 2018-19 projected by the Petitioner and approved by the Commission are as given in the Table below:

Table 6.19: Approved number of consumers, connected load and sale of HTS-II category for FY 2018-19.

Particulars	No. of consumers	Connected Load (KW)	Sales (MU)
Projected	40	68018	149.33
Approved	25	41636	99.25

6.5.15 High Tension Supply – III (HTS-III)

(i) **Consumers :** NBPDCL has submitted that no growth rate is considered for projecting number of consumers.

Since this category is limited to 132 KV voltage level consumers, there are only limited number of consumers. The Commission considers the number of consumers for HTS-III category as 2 for FY 2018-19 as projected by Petitioner.

(ii) **Connected Load:** NBPDCL has submitted that for projecting the connected load, the average load per consumer for FY 2016-17 is considered.

The connected load per consumer as per actual of FY 2016-17 is 170850 KW, whereas the Petitioner has considered it as 17426.50 KW. The Commission considers the average load per consumers at 170850 KW and multiplying with the approved number of consumers, approves the connected load for HTS-III category as 34170 KW for FY 2018-19.

(iii) **Sales:** NBPDCL has submitted that for projecting sales an average consumption per consumer per month for FY 2016-17 is considered.

It is noted that there is a decreasing trend in growth rate of energy sales during FY 2016-17. The Commissions considers the consumption as per actuals of FY 2016-17 at 65.95 MU and approves the sales for HTS-III category as 65.95 MU for FY 2018-19 as projected by the petitioner.

The number of consumers, connected load and energy sales for FY 2018-19 projected by the Petitioner and approved by the Commission are as given in the Table below:

Table 6.20: Approved number of consumers, connected load and sale of HTS-III category for FY 2018-19.

Particulars	No. of consumers	Connected Load (KW)	Sales (MU)
Projected	2	34853	65.95
Approved	2	34170	65.95

6.5.16 High Tension Special Services (HTSS)

(i) **Consumers :** NBPDCL has submitted that no growth is considered for projecting number of consumers.

The Commission accepts the proposal of the Petitioner and approves the number of consumers of HTSS category at 5 for FY 2018-19 at the same level of FY 2017-18 (RE) as there are only limited number of consumers in this category.

(ii) **Connected Load:** NBPDCL has submitted that for projecting the connected load, average load per consumer for FY 2016-17 is considered.

It is noted that the average load per consumer in FY 2016-17 is 2147.40 KW. The Commission considers the averages load at 2147.40 KW per consumer and multiplying by number of approved consumers, approves the connected load for HTSS category as 10737 KW for FY 2018-19.

(iii) **Sales:** NBPDCL has submitted that for projecting energy sales, average consumption per consumer per month for FY 2016-17 is considered.

The average consumption per consumer in FY 2016-17 is 9.118 MU whereas, the Petitioner has considered 13.298 MU for projecting sales for FY 2018-19. The growth in sales for this category has increased from 14.80 Mu to 45.59 MU during FY 2016-17, even though there is no addition of new consumers. It is observed that there is an increasing trend in growth of sales. There was a growth of about 208% in sales for this category in FY 2016-17. Hence, the sales for HTSS category are approved as 66.49 MU for FY 2018-19 as projected by the petitioner.

The number of consumers, connected load and energy sales for FY 2018-19 projected by the Petitioner and approved by the Commission are as given in the Table below:

Table 6.21: Approved number of consumers, connected load and sale of HTSS category for FY 2018-19.

Particulars	No. of consumers	Connected Load (KW)	Sales (MU)
Projected	5	10952	66.49
Approved	5	10737	66.49

6.5.17 Railway Traction Service (RTS)

(i) **Consumers :** NBPDCL has submitted that for projecting number of consumers no growth rate is considered. The number of consumers is considered as 7, equivalent to last year.

The Commission has considered the number of consumers for RTS category as 7 for FY 2018-19 at the same level of FY 2017-18 which is also as per actuals of FY 2016-17 as no additions are expected during FY 2018-19.

(ii) **Connected Load:** NBPDCL has submitted that based on past trend in connected load, no growth rate is considered.

It is observed that the Petitioner has considered the contracted load of 54900 KW, same as per actuals in FY 2016-17. The Commission approves the connected load for RTS category as 54900 KW at the same level of FY 2016-17 as no growth is anticipated during FY 2018-19.

(iii) **Sales:** NBPDCL has submitted that for projecting sales no growth is considered.

Considering a nominal growth rate of 5% on the actual sales of FY 2016-17. The Commission approves the sales for RTS category as 65.80 MU for FY 2018-19.

The number of consumers, connected load and energy sales for FY 2018-19 projected by the Petitioner and approved by the Commission are as given in the Table below:

Table 6.22: Approved number of consumers, connected load and sale of RTS category for FY 2018-19.

Particulars	No. of consumers	Connected Load (KW)	Sales (MU)
Projected	7	54900	62.67
Approved	7	54900	65.80

6.5.18 Muzaffarpur Distribution Franchisee (DF)

NBPDCL has submitted that while projecting the sales and consumers for Muzaffarpur DF for FY 2018-19, 5% growth rate for consumers and average consumption per consumer per month of 252 kWh is assumed on projections of FY 2017-18 and projected the total number of consumers as 349042 and sales as 806 MU for FY 2018-19.

Category wise details of consumers, load and sales projected for FY 2018-19 are as given in the table below:

Table 6.23: Projected category-wise consumers, connected load and sales of Muzaffarpur DF for FY 2018-19

Sl. No	Category	Number of Consumers	Connected Load (KW)	Sales(MU)
1	**Domestic**	**314821**	**289249**	**442**
2	Kutir Jyoti BPL Consumers	151309	37827	91
3	Domestic-I	58946	63203	57
4	Domestic-II	104566	188219	295
5	**Commercial**	**30866**	**94983**	**104**
6	Non-Domestic-I	5748	7070	5
7	Non-Domestic-II	25118	87913	100
8	**Public Lighting**	**439**	**8996**	**36**

Sl. No	Category	Number of Consumers	Connected Load (KW)	Sales(MU)
10	Street Light-I	6	41	0
11	Street Light-II	433	8956	35
12	**Irrigation**	**555**	**3097**	**6**
13	IAS-I	384	1267	1
14	IAS-II	171	1830	6
15	**Public Water Works**	**65**	**1458**	**4**
16	**Industrial LT**	**2125**	**23088**	**31**
17	LTIS-I	1951	13744	22
18	LTIS-II	174	9344	9
19	**Industrial HT**	**171**	**47627**	**183**
20	HTS-I	164	35005	67
21	HTS-II	5	8327	15
22	HTS-III			
23	HTSS	2	**4295**	101
24	**Railway**			
25	**Total**	**349042**	**468498**	**806**

The Commission has directed the petitioner to submit the slab-wise details of consumer, connected load and sales. The petitioner in its Letter No. 165, dated 28.02.2018 has submitted that slab-wise number of consumers, connected load and energy sales of DF area for FY 2018-19 has not been projected in absence of such information pertaining to previous years.

The category-wise number of consumers for FY 2016-17 (Actuals), FY 2017-18 (RE) and FY 2018-19 (Projected) are as given below:

Sl. No	Category	Number of Consumers		
		FY 2016-17 (Actuals)	FY 2017-18 (RE) (Estimated)	FY 2018-19 (Projected)
1	Kutir Jyoti BPL Consumers	135901	144104	151309
2	Domestic-I	52943	56139	58946
3	Domestic-II	93918	99587	104566
4	Non-Domestic-I	5162	5474	5748
5	Non-Domestic-II	22560	23922	25118
6	Street Light-I	6	6	6
7	Street Light-II	389	412	433
8	IAS-I	345	366	384
9	IAS-II	154	163	171
10	Public Water Works	58	62	65

Sl. No	Category	Number of Consumers		
		FY 2016-17 (Actuals)	FY 2017-18 (RE) (Estimated)	FY 2018-19 (Projected)
11	LTIS-I	1752	1857	1951
12	LTIS-II	157	166	174
13	HTS-I	147	156	164
14	HTS-II	5	5	5
15	HTS-III	0	0	0
16	HTSS	2	2	2
17	**Railway**	**0**	**0**	**0**
18	**Total**	**313499**	**332421**	**349042**

From the above table the Commission has observed that for all categories, consumers are projected by escalating the consumers of each category at 5% without considering past trend or growth rate.

The Commission has computed the projections of category-wise number of consumers, connected load and sales for FY 2018-19 for Muzaffarpur DF as explained below:

(i) **Consumers:** The Commission considers the growth rates considered for estimating the category-wise number of consumers for FY 2017-18 (RE) and accordingly approves the number of consumers for Muzaffarpur DF for FY 2018-19 as given in the Table below:

Sl. No	Category	Consumers approved by Commission for FY 2017-18	Growth rate Considered by Commission	Consumers approved for FY 2018-19
1	Kutir Jyoti BPL Consumers	143910	5.90%	152400
2	Domestic-I	63530	20.00%	76236
3	Domestic-II	99130	5.55%	104632
4	Non-Domestic-I	6193	20.00%	7432
5	Non-Domestic-II	23584	4.74%	24702
6	Street Light-I	6		6
7	Street Light-II	410	5.42%	432
8	IAS-I	414	20.00%	497
9	IAS-II	185	20.00%	222
10	Public Water Works	70	20.00%	84
11	LTIS-I	2102	20.00%	2523

Sl. No	Category	Consumers approved by Commission for FY 2017-18	Growth rate Considered by Commission	Consumers approved for FY 2018-19
12	LTIS-II	163	4.06%	170
13	HTS-I	169	14.84%	194
14	HTS-II	5		5
15	HTS-III	0		0
16	HTSS	2		2
17	Railway	0		0
18	**Total**	**339874**		**369537**

(ii) **Connected Load:** Considering the average connected load projected for FY 2017-18 by the Petitioner and multiplying the same with approved number of consumers, the Commission approves the connected load for Muzaffarpur DF for FY 2018-19 as given in the Table below:

Sl. No.	Category	Average Connected Load per consumer per month (kW) for FY 2017-18 (RE)	Consumers approved for FY 2018-19	Connected load approved for FY 2018-19 (KW)
1	Kutir Jyoti BPL Consumers	0.25	152400	38100
2	Domestic-I	1.06	76236	80972
3	Domestic-II	1.80	104632	188338
4	Non-Domestic-I	1.23	7432	9141
5	Non-Domestic-II	3.50	24702	86458
6	Street Light-I	6.83	6	41
7	Street Light-II	20.68	432	8941
8	IAS-I	3.30	497	1640
9	IAS-II	10.70	222	2373
10	Public Water Works	22.44	84	1874
11	LTIS-I	7.04	2523	17773
12	LTIS-II	53.70	170	9129
13	HTS-I	213.45	194	41381
14	HTS-II	1665.40	5	8327
15	HTS-III		0	0
16	HTSS	2147.50	2	4295
17	Railway			
18	**Total**		**369537**	**498783**

(iii) **Sales:** The Commission has considered the average consumption per month per consumer as projected by the petitioner except for unmetered category for which norms are stipulated. Considering the average consumption per consumer per month and multiplying the same with approved number of consumers, the Commission approves the sales for Muzaffarpur DF for FY 2018-19 as given in the Table below:

Sl. No	Category	Average Consumption per consumer per month for FY 2017-18 (kWh)	Consumers approved for FY 2018-19	Sales approved for FY 2018-19 (MU)
1	Kutir Jyoti BPL Consumers	50.00	152400	91.44
2	Domestic-I	75	76236	68.61
3	Domestic-II	235.16	104632	295.27
4	Non-Domestic-I	50	7432	4.46
5	Non-Domestic-II	330.27	24702	97.90
6	Street Light-I	3611.11	6	0.26
7	Street Light-II	25 U/100 W	432	26.82
8	IAS-I	154.83	497	0.92
9	IAS-II	2806.75	222	7.47
10	Public Water Works	4677.42	84	4.69
11	LTIS-I	930.71	2523	28.18
12	LTIS-II	4342.37	170	8.86
13	HTS-I	33819.44	194	78.68
14	HTS-II	253333.33	5	15.20
15	HTS-III		0	0.00
16	HTSS	4220833.33	2	101.30
17	Railway		0	0.00
18	**Total**		**369537**	**830.06**

6.5.19 Nepal

Sales: NBPDCL has submitted that while projecting sales, no growth rate is considered, since Nepal has increased its installed capacity with new hydro power plants coming up in FY 2018-19. The Commission accepts the proposal of the Petitioner and consider sales to Nepal as 1188.89 MU as projected by Petitioner.

6.5.20 Summary of category-wise number of consumers connected load and energy sales approved for NBPDCL including Gaya DF for FY 2018-19 are as given in the Table below:

Table 6.24: category-wise number of consumers approved for NBPDCL and including Muzaffarpur DF for FY 2018-19

Category	NBPDCL	Muzaffarpur	Total
Domestic			
Kutir Jyoti			
Unmetered	15624		15624
Metered (0-50)	3140800		3140800
Total – KJ	3156424	152400	3308824
DS-I (Rural)			
Unmetered	637308		637308
Metered			
First 50 Units	1776739		1776739
51 - 100 Units	214678		214678
Above 100 Units	119688		119688
Total	2748412	76236	2824648
DS-II (Urban- Demand Based)			
1-100 U/Month	1089973		1089973
101 - 200 U/Month	175077		175077
201 -300 U/Month	80305		80305
above 300 U/Month	83182		83182
Total	1428537	104632	1533169
NDS-I (Rural)			
Unmetered	3377		3377
Metered			
1-100 U/Month	78106		78106
101 - 200 U/Month	8776		8776
above 200 U/Month	11081		11081
Total	101339	7432	108771
NDS-II (Demand Based)			
Contract Demand < 0.5 kW	8650		8650
Contract Demand > 0.5 kW			
First 100 Units	200094		200094
101 - 200 Units	22483		22483
Above 200 Units	28387		28387
Total	259614	24702	284316
IAS-I (Pvt Tubewell)			
Unmetered	40660		40660
Metered	109487		109487
Total	150147	497	150644
IAS-II (State Tubewell)			
Unmetered	2854		2854

Category	NBPDCL	Muzaffarpur	Total
Metered	3209		3209
Total	6063	222	6285
LTIS			
LTIS-I (Contract Demand < 19 kW)	15379	2523	17902
LTIS-II (Contract Demand 19-74 kW))	686	170	856
Total – LTIS	16065	2693	18758
PWW - Public Water Works			
PWW	904	84	988
Total PWW	904	84	988
Street Light Services			
SS-Metered	157	6	163
SS-Unmetered	125	432	557
Total - Street Light	282	438	720
HTS-I (11 kV)	1037	194	1231
HTS-II (33 kV)	25	5	30
HTS-III (132 kV)	2	0	2
HTS-IV (220 kV)	0	0	0
HTSS (33 / 11 kV)	5	2	7
Total - HTS & HTSS	1069	201	1270
RTS (132 kV)	7	0	7
Nepal	0	0	0
Total	**7868863**	**369537**	**8238400**

Table 6.25: Category-wise Connected Load approved for NBPDCL including Muzaffarpur DF for FY 2018-19

Category	NBPDCL	Muzaffarpur	Total
Domestic			
Kutir Jyoti			
Unmetered	3906		3906
Metered (0-50)	785200		785200
Total – KJ	789106	38100	827206
DS-I (Rural)			
Unmetered	746522		746522
Metered			
First 50 Units	2081214		2081214
51 - 100 Units	251467		251467
Above 100 Units	140198		140198
Total	3219401	80972	3300373
DS-II (Urban- Demand Based)			
1-100 U/Month	1340001		1340001
101 - 200 U/Month	215238		215238
201 -300 U/Month	98726		98726
above 300 U/Month	103619		103619
Total	1757584	188338	1945922
NDS-I (Rural)			
Unmetered	2117		2117
Metered			

Category	NBPDCL	Muzaffarpur	Total
1-100 U/Month	90256		90256
101 - 200 U/Month	11657		11657
above 200 U/Month	14687		14687
Total	118717	9141	127858
NDS-II (Demand Based)			
Contract Demand < 0.5 kW	12280		12280
Contract Demand > 0.5 kW			
First 100 Units	523434		523434
101 - 200 Units	67607		67607
Above 200 Units	85175		85175
Total	688496	86458	774954
IAS-I (Pvt Tubewell)			
Unmetered	136698		136698
Metered	368094		368094
Total	504792	1640	506432
IAS-II (State Tubewell)			
Unmetered	35196		35196
Metered	29934		29934
Total	65130	2373	67503
LTIS			
LTIS-I (Contract Demand < 19 kW)	30297	17773	48070
LTIS-II (Contract Demand 19-74 kW))	38082	9129	47211
Total - LTIS	68379	26902	95281
PWW - Public Water Works			
PWW	17275	1874	19149
Total PWW	17275	1874	19149
Street Light Services			
SS-Metered	1064	41	1105
SS-Unmetered	2577	8941	11518
Total - Street Light	3641	8982	12623
HTS-I (11 kV)	221348	41381	262729
HTS-II (33 kV)	41636	8327	49963
HTS-III (132 kV)	34170	0	34170
HTS-IV (220 kV)	0	0	0
HTSS (33 / 11 kV)	10737	4295	15032
Total - HTS & HTSS	307891	54003	361894
RTS (132 kV)	54900	0	54900
Nepal	0	0	0
Total	**7595312**	**498783**	**8094095**

Table 6.26 : Category-wise Energy Sales approved for NBPDCL including Muzaffapur DF for FY 2018-19

Category	NBPDCL	Muzaffarpur	Total
Domestic			
Kutir Jyoti			
Unmetered	9.37		9.37
Metered (0-50)	1505.71		1505.71
Total - KJ	1515.08	91.44	1606.52

Category	NBPDCL	Muzaffarpur	Total
DS-I (Rural)			
Unmetered	573.58		573.58
Metered			
First 50 Units	933.99		933.99
51 - 100 Units	160.07		160.07
Above 100 Units	555.59		555.59
Total	2223.25	68.61	2291.86
DS-II (Urban- Demand Based)			
1-100 U/Month	592.71		592.71
101 - 200 U/Month	454.65		454.65
201 -300 U/Month	353.11		353.11
above 300 U/Month	351.48		351.48
Total	1751.95	295.27	2047.22
NDS-I (Rural)			
Unmetered	1.31		1.31
Metered			
1-100 U/Month	42.43		42.43
101 - 200 U/Month	21.77		21.77
above 200 U/Month	20.13		20.13
Total	85.64	4.46	90.10
NDS-II (Demand Based)			
Contract Demand < 0.5 kW	10.26		10.26
Contract Demand > 0.5 kW			
First 100 Units	332.18		332.18
101 - 200 Units	170.42		170.42
Above 200 Units	157.59		157.59
Total	670.45	97.90	768.35
IAS-I (Pvt Tubewell)			
Unmetered	160.14		160.14
Metered	177.86		177.86
Total	338.00	0.92	338.92
IAS-II (State Tubewell)			
Unmetered	99.91		99.91
Metered	84.97		84.97
Total	184.88	7.47	192.35
LTIS			
LTIS-I (Contract Demand < 19 kW)	202.53	28.18	230.71
LTIS-II (Contract Demand 19-74 kW))	19.80	8.86	28.66
Total - LTIS	222.33	37.04	259.37
PWW - Public Water Works (Demand Based)			
PWW	36.95	4.69	41.64
Total PWW	36.95	4.69	41.64
Street Light Services			
SS-Metered	6.88	0.26	7.14
SS-Unmetered	7.73	26.82	34.55
Total - Street Light	14.61	27.08	41.69
HTS-I (11 kV)	456.22	79	534.90
HTS-II (33 kV)	99.25	15	114.45
HTS-III (132 kV)	65.95	0	65.95
HTS-IV (220 kV)	0.00	0	0.00
HTSS (33 / 11 kV)	66.49	101	167.79
Total - HTS & HTSS	687.91	195.18	883.09

Category	NBPDCL	Muzaffarpur	Total
RTS (132 kV)	65.80	0.00	65.80
Nepal	1188.89	0.00	1188.89
Total	**8985.84**	**830.06**	**9815.90**

6.6 Distribution Loss

Petitioner's Submission

NBPDCL has submitted that in FY 2017-18 and FY 2018-19, a large number of rural consumers are planned to be added to the DISCOM. This includes approximately 20 Lakh rural 25 Lakh urban consumers. Due to this addition in the number of consumers at a Low Tension level in rural areas, where the length of feeders are generally longer, the technical losses are expected to go up. Therefore for the DISCOM as a whole, it would not be possible to drastically reduce losses in FY 2018-19. Although the DISCOM is making the best possible efforts to reduce the losses with the introduction of feeder separation schemes, spot billing etc. and various other IT initiatives, the reduction in losses would still occur in a phased manner.

Given the fact that the DISCOMs of Bihar have already entered into a MoU which clearly lays out a loss reduction target agreed by the Government of Bihar and the Government of India, this target may be treated as the base for setting the loss reduction trajectory.

NBPDCL has submitted that the T&D loss reduction trajectory agreed between the Petitioner, Government of Bihar and Government of India in UDAY Scheme for FY 2018-19 is as given below:

Table 6.27: Distribution Loss Trajectory

Particulars	FY 2018-19
Distribution Loss	20%

NBPDCL has requested to approve the Distribution loss at 20% for FY 2018-19 accordingly.

Commission's Analysis

The Commission has approved the Distribution loss at 20% for FY 2018-19 in the Tariff Order of NBPDCL dated 24.03.2017. Therefore, the Commission approves the Distribution loss at 20% for FY 2018-19 as projected by the Petitioner.

As per UDAY MoU there is a provision viz., subsidy as Operational Funding Requirement (OFR) by State Government according to which the DISCOMs can approach the State Government towards providing grant for meeting additional power purchase costs if any, due to excess losses then stipulated by Commission. Since this provision is available upto FY 2019-20 only, the DISCOMs shall endeavour to achieve the target of AT&C losses at 15% by FY 2019-20.

6.7 State Transmission Loss

Petitioner's Submission

NBPDCL has submitted that the State transmission loss is considered at 3.92% for FY 2018-19.

Commission's Analysis

The Commission has approved State Transmission loss at 3.92% for FY 2018-19 in the Tariff Order of BSPTCL for FY 2018-19. Therefore, the Commission approves the State Transmission losses at 3.92% for FY 2018-19 for estimating the energy requirement.

Now there are two Transmission licensees in the State of Bihar viz., BSPTCL and BGCL. Therefore, NBPDCL and SBPDCL shall record, jointly with the concerned Transmission licensees, input energy at all their interface points for every month and compute the losses for BSPTCL and BGCL. The State transmission loss shall be submitted along with such details in the Tariff Petition.

6.8 Central Transmission Loss (CTU)

Petitioners Submission

NBPDCL has proposed CTU loss at 2.26% for FY 2018-19.

Commission's Analysis

The Commission has approved CTU loss at 2.26% for FY 2017-18 in the 'Review' and hence the CTU loss is considered at the same level for FY 2018-19 i.e., at 2.26% as projected by the Petitioner.

6.9 Power Purchase

Petitioners Submission

NBPDCL has submitted that the Discom's rely on allocation from central generating stations and state projects for procuring power for sale in the state. This power has been proposed to be allocated between north and south Bihar DISCOMs in the proportion as determined by the board resolution as detailed below:

Bihar State Power Holding Company Ltd (BSPHCL) issued vide its Resolution No.55-10 dated 14th July 2017 for approval regarding distribution of power purchase agreement between NBPDCL and NBPDCL. The notification states that,

"RESOLVED THAT Power Purchase & Transmission charges bills are to be admitted and payment by both discoms i.e NBPDCL and NBPDCL in the ratio 46:54 respectively w.e.f.1-4-2017subjected to the final reconciliation of actual consumption"

RESOLVED FURTHER THAT Chairman cum Managing Director, BSHPCL are here by authorized for deciding the power consumption ratio subsequently as per the actual consumption of both the DISCOMS based on the average consumption of the last 6 months of power drawal of both the discoms i.e. NBPDCL and NBPDCL".

NBPDCL has also submitted that the following new sources are considered for the power purchase projections for FY 2018-19

- Barh Stage-I, Unit-II has been considered to be available from January, 2019.
- Nabinagar Stage-I has been considered to be available from February, 2019
- 25MW from Unit-III of Nabinagar Railway project has been considered to be available in July 2018 and then subsequently 25MW from other Unit will be available from January 2019.

The availability of power from various sources to Bihar State and to the DISCOMs in the allocated ratio projected by the Petitioner are as shown in the Table below:

Table 6.28: Power availability projected for FY 2018-19 (in MW)

S. No.	Name of The Source	SBPDCL (FY 2018-19)	NBPDCL (FY 2018-19)	Bihar (FY 2018-19)
1	**Central Sector Stations**	**1,892.39**	**1,612.04**	**3,504.43**
2	Talcher – I (2 x 500 MW)	224.91	191.59	417
3	Farakka – I & II (1600 MW)	274.75	234.048	509
4	Farakka – III (500 MW)	58.32	49.68	108
5	Kahalgaon – I (840 MW)	191.65	163.254	355
6	Kahalgaon – II (1500 MW)	40.34	34.362	75
7	Barh-II	571.86	487.14	1059
8	Korba	-	0	0
9	Rangit – HEP	11.34	9.66	21
10	Teesta – HEP	58.55	49.8778	108
11	Chukha	43.2	36.8	80
12	Tala	140.45	119.646	260
13	Barh Stage-I (3 X 660 MW)	277.02	235.98	513
14	**State Generating Stations**	**521**	**443**	**964**
15	KBUNL 1	118.8	101.2	220
16	KBUNL 2	142.56	121.44	264
17	Small Hydro (BSHPCL)	5.4	4.6	10
18	Barauni Stage I	118.8	101.2	220
19	Barauni Stage II	135	115	250
20	**IPP**	**140.4**	**119.6**	**260**
21	GMR Kamalanga Energy	140.4	119.6	260
22	Adani Enterprises Limited	-	0	0
23	**JV projects**	**333.72**	**284.28**	**618**
24	Nabinagar Railway (4 X 250 MW)	54	46	100
25	Nabinagar Stage-I (3 X 660 MW)	279.54	238.28	518
26	Nabinagar JV (3 X 660 MW) Stage-II	-	0	0
27	**Renewable**	**120.96**	**103.04**	**224**
28	SECI	5.4	4.6	10
29	ACME Magadh	5.4	4.6	10
30	ACME Nalanda	8.1	6.9	15
31	Sunmark	5.4	4.6	10
32	Avantika	2.7	2.3	5
33	AZURE	5.4	4.6	10
34	Udipta Energy & Equipment Pvt ltd	2.7	2.3	5
35	Glatt	1.62	1.38	3
36	Welspun 2	8.1	6.9	15
37	Welspun 1	5.4	4.6	10
38	Alpha Infra Prop	10.8	9.2	20
39	Welspun 3	8.1	6.9	15

S. No.	Name of The Source	SBPDCL (FY 2018-19)	NBPDCL (FY 2018-19)	Bihar (FY 2018-19)
40	Response Renewable energy	5.4	4.6	10
41	New Swadeshi Sugar Mill,Narkatiaganj	3.78	3.22	7
42	Harinagar Sugar Mills,Harinagar	5.94	5.06	11
43	Bharat SugarMills,Sidhiwalia, Gopalganj	5.94	5.06	11
44	Lauriya Sugar Mill	10.8	9.2	20
45	Sugauli Sugar Mill	10.8	9.2	20
46	Hasanpur Sugar Mills,Samastipur	5.4	4.6	10
47	Riga Sugar Company Ltd,Sitamarhi	1.62	1.38	3
48	Siddhashram Rice Mill Pvt Ltd	0.54	0.46	1
49	Bihar Distillers and Bottlers Pvt Ltd	1.62	1.38	3
50	**Grand Total**	**3008.03**	**2,562.40**	**5,570.43**

NBPDCL has further submitted that the methodology considered for projecting Power purchase quantum (MU) is as mentioned below:

(i) The Plant Load Factor (PLF) for each plant has been calculated on actual basis and then highest among the following two plant load factors are considered for every month of FY 2018-19.

(a) Normative Plant Load Factor Plant (PLF) provided by Central Electricity Regulatory Commission (CERC) for the thermal and hydro plants and the auxiliary consumptions specified for plants. For the state plants, PLF highest among the PLF norms specified by BERC and the plant wise auxiliary consumption determined by BERC for thermal, and biomass has been considered. For the solar plants highest among the CUF of 19.

(b) Actual Plant Load Factor (PLF) of the thermal, hydro, biomass and solar plants in the same month of previous financial year i.e. FY 2017-18.

(ii) Considering the PLF as mentioned above and using the power purchase allocation data mentioned in the above table total number of units to be purchased were calculated from every source/ plant for every month separately.

(iii) The month-wise projections data of April, 2018 to March, 2019 is added to get the total power purchase.

NBPDCL has submitted that the total power purchase (MU) from various sources as provided in the Table below.

Table 6.29: Power Purchase Projected for FY 2018-19 (MU)

S. No.	Power Purchase Sources	Share Allocation (MW)	Energy (MU)
1	Central Sector Stations	1,612.04	10,351.32
2	Talcher – I (2 x 500 MW)	191.59	1,442.58
3	Farakka – I & II (1600 MW)	234.05	1,774.96
4	Farakka – III (500 MW)	49.68	382.44
5	Kahalgaon – I (840 MW)	163.25	1,239.97
6	Kahalgaon – II (1500 MW)	34.36	280.26
7	Barh-II	487.14	3,629.75
8	Korba	-	-
9	Rangit – HEP	9.66	56.95
10	Teesta – HEP	49.88	287.83
11	Chukha	36.80	297.19
12	Tala	119.65	526.14
13	Barh Stage-I (3 X 660 MW)	235.98	433.26
14	State Generating Stations	443.44	1,563.69
15	KBUNL 1	101.20	364.83
16	KBUNL 2	121.44	428.65
17	Small Hydro (BSHPCL)	4.60	2.85
18	Barauni Stage I	101.20	364.40
19	Barauni Stage II	115.00	402.96
20	IPP	119.60	953.08
21	GMR Kamalanga Energy	119.60	953.08
22	Adani Enterprises Limited	-	-
23	JV projects	284.13	458.96
24	Nabinagar Railway (4 X 250 MW)	46.00	256.65
25	Nabinagar Stage-I (3 X 660 MW)	238.13	202.31
26	Nabinagar JV (3 X 660 MW) Stage-II	-	-
27	Renewable	103.04	307.73
28	SECI	4.60	9.43
29	ACME Magadh	4.60	7.81
30	ACME Nalanda	6.90	11.54
31	Sunmark	4.60	7.80
32	Avantika	2.30	3.83

S. No.	Power Purchase Sources	Share Allocation (MW)	Energy (MU)
33	AZURE	4.60	7.67
34	Udipta Energy & Equipment Pvt ltd	2.30	3.83
35	Glatt	1.38	2.30
36	Welspun 2	6.90	11.61
37	Welspun 1	4.60	7.73
38	Alpha Infraprop	9.20	15.31
39	Welspun 3	6.90	11.66
40	Response Renewabe Energy	4.60	7.66
41	New Swadeshi Sugar Mill,Narkatiaganj	3.22	15.42
42	Harinagar Sugar Mills,Harinagar	5.06	31.78
43	Bharat SugarMills,Sidhiwalia, Gopalganj	5.06	30.38
44	Lauriya Sugar Mill	9.20	43.00
45	Sugauli Sugar Mill	9.20	42.26
46	Hasanpur Sugar Mills,Samastipur	4.60	21.12
47	Riga Sugar Company Ltd,Sitamarhi	1.38	6.34
48	Siddhashram Rice Mill Cluster Pvt Ltd	0.46	2.63
49	BDBPL	1.38	6.63
50	Open Market Purchase	-	-
51	IEX/PXIL	-	-
52	DB Power	-	-
53	JAYPEE NIGRIE	-	-
54	JPL	-	-
55	GMR ETL	-	-
56	TATA ETL	-	-
57	Manikaran Power	-	-
58	NEA	-	-
59	NVVNL	-	-
60	PVVNL	-	-
61	Adani Short Term	-	-
62	UI	-	-
63	**Sub Total Power Purchase**	2,562.24	13,634.79
64	Open Market Purchase		
65	**Transfer to Other Discom**		(476.95)
66	**Net Power Purchase**	**2,562.24**	**13,157.84**

NBPDCL has requested the to approve the aforementioned power purchase quantity for the period of FY 2018-19.

Commission's Analysis

NBPDCL has considered 46% of power (MW) available to Bihar State (BSPHCL) as its share as approved by BSP(H)CL out of the power allocation from each station/source for FY 2018-19. NBPDCL has computed the energy availability (MU) from each station by applying the PLF assumed on its share of power allocations.

NBPDCL has also considered power availability from the following new stations during FY 2018-19.

S. No.	Station	CoD	Allocation to BSP(H)CL (MW)	NBPDCL (MW) Share (46%)
1	Barh Stage – I Unit – II (660 MW)	January, 2019	513.00	235.98
2	Nabinagar Stage – I Unit –I (660 MW)	February, 2019	517.82	238.20
3	Nabinagar Railway Unit –III (250 MW)	July, 2019	25.00	11.50
	Nabinagar Railway Unit –IV (250 MW)	July, 2019	25.00	11.50

NBPDCL has submitted that it has projected the energy availability from allocated generating stations, month on month basis from April, 2018 to March, 2019 based on highest of the following two plant load factors:

(i) Normative Plant Load Factor (PLF) provided by CERC for thermal and hydro plants, for state plants PLF highest the among PLF norms determined by BERC, and for the solar plants at 19% CUF.

(ii) Actual Plant Load Factor (PLF) of the thermal , Biomass and solar plants in the same month of previous financial year FY 2017-18.

The Commission accepts the projection of power purchase made for CGS, SGS, IPPs , JV projects etc by the petitioner except for Barauni stage –I & II.

For Barauni – I&II, the energy generation approved for FY 2018-19 in the BSPGCL Tariff Order for FY 2018-19 is considered for projecting the power purchase.

The power purchase from Renewable sources is also considered as projected by the petitioner.

The petitioner has not projected power purchase from Korba-III for FY 2018-19. The Commission has learnt that allocations/ arrangements of power is available from this sources. On a query from the Commission the petitioner submitted vide letter no 169 dated 28.02.2018 that PPA was signed on 25.09.2017 for 25 MW for a period of 2 years. Out of this 11.5 MW and 84.46 MU is considered by the petitioner for FY 2018-19.

The Commission on the request of BSP(H)CL, has approved vide order dated 12.01.2018 for pre-ponement of power purchase from Jindal from 15.01.2018, with whom already PPA was signed on 06.05.2016 for a total capacity of 300 MW for a period of 13 years on "AS AND WHEN" basis.

On a query from the Commission the petitioner has submitted that DISCOMs are procuring power from 18.01.2018 and requested to consider power procurement from Jindal on "AS AND WHEN" basis while determination of ARR in the tariff order for FY 2018-19. The Commission considering PLF of 65% (based on PLF during FY 2017-18) 1708 MU are expected from this station for FY 2018-19 and hence 786 MU (46% of 1708) is considered for NBPDCL.

Based on allocation of power from various generating stations to Bihar, share of power to NBPDCL and the estimate of energy available from same, the Commission approves the power purchase from various stations/sourced for FY 2018-19 as given in the Table below:

Table 6.30: Source-wise Energy Purchase Considered for NBPDCL for FY 2018-19

S. No.	Power Purchase Sources	Share Allocation (MW)	Projected by Petitioner (MU)	Considered by the Commission (MU)
1	**Central Sector Stations**	**1,612.04**	**10,351.32**	**10,435.79**
2	Talcher – I (2 x 500 MW)	191.59	1,442.58	1,442.58
3	Farakka – I & II (1600 MW)	234.05	1,774.96	1,774.96
4	Farakka – III (500 MW)	49.68	382.44	382.44
5	Kahalgaon – I (840 MW)	163.25	1,239.97	1,239.97

S. No.	Power Purchase Sources	Share Allocation (MW)	Projected by Petitioner (MU)	Considered by the Commission (MU)
6	Kahalgaon – II (1500 MW)	34.36	280.26	280.26
7	Barh-II	487.14	3,629.75	3,629.75
8	Korba	-	-	84.46
9	Rangit – HEP	9.66	56.95	56.95
10	Teesta – HEP	49.88	287.83	287.83
11	Chukha	36.80	297.19	297.19
12	Tala	119.65	526.14	526.14
13	Barh Stage-I (3 X 660 MW)	235.98	433.26	433.26
14	**State Generating Stations**	**443.44**	**1,563.69**	**2,781.07**
15	KBUNL 1	101.20	364.83	364.83
16	KBUNL 2	121.44	428.65	428.65
17	Small Hydro (BSHPCL)	4.60	2.85	2.85
18	Barauni Stage I	101.20	364.40	546.09
19	Barauni Stage II	115.00	402.96	1438.65
20	**IPP**	**119.60**	**953.08**	**953.08**
21	GMR Kamalanga Energy	119.60	953.08	953.08
22	**JV projects**	**284.13**	**458.96**	**458.96**
23	Nabinagar Railway (4 X 250 MW)	46.00	256.65	256.65
24	Nabinagar Stage-I (3 X 660 MW)	238.13	202.31	202.31
25	Nabinagar JV (3 X 660 MW) Stage-II	-	-	-
26	**Renewable**	**103.04**	**307.73**	**307.74**
27	SECI	4.60	9.43	9.43
28	ACME Magadh	4.60	7.81	7.81
29	ACME Nalanda	6.90	11.54	11.54
30	Sunmark	4.60	7.80	7.8
31	Avantika	2.30	3.83	3.83
32	AZURE	4.60	7.67	7.67
33	Udipta Energy & Equipment Pvt ltd	2.30	3.83	3.83
34	Glatt	1.38	2.30	2.3
35	Welspun 2	6.90	11.61	11.61
36	Welspun 1	4.60	7.73	7.73
37	Alpha Infraprop	9.20	15.31	15.31
38	Welspun 3	6.90	11.66	11.66
39	Response Renewabe Energy	4.60	7.66	7.66
40	New Swadeshi Sugar Mill,Narkatiaganj	3.22	15.42	15.42
41	Harinagar Sugar Mills,Harinagar	5.06	31.78	31.78
42	Bharat SugarMills,Sidhiwalia, Gopalganj	5.06	30.38	30.38
43	Lauriya Sugar Mill	9.20	43.00	43
44	Sugauli Sugar Mill	9.20	42.26	42.26
45	Hasanpur Sugar Mills,Samastipur	4.60	21.12	21.12

S. No.	Power Purchase Sources	Share Allocation (MW)	Projected by Petitioner (MU)	Considered by the Commission (MU)
46	Riga Sugar Company Ltd,Sitamarhi	1.38	6.34	6.34
47	Siddhashram Rice Mill Cluster Pvt Ltd	0.46	2.63	2.63
48	BDBPL	1.38	6.63	6.63
49	**Open Market Purchase**	**-**	**-**	**786**
50	Jindal India Power Limited			786
51	IEX/PXIL	-	-	-
52	DB Power	-	-	-
53	JAYPEE NIGRIE	-	-	-
54	JPL	-	-	-
55	GMR ETL	-	-	-
56	TATA ETL	-	-	-
57	Manikaran Power	-	-	-
58	NEA	-	-	-
59	NVVNL	-	-	-
60	PVVNL	-	-	-
61	Adani Short Term	-	-	-
62	UI	-	-	-
63	**Sub Total Power Purchase**	**2,562.24**	**13,634.79**	**15,722.64**
64	**Transfer to other DISCOM**	**-**	**(476.95)**	
65	**Net Power Purchase**	**256.24**	**13157.84**	**15722.64**

6.10 Energy Balance

Petitioner’s Submission

NBPDCL has submitted that based on above discussed elements such as sales, losses & power availability, the projected energy balance for control period FY 2018-19 is as given in Table below:

Table 6.31: Energy Balance projected for FY 2018-19

S. No.	Particulars	Unit	Projected for FY 2018-19
1	Energy sales	MU	10131.00
2	Less: Energy supplied to DF area	MU	1058.00
3	Less: Sales to Nepal	MU	1188.89
4	Less: UI	MU	0.00
5	Energy sale excluding DF area and Nepal	MU	7884.11
6	**Distribution loss**	**%**	**20.00%**
7	Distribution loss	MU	1971.03

S. No.	Particulars	Unit	Projected for FY 2018-19
8	Energy required (3+5)	MU	9855.14
9	Add: Energy to DF area including loss for DF area	MU	1058.00
10	Energy required at Distribution periphery (7+8)	MU	10913.14
11	Add: Sales to Nepal	MU	1188.89
12	Total energy required (9+10)	MU	12102.03
13	**State Transmission loss**	**%**	**3.92%**
14	State Transmission loss	MU	493.75
15	Add: UI sales	MU	0.00
16	**Energy required at State Transmission periphery**	**MU**	**12595.79**
17	Net Power Purchase	MU	13157.84
18	Power Purchase from CGS, IPPs JVs	MU	0.00
19	**Losses in Regional Transmission System (excluding state generating stations)**	**%**	**2.26%**
20	Losses in Regional Transmission system (MU)	MU	281.02
21	Power Purchase from SGS	MU	442.08
22	Energy available at State Transmission Periphery	MU	12595.79
23	**Surplus energy (22-16)**		**0.00**

Commission's Analysis

The Commission has computed the energy balance as shown in the table below, based on the energy sales approved and T&D losses approved for FY 2018-19.

Table 6.32: Energy Balance considered for FY 2018-19

S. No.	Particulars	Unit	Projected by Petitioner for FY 2018-19	Considered by Commission for FY 2018-19
1	Energy sales	MU	10131.00	9815.90
2	Less: Energy supplied to DF area	MU	1058.00	0
3	Less: Sales to Nepal	MU	1188.89	1189
4	Less: UI	MU	0.00	0
5	Energy sale excluding DF area and Nepal	MU	7884.11	8626.91
6	**Distribution loss**	**%**	20.00%	**20.00%**
7	Distribution loss	MU	1971.03	2156.73
8	Energy required (3+5)	MU	9855.14	10783.64
9	Add: Energy to DF area including loss for DF area	MU	1058.00	0
10	Energy required at Distribution periphery (7+8)	MU	10913.14	10783.64
11	Add: Sales to Nepal	MU	1188.89	1189
12	Total energy required (9+10)	MU	12102.03	11972.63

S. No.	Particulars	Unit	Projected by Petitioner for FY 2018-19	Considered by Commission for FY 2018-19
13	**State Transmission loss**	**%**	3.92%	**3.92%**
14	State Transmission loss	MU	493.75	488.48
15	Add: UI sales	MU	0.00	0
16	**Energy required at State Transmission periphery**	**MU**	12595.79	12461.10
17	Power Purchase from CGS , SGS and others	MU	13157.84	15,722.64
18	UI	MU	0	0
19	Power purchase from CGS, IPPs and JVs	MU		12,633.83
20	**Losses in Regional Transmission System (excluding state generating stations)**	**%**	**2.26%**	**2.26%**
21	Losses in Regional Transmission system (MU)	MU	281.02	285.52
22	Power Purchase from SGS	MU	442.08	12348.31
23	Power Purchase from SGS, others	MU		3,088.81
24	Energy available at State Transmission Periphery	MU	12595.79	15,437.12
25	**Surplus energy (24-16)**		**0**	**2,976.01**

The Commission has observed that there is surplus energy than required for FY 2018-19. The Merit order of the stations / sources, other than must run stations, based on the variable cost as per actual during April 2017 to September 2017 in ascending order based on the variable cost considered are as given below:

Sl. No.	Power Purchase Sources	Energy Rate (Rs./kWh)
1	Jindal India Power Limited	1.01
2	GMR Kamalanga Energy	1.10
3	Korba	1.15
4	Teesta – HEP	1.16
5	Talcher – I (2 x 500 MW)	1.71
6	Nabinagar Stage-I (3 X 660 MW)	1.80
7	Rangit – HEP	1.83
8	Barh Stage-I (3 X 660 MW)	1.88
9	Nabinagar Railway (4 X 250 MW)	1.99
10	Tala	2.16
11	Chukha	2.29
12	Kahalgaon – II (1500 MW)	2.35
13	Barh-II	2.42
14	Kahalgaon – I (840 MW)	2.42
15	KBUNL 2	2.71
16	Farakka – I & II (1600 MW)	2.86

17	Farakka – III (500 MW)	2.88
18	KBUNL 1	3.44

Considering the above Merit order the Commission approves the power purchase from various sources for FY 2018-19 as given in the Table below:

Table 6.33: Power Purchase approved as per Merit order for NBPDCL for FY 2018-19

S. No.	Power Purchase Sources	Share Allocation (MW)	Projected by Petitioner (MU)	Approved by the Commission (MU)
1	**Central Sector Stations**	**1,612.04**	**10,351.32**	**8,202.79**
2	Talcher – I (2 x 500 MW)	191.59	1,442.58	1,442.58
3	Farakka – I & II (1600 MW)	234.05	1,774.96	976.23
4	Farakka – III (500 MW)	49.68	382.44	210.342
5	Kahalgaon – I (840 MW)	163.25	1,239.97	681.98
6	Kahalgaon – II (1500 MW)	34.36	280.26	280.26
7	Barh-II	487.14	3,629.75	2,925.57
8	Korba	-	-	84.46
9	Rangit – HEP	9.66	56.95	56.95
10	Teesta – HEP	49.88	287.83	287.83
11	Chukha	36.80	297.19	297.19
12	Tala	119.65	526.14	526.14
13	Barh Stage-I (3 X 660 MW)	235.98	433.26	433.26
14	**State Generating Stations**	**443.44**	**1,563.69**	**1,987.59**
15	KBUNL 1	101.20	364.83	
16	KBUNL 2	121.44	428.65	
17	Small Hydro (BSHPCL)	4.60	2.85	2.85
18	Barauni Stage I	101.20	364.40	546.09
19	Barauni Stage II	115.00	402.96	1438.65
20	**IPP**	**119.60**	**953.08**	**953.08**
21	GMR Kamalanga Energy	119.60	953.08	953.08
22	**JV projects**	**284.13**	**458.96**	**458.96**
23	Nabinagar Railway (4 X 250 MW)	46.00	256.65	256.65
24	Nabinagar Stage-I (3 X 660 MW)	238.13	202.31	202.31
25	Nabinagar JV (3 X 660 MW) Stage-II	-	-	-
26	**Renewable**	**103.04**	**307.73**	**307.74**
27	SECI	4.60	9.43	9.43
28	ACME Magadh	4.60	7.81	7.81
29	ACME Nalanda	6.90	11.54	11.54
30	Sunmark	4.60	7.80	7.8
31	Avantika	2.30	3.83	3.83
32	AZURE	4.60	7.67	7.67
33	Udipta Energy & Equipment Pvt ltd	2.30	3.83	3.83
34	Glatt	1.38	2.30	2.3

S. No.	Power Purchase Sources	Share Allocation (MW)	Projected by Petitioner (MU)	Approved by the Commission (MU)
35	Welspun 2	6.90	11.61	11.61
36	Welspun 1	4.60	7.73	7.73
37	Alpha Infraprop	9.20	15.31	15.31
38	Welspun 3	6.90	11.66	11.66
39	Response Renewabe Energy	4.60	7.66	7.66
40	New Swadeshi Sugar Mill,Narkatiaganj	3.22	15.42	15.42
41	Harinagar Sugar Mills,Harinagar	5.06	31.78	31.78
42	Bharat SugarMills,Sidhiwalia, Gopalganj	5.06	30.38	30.38
43	Lauriya Sugar Mill	9.20	43.00	43
44	Sugauli Sugar Mill	9.20	42.26	42.26
45	Hasanpur Sugar Mills,Samastipur	4.60	21.12	21.12
46	Riga Sugar Company Ltd,Sitamarhi	1.38	6.34	6.34
47	Siddhashram Rice Mill Cluster Pvt Ltd	0.46	2.63	2.63
48	BDBPL	1.38	6.63	6.63
49	**Open Market Purchase**	**-**	**-**	**786**
50	Jindal India Power Limited			786
51	IEX/PXIL	-	-	-
52	DB Power	-	-	-
53	JAYPEE NIGRIE	-	-	-
54	JPL	-	-	-
55	GMR ETL	-	-	-
56	TATA ETL	-	-	-
57	Manikaran Power	-	-	-
58	NEA	-	-	-
59	NVVNL	-	-	-
60	PVVNL	-	-	-
61	Adani Short Term	-	-	-
62	UI	-	-	-
63	**Sub Total Power Purchase**	**2,562.24**	**13,634.79**	**12,696.16**
64	**Transfer to other DISCOM**	**-**	**(476.95)**	
65	**Net Power Purchase**	**256.24**	**13157.84**	**12696.16**

The Commission has computed the energy balance after considering power purchase quantum based on the Merit Order as shown in the above Table.

Table 6.34: Revised Energy Balance Approved for FY 2018-19

S. No.	Particulars	Unit	Projected by Petitioner for FY 2018-19	Approved by Commission for FY 2018-19
1	Energy sales	MU	10131.00	9815.90
2	Less: Energy supplied to DF area	MU	1058.00	0
3	Less: Sales to Nepal	MU	1188.89	1189
4	Less: UI	MU	0.00	0
5	Energy sale excluding DF area and Nepal	MU	7884.11	8626.91
6	**Distribution loss**	**%**	20.00%	**20.00%**
7	Distribution loss	MU	1971.03	2156.73
8	Energy required (3+5)	MU	9855.14	10783.64
9	Add: Energy to DF area including loss for DF area	MU	1058.00	0
10	Energy required at Distribution periphery (7+8)	MU	10913.14	10783.64
11	Add: Sales to Nepal	MU	1188.89	1189
12	Total energy required (9+10)	MU	12102.03	11972.63
13	**State Transmission loss**	**%**	3.92%	**3.92%**
14	State Transmission loss	MU	493.75	488.48
15	Add: UI sales	MU	0.00	0
16	**Energy required at State Transmission periphery**	**MU**	12595.79	12461.10
17	Power Purchase from CGS , SGS and others	MU	13157.84	12,696.16
18	Power purchase from CGS, IPPs and JVs	MU		10,400.83
19	**Losses in Regional Transmission System (excluding state generating stations)**	**%**	**2.26%**	**2.26%**
20	Losses in Regional Transmission system (MU)	MU	281.02	235.06
21	Power Purchase from SGS	MU	442.08	10165.77
22	Power Purchase from SGS	MU		2,295.33
23	Energy available at State Transmission Periphery	MU	12595.79	12,461.10
24	**Surplus energy (24-16)**		**0**	**0.00**

6.11 Renewable Power Purchase Obligation

NBPDCL has submitted that they are already drawing solar power from a few sources like SECI, Welspun, ACME clean tech, Avantika and Azure Power. Petitioner has made a few tie ups with the solar power and non-solar power plants which shall add 58 MW (long term) and 18 to 21 MW under biomass and bagasse based cogeneration plants and also taking steps to add another 680MW of solar power from FY 2018-19 onwards but PPAs are still to be executed.

NBPDCL has submitted the details of RPO to be met for FY 2018-19 are as given in the Table below.

Table 6.35 : Renewable energy purchase obligation projected for FY 2018-19

S. No.	Particulars	Unit	FY 2018-19
1	Energy consumption excluding Nepal	MU	8942.11
2	% of RPO Obligation	%	9.25%
	Solar	%	3.25%
	Non-Solar	%	6.00%
3	MUs required as per RPO for the year	MU	827.15
	Solar	MU	290.62
	Non-Solar	MU	536.53
4	Solar Energy to be procured during the year	MU	290.62
5	Non-Solar Energy to be procured during the year	MU	536.53

NBPDCL has submitted that they have made plan to achieve target of solar power under RPO. The Petitioner has requested that the shortfall may please be allowed to carry forward to next year so as to meet the total RPO on cumulative basis.

Commission's Analysis

The renewable Energy (RE) to be procured as per RPO Regulations, the RR projected in the Petition and the balance RE to be procured are as given in the Table below:

Table 6.36: Renewable energy purchase obligation for FY 2018-19

S. No.	Particulars	Unit	FY 2018-19
1	Energy consumption excluding Nepal	MU	8626.91
2	% of RPO Obligation	%	9.25%
(i)	Solar	%	3.25%
(ii)	Non-Solar	%	6.00%
3	MUs required as per RPO for the year	MU	797.99
(i)	Solar	MU	280.37
(ii)	Non-Solar	MU	517.62
4	Solar Energy projected during the year	MU	108.18
5	Non-Solar Energy projected during the year	MU	199.56
6	Balance Solar to be procured	MU	172.19
7	Balance Non-solar to be procured	MU	318.06

The Commission has noted that the licensee has not projected the power purchase from solar and non-solar sources to fully meet the RPO requirement for FY 2018-19.

Now a day's solar power is abundantly available in states like Rajasthan, A.P etc., and similarly lot of wind power is available in states like Gujarat and Tamilnadu. Ministry of Power in their order dated 30th September, 2016 has removed Inter-state transmission charges and losses for certain solar and wind based energy generators so that RE power can be procured through open access. Further, CERC vide its order dated 31st March, 2017 has revised the RECs prices as below w.e.f., 01.04.2017.

Non-solar	Forbearance price	Rs. 3000/- per Mwh
	Floor Price	Rs. 1000/- per Mwh
Solar	Forbearance price	Rs. 2400/- per Mwh
	Floor Price	Rs. 1000/- per Mwh

NBPDCL is directed to put forth more efforts to procure the balance non-solar energy required to meet the RPO requirement or otherwise to purchase RECs to meet the RPO. This short fall in solar and non-solar power purchase is factored in the power purchase cost for FY 2018-19.

6.12 Power Purchase Cost

Petitioner's Submission

NBPDCL has submitted that the power purchase cost mainly comprises of fixed charges and energy charges for two part tariff stations i.e. NTPC, NHPC & PTC. The Petitioner has considered the actual energy charges and fixed cost for these power stations based on actual 12 months, month-wise data and actuals 6 months, month-wise information from April 2017 to September 2017.The average power purchase cost considered is as mentioned below.

(i) Petitioner has considered the new plants whose COD is in FY 2018-19, with the latest information on CoD, to ensure projections from realistic point of view.

(ii) The power purchase cost projections have been made by taking the average of fixed costs and fuel costs of the 12 months data of FY 2017-18 which consists 6 months actuals and 6 months projections as mentioned in the APR. Using this, projections for f FY 2018-19 have been made, month wise and then summation of cost is taken to arrive at total power purchase cost.

(iii) The fixed cost projected using the above mentioned method and kept constant for the period of FY 2018-19 is calculated as 1.32 INR/kWh The fuel costs have been projected by considering the average of fuel costs of the 12 months data of FY 2017-18 which consists 6 months actuals and 6 months projections as mentioned in the APR for NTPC plants.

(iv) The fuel costs computed by the above method is calculated to be 2.26 Rs./kWh

(v) The total cost of power purchase per unit has been calculated to be 4.36 Rs./kWh inclusive of all charges.

NBPDCL has projected the power purchase cost from various sources as shown in the Table below:

Table 6.37: Power Purchase Cost projected for FY 2018-19

S. No.	Power Purchase Sources	Ensuing Year (FY 18-19)								
		Share Allocation (MW)	Energy (MU)	Fixed Charge rate (Rs/MU)	Fixed charge (INR Cr)	Energy Rate (INR/kWh)	Energy Charge (INR Cr)	Other charges	Total Charges (INR Cr)	Avg. Tariff Rate (Rs./kWh)
1	Central Sector Stations	1,612.04	10,351.32	1.30	1,350.27	2.50	2,583.69	18.92	3,952.88	3.82
2	Talcher – I (2 x 500 MW)	191.59	1,442.58	0.89	129.07	1.60	230.90	7.82	367.79	2.55
3	Farakka – I & II (1600 MW)	234.05	1,774.96	0.98	174.28	2.82	501.37	8.71	684.35	3.86
4	Farakka – III (500 MW)	49.68	382.44	1.77	67.80	2.84	108.72	3.31	179.83	4.70
5	Kahalgaon – I (840 MW)	163.25	1,239.97	1.00	123.57	2.49	309.07	0.26	432.90	3.49
6	Kahalgaon – II (1500 MW)	34.36	280.26	0.88	24.54	2.43	68.10	0.05	92.69	3.31
7	Barh-II	487.14	3,629.75	1.97	716.73	2.92	1,061.32	(1.28)	1,776.77	4.90
8	Korba	-	-	-	-	-	-	-	-	-
9	Rangit – HEP	9.66	56.95	1.76	10.02	1.96	11.14	0.01	21.17	3.72
10	Teesta – HEP	49.88	287.83	0.91	26.27	1.16	33.39	0.07	59.73	2.08
11	Chukha	36.80	297.19	-	-	2.29	68.06	(0.03)	68.03	2.29
12	Tala	119.65	526.14	-	-	2.16	113.65	-	113.65	2.16
13	Barh Stage-I (3 X 660 MW)	235.98	433.26	1.80	77.99	1.80	77.99	-	155.97	3.60
14	State Generating Stations	443.44	1,563.69	0.70	109.68	3.66	572.47	-	682.15	4.36
15	KBUNL 1	101.20	364.83	1.41	51.29	3.41	124.36	-	175.65	4.81
16	KBUNL 2	121.44	428.65	1.36	58.30	3.22	138.03	-	196.32	4.58
17	Small Hydro (BSHPCL)	4.60	2.85	0.30	0.09	2.49	0.71	-	0.80	2.79
18	Barauni Stage I	101.20	364.40	-	-	4.10	149.40	-	149.40	4.10
19	Barauni Stage II	115.00	402.96	-	-	3.97	159.98	-	159.98	3.97
20	IPP	119.60	953.08	1.95	185.67	1.13	107.27	47.60	340.54	3.57
21	GMR Kamalanga Energy	119.60	953.08	1.95	185.67	1.13	107.27	47.60	340.54	3.57
22	Adani Enterprises Limited	-	-	-	-	-	-	-	-	-
23	JV projects	284.13	458.96	2.03	93.16	1.91	87.47	-	180.62	3.94

S. No.	Power Purchase Sources	Ensuing Year (FY 18-19)								
		Share Allocation (MW)	Energy (MU)	Fixed Charge rate (Rs/MU)	Fixed charge (INR Cr)	Energy Rate (INR/kWh)	Energy Charge (INR Cr)	Other charges	Total Charges (INR Cr)	Avg. Tariff Rate (Rs./kWh)
24	Nabinagar Railway (4 X 250 MW)	46.00	256.65	2.21	56.74	1.99	51.05	-	107.79	4.20
25	Nabinagar Stage-I (3 X 660 MW)	238.13	202.31	1.80	36.42	1.80	36.42	-	72.83	3.60
26	Nabinagar JV (3 X 660 MW) Stage-II	-	-	-	-	-	-	-	-	-
27	Renewable	103.04	307.73	-	-	3.99	122.68	-	122.68	3.99
28	SECI	4.60	9.43	-	-	5.62	5.31	-	5.31	5.62
29	ACME Magadh	4.60	7.81	-	-	8.73	6.82	-	6.82	8.73
30	ACME Nalanda	6.90	11.54	-	-	8.73	10.07	-	10.07	8.73
31	Sunmark	4.60	7.80	-	-	7.02	5.48	-	5.48	7.02
32	Avantika	2.30	3.83	-	-	7.69	2.94	-	2.94	7.69
33	AZURE	4.60	7.67	-	-	8.39	6.43	-	6.43	8.39
34	Udipta Energy & Equipment Pvt ltd	2.30	3.83	-	-	7.98	3.05	-	3.05	7.98
35	Glatt	1.38	2.30	-	-	7.02	1.61	-	1.61	7.02
36	Welspun 2	6.90	11.61	-	-	8.64	10.03	-	10.03	8.64
37	Welspun 1	4.60	7.73	-	-	8.70	6.73	-	6.73	8.70
38	Alpha Infraprop	9.20	15.31	-	-	7.02	10.75	-	10.75	7.02
39	Welspun 3	6.90	11.66	-	-	8.56	9.98	-	9.98	8.56
40	Response Renewabe Energy	4.60	7.66	-	-	7.02	5.37	-	5.37	7.02
41	New Swadeshi Sugar Mill,Narkatiaganj	3.22	15.42	-	-	-	-	-	-	-
42	Harinagar Sugar Mills,Harinagar	5.06	31.78	-	-	5.34	16.97	-	16.97	5.34
43	Bharat SugarMills,Sidhiwalia, Gopalganj	5.06	30.38	-	-	5.04	15.31	-	15.31	5.04
44	Lauriya Sugar Mill	9.20	43.00	-	-	-	-	-	-	-
45	Sugauli Sugar Mill	9.20	42.26	-	-	-	-	-	-	-
46	Hasanpur Sugar Mills,Samastipur	4.60	21.12	-	-	0.01	0.02	-	0.02	0.01
47	Riga Sugar Company Ltd,Sitamarhi	1.38	6.34	-	-	-	-	-	-	-
48	Siddhashram Rice Mill Cluster Pvt Ltd	0.46	2.63	-	-	7.41	1.95	-	1.95	7.41

S. No.	Power Purchase Sources	Ensuing Year (FY 18-19)								
		Share Allocation (MW)	Energy (MU)	Fixed Charge rate (Rs/MU)	Fixed charge (INR Cr)	Energy Rate (INR/kWh)	Energy Charge (INR Cr)	Other charges	Total Charges (INR Cr)	Avg. Tariff Rate (Rs./kWh)
49	BDBPL	1.38	6.63	-	-	5.80	3.85	-	3.85	5.80
50	Open Market Purchase	-	-	-	-	-	-	-	-	-
51	IEX/PXIL	-	-	-	-	-	-	-	-	-
52	DB Power	-	-	-	-	-	-	-	-	-
53	JAYPEE NIGRIE	-	-	-	-	-	-	-	-	-
54	JPL	-	-	-	-	-	-	-	-	-
55	GMR ETL	-	-	-	-	-	-	-	-	-
56	TATA ETL	-	-	-	-	-	-	-	-	-
57	Manikaran Power	-	-	-	-	-	-	-	-	-
58	NEA	-	-	-	-	-	-	-	-	-
59	NVVNL	-	-	-	-	-	-	-	-	-
60	PVVNL	-	-	-	-	-	-	-	-	-
61	Adani Short Term	-	-	-	-	-	-	-	-	-
62	UI	-	-	-	-	-	-	-	-	-
63	**Sub Total Power Purchase**	**2,562.24**	**13,634.79**	**1.28**	**1,738.77**	**2.55**	**3,473.59**	**66.52**	**5,278.88**	**3.87**
64	Transmission charges	-	-	-	-	-	-	-	667.21	-
65	PGCIL	-	-	-	-	-	-	-	319.75	-
66	POSOCO & SLDC Charges	-	-	-	-	-	-	-	5.73	-
67	BSPTCL charges	-	-	-	-	-	-	-	257.34	-
68	BGCL	-	-	-	-	-	-	-	84.39	-
69	**Total Power Purchase**	**2,562.24**	**13,634.79**	**1.28**	**1,738.77**	**2.55**	**3,182.93**	**66.52**	**5,946.09**	**4.36**
70	**Sale of Power to Other Discom**		**(476.95)**			**4.36**	**-208.00**		**-208.00**	**4.36**
71	**Net Power Purchase**	**2,562.24**	**13,157.84**	**1.32**	**1,738.77**	**2.26**	**2,974.93**	**66.52**	**5,738.09**	**4.36**

Commission's Analysis

The Power Purchase quantum (MU) for FY 2018-19 is considered based on the energy requirement of NBPDCL approved by the Commission (Table 6.33).

The Commission has considered the fixed charges and energy charges based on actuals as per bills for the months from April, 2017 to September, 2017 of FY 2017-18 as shown earlier in Table 5.24. However, in view of the increasing Coal and oil prices, the per unit rates are considered at a nominal escalation of 5%.

For BTPS Stage – I & II, the fixed and energy charges are considered as approved in the BSPGCL tariff order dated 07.03.2018 for FY 2018-19.

For Jindal the rate is considered as approved vide order dated 12.01.2018 (Case no 29/2017).

For Solar, Non-solar and Biomass, the rates are considered as per approved PPA, which are also same as per bills during FY 2017-18.

For new Plants, the rates are considered as projected by the Petitioner.
Other charges projected by the Petitioner are considered for power purchase from GMR, since open access charges are payable.

The power purchase cost approved for FY 2018-19 is as given in the Table below:

Table 6.38 : Power Purchase Cost approved for FY 2018-19

Sl. No.	Power Purchase Sources	Energy (MU)	Fixed Charge rate (Rs./kWh)	Fixed Charge (Rs. Cr)	Energy Rate (Rs./kWh)	Energy charge (Rs. Cr)	Other charges (Rs. Cr)	Total Charges (Rs. Cr)	Avg. Tariff Rate (Rs./kWh)
1	**Central Sector Stations**	**8202.79**	**1.74**	**1423.41**	**2.24**	**1840.79**	**0.00**	**3264.20**	**3.98**
2	Talcher – I (2 x 500 MW)	1442.58	0.94	135.55	1.71	247.34	0.00	382.89	2.65
3	Farakka – I & II (1600 MW)	976.23		178.53	2.86	278.78	0.00	457.31	4.68
4	Farakka – III (500 MW)	210.34		70.60	2.88	60.62	0.00	131.22	6.24
5	Kahalgaon – I (840 MW)	681.98		129.12	2.42	164.84	0.00	293.96	4.31
6	Kahalgaon – II (1500 MW)	280.26	0.93	26.10	2.35	65.85	0.00	91.95	3.28
7	Barh-II	2925.57		746.47	2.42	706.68	0.00	1453.15	4.97
8	Korba	84.46	1.42	11.99	1.15	9.71	0.00	21.71	2.57
9	Rangit – HEP	56.95	1.78	10.16	1.83	10.42	0.00	20.59	3.61
10	Teesta – HEP	287.83	0.92	26.49	1.16	33.39	0.00	59.88	2.08
11	Chukha	297.19	0.00	0.00	2.29	68.05	0.00	68.05	2.29
12	Tala	526.14	0.00	0.00	2.16	113.65	0.00	113.65	2.16
13	Barh Stage-I (3 X 660 MW)	433.26	2.04	88.39	1.88	81.45	0.00	169.84	3.92
14	**State Generating Stations**	**1987.59**	**3.59**	**713.47**	**2.45**	**486.84**	**0.00**	**1200.31**	**6.04**
15	KBUNL 1	0.00		53.99	3.44	0.00	0.00	53.99	
16	KBUNL 2	0.00		131.60	2.71	0.00	0.00	131.60	
17	Small Hydro (BSHPCL)	2.85			2.49	0.71	0.00	0.71	2.49
18	Barauni Stage I	546.09	1.21	66.08	2.79	152.36	0.00	218.44	4.00
19	Barauni Stage II	1438.65	3.21	461.81	2.32	333.77	0.00	795.57	5.53
20	**IPP**	**953.08**	**1.95**	**185.58**	**1.10**	**104.49**	**55.45**	**345.52**	**3.63**
21	GMR Kamalanga Energy	953.08	1.95	185.58	1.10	104.49	55.45	345.52	3.63
22	**JV projects**	**458.96**	**2.05**	**93.91**	**1.91**	**87.49**	**0.00**	**181.39**	**3.95**
23	Nabinagar Railway (4 X 250 MW)	256.65	2.24	57.49	1.99	51.07	0.00	108.56	4.23

Sl. No.	Power Purchase Sources	Energy (MU)	Fixed Charge rate (Rs./kWh)	Fixed Charge (Rs. Cr)	Energy Rate (Rs./kWh)	Energy charge (Rs. Cr)	Other charges (Rs. Cr)	Total Charges (Rs. Cr)	Avg. Tariff Rate (Rs./kWh)
24	Nabinagar Stage-I (3 X 660 MW)	202.31	1.80	36.42	1.80	36.42	0.00	72.83	3.60
25	Nabinagar JV (3 X 660 MW) Stage-II	-							
26	**Renewable**	**307.74**	**0.00**	**0.00**	**6.27**	**193.06**	**0.00**	**193.06**	**6.27**
27	SECI	9.43	-	-	5.85	5.52	-	5.52	5.85
28	ACME Magadh	7.81	-	-	8.73	6.82	-	6.82	8.73
29	ACME Nalanda	11.54	-	-	8.73	10.07	-	10.07	8.73
30	Sunmark	7.80	-	-	7.02	5.48	-	5.48	7.02
31	Avantika	3.83	-	-	7.69	2.95	-	2.95	7.69
32	AZURE	7.67	-	-	8.39	6.44	-	6.44	8.39
33	Udipta Energy & Equipment Pvt ltd	3.83	-	-	7.98	3.06	-	3.06	7.98
34	Glatt	2.30	-	-	7.02	1.61	-	1.61	7.02
35	Welspun 2	11.61	-	-	8.64	10.03	-	10.03	8.64
36	Welspun 1	7.73	-	-	8.7	6.73	-	6.73	8.70
37	Alpha Infraprop	15.31	-	-	7.87	12.05	-	12.05	7.87
38	Welspun 3	11.66	-	-	8.56	9.98	-	9.98	8.56
39	Response Renewabe Energy	7.66	-	-	7.02	5.38	-	5.38	7.02
40	New Swadeshi Sugar Mill,Narkatiaganj	15.42	-	-	4.57	7.05	-	7.05	4.57
41	Harinagar Sugar Mills,Harinagar	31.78	-	-	5.34	16.97	-	16.97	5.34
42	Bharat SugarMills,Sidhiwalia, Gopalganj	30.38	-	-	5.04	15.31	-	15.31	5.04
43	Lauriya Sugar Mill	43.00	-	-	5.34	22.96	-	22.96	5.34
44	Sugauli Sugar Mill	42.26	-	-	5.34	22.57	-	22.57	5.34
45	Hasanpur Sugar Mills,Samastipur	21.12	-	-	5.97	12.61	-	12.61	5.97

Sl. No.	Power Purchase Sources	Energy (MU)	Fixed Charge rate (Rs./kWh)	Fixed Charge (Rs. Cr)	Energy Rate (Rs./kWh)	Energy charge (Rs. Cr)	Other charges (Rs. Cr)	Total Charges (Rs. Cr)	Avg. Tariff Rate (Rs./kWh)
46	Riga Sugar Company Ltd,Sitamarhi	6.34	-	-	5.84	3.70	-	3.70	5.84
47	Siddhashram Rice Mill Cluster Pvt Ltd	2.63	-	-	7.41	1.95	-	1.95	7.41
48	BDBPL	6.63	-	-	5.8	3.85	-	3.85	5.80
49	**Open Market Purchase**	**786.00**	**2.08**	**163.49**	**1.01**	**79.39**	**0.00**	**242.87**	**3.09**
50	Jindal India power Limited	786.00	2.08	163.49	1.01	79.39	0.00	242.87	3.09
51	IEX/PXIL								
52	DB Power								
53	JAYPEE NIGRIE								
54	JPL								
55	GMR ETL								
56	TATA ETL								
57	Manikaran Power								
58	NEA								
59	NVVNL								
60	PVVNL								
61	Adani Short Term								
62	**Sub Total Power Purchase**	**12696.16**	**2.032**	**2579.86**	**2.199**	**2792.05**	**55.45**	**5427.36**	**4.275**
63	Solar REC to meet RPO (172.1)				1.00	17.21		17.21	
64	Non Solar REC to meet RPO (318.05)				1.00	31.81		31.81	
65	**Total Power Purchase Cost**	**12696.16**	**2.032**	**2579.86**	**2.238**	**2841.08**	**55.45**	**5476.38**	**4.313**

6.13 Transmission Charges

Petitioner's Submission

NBPDCL has submitted that they have to pay transmission charges to PGCIL for use of transmission facilities enabling power drawl from eastern region. The calculation of PGCIL charges is done by taking the average of FY 2017-18 which includes 6 months actuals, 6 months projections and then adding some growth rate as per the increase in the power purchase. Further the Petitioner also pays BSPTCL, POSOCO charges and Open Access charges which are projected in the similar way as projected for PGCIL charges.

NBPDCL has requested to approve the transmission and related charges for inter-state as well as intra-state transmission transactions for FY 2018-19 as shown in the Table below.

Table 6.39: Transmission charges projected for FY 2018-19

(Rs. Crore)

S. No.	Particulars	Transmission Charge
1	PGCIL Charge	319.75
2	POSOCO & ELDC Charges	5.73
3	BSPTCL charges	257.34
4	BGCL Charges	84.39
5	**Total Transmission Purchase**	**667.21**

Commission's Analysis

The Commission has noted that SBPDCL has projected the Transmission charges payable for FY 2018-19 at the same level as projected for FY 2017-18 (RE) without considering any growth rate but stated in their statement above that some growth rate as per increase in power purchase is added. However, The Commission approves the transmission charges for FY 2018-19 as explained below:

(A.) PGCIL & POSOCO Charges

The Commission approves PGCIL and POSOCO charges for FY 2018-19 by escalating the PGCIL and POSOCO charges considered in FY 2017-18(RE) by nominal growth of 5%. Therefore, the Commission approves the PGCIL and POSOCO charges for FY

2018-19 as Rs. 388.19 Crore and Rs. 2.28 Crore respectively.

(B.) BSPTCL Transmission Charges

The Commission has approved total transmission charges of BSPTCL at Rs. 1194.37 crore for FY 2018-19 in BSPTCL Tariff Order dated 07.03.2018. The Commission has allocated an amount of Rs. 644.96 crore to NBPDCL and Rs. 549.41 crore to NBPDCL in their power purchase sharing ratio of 54: 46 respectively. Accordingly, the Commission has considered Rs. 549.41 crore towards BSPTCL transmission charges for FY 2018-19 and included the same in the Power purchase cost of NBPDCL for FY 2018-19.

(C.) Bihar Grid Company Limited (BGCL) Transmission Charges

The Commission has approved total transmission charges of BGCL at Rs. 276.24crore for FY 2018-19 in BGCL tariff order dated 07.03.2018. The Commission has allocated Rs.149.17 crore to NBPDCL and Rs. 127.07 crore to NBPDCL in their power purchase sharing ratio of 54:46 respectively. Accordingly, the Commission has considered Rs. 127.07 crore towards BGCL transmission charges for FY 2018-19 and included the same in the Power purchase cost of NBPDCL for FY 2018-19.

(D.) SLDC Charges

The Commission has approved total SLDC charges at Rs. 4.28 crore for FY 2018-19 in SLDC tariff order dated 07.03.2018 and an amount of Rs. 2.31 crore is allocated to NBPDCL and Rs. 1.97 crore is allocated to NBPDCL in their power purchase sharing ratio of 54 : 46 respectively. Accordingly, the Commission has considered Rs. 1.97 crore towards SLDC charges for FY 2018-19 and included the same in the Power purchase cost of NBPDCL for FY 2018-19.

The transmission charges approved for FY 2018-19 are shown in the Table below:

Table 6.40: Transmission charges approved for FY 2018-19

(Rs. Crore)

S. No.	Particulars	Projected for FY 2018-19	Approved by the Commission for FY 2018-19
1	PGCIL Charge + ULDC	319.75	388.19
2	POSOCO & ELDC Charges	5.73	2.28
3	BSPTCL charges	257.34	549.41
4	SLDC Charges	-	1.97
5	BGCL Charges	84.39	127.07
6	**Total Transmission Purchase**	**667.21**	**1068.91**

6.14. Total Power Purchase Cost

The Commission approves the power purchase cost to NBPDCL as detailed below:

Table 6.41: Power Purchase cost approved for FY 2018-19

(Rs. Crore)

Sl. No.	Particulars	Projected	Approved
1	Power purchase cost	5278.88	5427.36
2	PGCIL Charges + POSOCO	325.48	390.46
3	BSPTCL charges	257.34	549.41
4	SLDC charges	-	1.97
5	BGCL Charges	84.39	127.07
6	**Power purchase cost**	**5946.09**	**6496.27**

Power Purchase cost	: Rs. 5427.36 Crore
PGCIL Charges (including POSOCO)	: Rs. 390.46 Crore
Total	: Rs. 5817.82 Crore
Energy purchased (Excluding PGCIL losses)	: 12461.10 MU
Average Power Purchase Cost	: Rs.4.67/ kWh

6.15 Net Power Purchase Cost

The generating companies and transmission licensees provides 2% rebate on the bills on immediate payment through letter of credit as per CERC Tariff Regulations 2014 and BERC Tariff Regulation, 2007 and 1% rebate on payment within 30 days from production of such bills. Since adequate interest for working capital is provided in the ARR, the Discom shall endeavour to make payment of the bills of Gencos and Transcos at atleast within one month from production of such bills so as to avail this opportunity and reduce their power purchase costs. Accordingly, the Commission approved power purchase cost (net of rebate) as detailed below:

Table 6.42: Net Power Purchase cost approved for FY 2018-19

Sl. No.	Particulars	FY 2018-19 (Rs. Crore)
1	Power purchase cost	5427.36
2	Transmission charges	1068.91
3	**Power purchase cost (1+2)**	6496.27
4	Less: Rebate 1% on 3	64.96
5	**Net Power Purchase cost (3-4)**	6431.31
6	Cost of RECs	49.02
7	**Total Power Purchase cost (5+6)**	**6480.33**

6.16 Capital Expenditure

Petitioner's submission:

NBPDCL has submitted the scheme-wise capital investment for FY 2018-19 in Annexure-XII (C) of the petition as given in the table below:

Table 6.43: Capital Investment projected for FY 2018-19

(Rs. Crore)

Sl. No.	Planned Scheme	Projected by NBPDCL for FY 2018-19
1	IPDS	579.55
2	DDUGJY	2046.64
	Total	**2626.19**

Commission's analysis:

The Commission has examined the capital expenditure projected by NBPDCL for FY 2018-19. The Commission had approved capital expenditure of Rs.127.01 crore and capitalisation at Rs.1887.44 crore for FY 2018-19 in the MYT Order dated 21.03.2016 based on the business plan submitted by the Petitioner and approved by the Commission.

The Commission observes that the Petitioner had revised the capital investment plan for FY 2018-19.

The Petitioner has projected capital investment under DDUGJY scheme under which DDG (Decentralised Distribution Generation) scheme is proposed to be implemented under standalone system for providing power supply to the areas where the state grid has not reached. The Commission, vide letter no.BERC Case no.40/17-210 dated 22.2.2018, addressed the petitioner to furnish the details of capital expenditure incurred and funding received under DDUGJY relating to DDG project for considering the investment plan for FY 2017-18 and FY 2018-19. The Petitioner vide letter no.NB/COM/BERC-74/2017 (PART) 174 dated 28.02.2018 has submitted DDG scheme works have been started after principal approval received from REC for implementation. DDG scheme is now a part of “Pradhan Mantri Sahaj Bijli Har Ghar Yojana (Saubhagya) Scheme. The DDG scheme being implemented in Bihar is Standalone system and Mini grid plants. Hence full clarity on this scheme regarding its funding will be available after clarification from REC/MoP. The Capitalisation of DDG project has not been considered as a part of projected capitalisation plan in the tariff petition filed for FY 2018-19. As such, the capital investment relating to DDG works shall be adjusted on completion and capitalisation of capex in respect of DDG scheme based on actual capex and funding data received from the Petitioner.

The Commission opines that the Petitioner shall be in a better position to project the capex based on the year on year requirement of distribution system improvement, strengthening, load growth, etc. and accordingly considers provisionally the capex plan for FY 2018-19 as projected by the Petitioner.

The Commission provisionally approves the scheme-wise capital investment for FY 2018-19 as given in the Table below:

Table 6.44: Capital Investment approved for FY 2018-19

(Rs. Crore)

Sl. No.	Name of the Scheme	Projected by NBPDCL for FY 2018-19	Approved for FY 2018-19

1	IPDS	579.55	579.55
2	DDUGJY	2046.64	2046.64
	Total	**2626.19**	**2626.19**

6.17 Capitalisation

Petitioner's submission:

NBPDCL has submitted that capitalisation of investment is considered at 80% of opening capex and 20% of new investment would capitalise year on year. NBPDCL has submitted the details of opening CWIP, investment during the year, capitalisation and funding of capex for FY 2018-19 as detailed in the Table below:

Table 6.45: CWIP, Capitalisation and Funding of capitalisation projected for FY 2018-19

(Rs. Crore)

Sl. No.	Particulars	Projected by NBPDCL for FY 2018-19
1	Opening CWIP	11093.44
2	New Investment	2626.19
3	**Less: Capitalisation (4+5)**	**2947.61**
4	Opening CWIP	2358.09
5	New Investment	589.52
6	**Closing CWIP (1+2-3)**	**10772.02**
7	**Funding**	
8	**CWIP Capitalisation (9+10+11)**	**2358.09**
9	Grant	1312.26
10	Equity	611.51
11	Loan	434.32
12	**New Investment (13+14+15)**	**589.52**
13	Grant	328.06
14	Equity	152.88
15	Loan	108.58
16	**Total Capitalisation (8+12)**	**2947.61**
17	**Total Grant (9+13)**	**1640.32**
18	**Total Equity (10+14)**	**764.39**
19	**Total Loan (11+15)**	**542.90**

Commission's analysis:

NBPDCL has proposed capitalisation of opening CWIP @80% and new investment @20% for FY 2018-19. However, it is observed that the capitalisation against opening CWIP works out to around 21% and capitalisation against new investment works out to around 22% .

The Petitioner has furnished the details of scheme-wise capitalisation and funding thereon for FY 2018-19 in Annexure-XII (C) of the petition. As per the details the capitalisation is at Rs.2947.61 crore for FY 2018-19.

The Petitioner vide letter no.COM/NB/74/17 (PART) 186 dated 07.03.2018 has submitted that Govt. of india has launched "Pradhan Mantri Sahaj Bijli Har Ghar Yojana" popularly known as Saubhagya Scheme to achieve universal household electrification in the Country. The scheme has provision of providing free electricity connections to the economically poor households (identified under Socio Economic Caste Census 2011) and connection to APL (Above Poverty Line) households with consumer contribution of Rs.500. The Scheme is funded through Grant from GoI and the Discoms shall collect Rs.500 per household in 10 equal monthly instalments. The amount collected shall be refunded to GoI. Release of number of services and collection of consumer contribution shall be known only on implementation and completion of scheme and accordingly the grants shall be adjusted by consumer contribution in the relevant year. As such, the funding pattern of APL connections as submitted by the petitioner is provisionally considered subject to the re-appropriation on capitalisation on completion.

The Commission opines that the Petitioner shall be in a better position to project the capitalisation based on the programme of implementation and completion of the schemes. The Commission has provisionally considered capitalisation at Rs.2947.61 crore as projected by the Petitioner.

The Commission has considered funding of capitalisation for FY 2018-19 as given in the Table below:

Table 6.46: Scheme wise funding of capitalization considered for FY 2018-19

(Rs. Crore)

Sl.	Planned Scheme	Funding of Capitalisation for FY 2018-19

No.		Grant	Equity	Loan	Total
1	BRGF		480.47		480.47
2	NABARD Phase VIII	7.33			7.33
3	NABARD Phase XI	5.88			5.88
4	MP/CM LAD	7.21			7.21
5	RGGVY	862.99		95.89	958.88
6	IPDS	556.38	92.72	278.18	927.28
7	DDUGJY	196.48	32.75	98.24	327.46
8	RAPDRP			53.90	53.90
9	State Plan		115.60		115.60
10	ACA State plan		8.08		8.08
11	Burnt meters State plan		34.78		34.78
12	ADB			16.69	16.69
13	Deposit scheme	4.05			4.05
14	**Total**	**1640.32**	**764.39**	**542.90**	**2947.61**

The Commission has considered the capital investment, capitalisation and funding of capitalisation for FY 2018-19, as detailed in the Table below:

Table 6.47: CWIP, Capitalisation and funding Considered for FY 2018-19

(Rs. Crore)

Sl. No.	Particulars	Approved for FY 2018-19 in MYT order dated 21.03.2016	Projected by NBPDCL for FY 2018-19	Approved for FY 2018-19
1	Opening CWIP	3876.30	11093.44	11093.45
2	New Investment	127.01	2626.19	2626.19
3	**Less: Capitalisation (4+5)**	**1887.44**	**2947.61**	**2947.61**
4	Opening CWIP	1823.93	2358.09	2358.09
5	New Investment	63.51	589.52	589.52
6	**Closing CWIP (1+2-3)**	**2115.87**	**10772.02**	**10772.03**
7	**Funding**			
8	**CWIP Capitalisation (9+10+11)**	**1823.93**	**2358.09**	**2358.09**
9	Grant	1823.93	1312.26	1312.26
10	Equity	--	611.51	611.51
11	Loan	--	434.32	434.32
12	**New Investment (13+14+15)**	**63.51**	**589.52**	**589.52**
13	Grant	63.51	328.06	328.06
14	Equity	--	152.88	152.88
15	Loan	--	108.58	108.58
16	**Total Capitalisation (8+12)**	**1887.44**	**2947.61**	**2947.61**

Sl. No.	Particulars	Approved for FY 2018-19 in MYT order dated 21.03.2016	Projected by NBPDCL for FY 2018-19	Approved for FY 2018-19
17	**Total Grant (9+13)**	**1887.44**	**1640.32**	**1640.32**
18	**Total Equity (10+14)**	**--**	**764.39**	**764.40**
19	**Total Loan (11+15)**	**--**	**542.90**	**542.90**

6.18 Interest during Construction (IDC)

Petitioner's submission

NBPDCL has not projected IDC charged on the actual loan drawl during the year.

Commission's analysis:

The Commission has observed from the audited accounts for FY 2016-17, the Petitioner is not charging the IDC to the capital works. Similarly, no IDC is charged to capex in earlier year audited accounts also. As such, the Commission has not considered IDC for FY 2018-19.

6.19 Gross Fixed Assets

Petitioner's submission

NBPDCL has submitted the computation of GFA based on the opening GFA, capitalisation, IDC and Employee cost capitalised for FY 2018-19 as detailed in the Table below:

Table 6.48: Gross Fixed Assets projected for FY 2018-19

(Rs. Crore)

Sl. No.	Asset group	Closing balance at the end FY 2017-18	Addition during the year 2018-19	Closing balance at the end of FY 2018-19
1	Land and land rights	1060.10	71.29	1131.39
2	Buildings	39.27	1.87	41.14

3	Hydraulic works	--	--	--
4	Other civil works	8.43	4.27	12.70
5	Plant and Machinery	749.17	153.03	902.20
6	Lines and Cable net work	5565.20	2712.06	8277.26
7	Vehicles	1.54	0.02	1.57
8	Furniture and Fixtures	3.64	0.95	4.59
9	Office equipment	7.15	4.11	11.27
10	Spare Units/Service Units	14.03	--	14.03
11	Assets taken over from licensees pending final valuation	0.84	--	0.84
12	Total	7449.37	2947.61	10396.98

Commission's analysis:

The Commission has adopted the opening GFA for FY 2018-19 based on the closing GFA approved (Rs.7449.36 Crore) for FY 2017-18 in review and further updated with the capex capitalisation (Table 6.47) considered for FY 2018-19. The Commission has arrived at the opening GFA and closing GFA for FY 2018-19 as detailed in the Table below:

Table 6.49: Gross Fixed Assets approved for FY 2018-19

(Rs. Crore)

Sl. No.	Particulars	Approved for FY 2018-19 in MYT order dated 21.03.2016	Projected by NBPDCL for FY 2018-19	Approved for FY 2018-19
1	Opening GFA	12586.70	7449.37	7449.36
2	Additions during the year	1887.44	2947.61	2947.61
3	Add : Employee cost capitalised	10.02	--	--
4	Add: IDC	--	--	--
5	**Closing GFA (1 to 4)**	**14484.16**	**10396.98**	**10396.97**

6.20 Depreciation

Petitioner's submission:

NBPDCL has submitted that depreciation is computed annually on straight line method by applying weighted average rate of depreciation on the average GFA. NBPDCL has further submitted that the depreciation on assets created out of grants is reduced from the gross depreciation to arrive at the net depreciation to be charged. Further it is submitted that value of land is not considered as land is a non-depreciable asset. NBPDCL has projected the depreciation for FY 2018-19 as detailed in the Table below:

Table 6.50: Depreciation projected for FY 2018-19

(Rs. Crore)

Sl. No.	Particulars	Projected by NBPDCL for FY 2018-19
1	Opening GFA	6389.27
2	Additions during the year	2876.32
3	IDC	--
4	**Closing GFA (1+2+3)**	**9265.59**
5	**Average GFA (1+4)/2**	**7827.43**
6	Weighted average rate of depreciation	5.91%
7	**Gross Depreciation (5*6)**	**462.29**
8	Opening Grants	3228.16
9	Grants during the year	1600.65
10	**Total Grants (8+9)**	**4828.80**
11	**Average Grants (8+10)/2**	**4028.48**
12	Weighted average rate of Depreciation	6.20%
13	**Depreciation for GFA on Grants (11*12)**	**249.75**
14	**Depreciation for GFA on Loans (7-13)**	**212.54**

Commission's analysis:

The Commission has approved opening GFA, addition to GFA and closing GFA for FY 2018-19 in Table 6.49 above.

The Petitioner has adopted different weighted average rate of depreciation for computing depreciation on GFA and proportionate depreciation on grants used for creation of assets.

It is observed that the Petitioner has adopted weighted average rate of depreciation of 5.91% on GFA and 6.20% on grants utilised for creation of assets.

The Commission, subject to true up based on audited accounts for FY 2018-19, has adopted weighted average rate of depreciation at 4.98% (approved in true up for FY

2016-17) based on actual weighted average rate of depreciation arrived as per the audited accounts for FY 2016-17 of NBPDCL.

Regulation 23 of the BERC (Multi Year Distribution Tariff) Regulations 2015, specify:

(a) Depreciation shall be calculated for each year of the control period on the original cost of the fixed assets of the corresponding year.

(b) Depreciation shall not be allowed on assets funded by capital subsidies, consumer contributions or grants.

(c) ....

(d) ....

Provided that Land shall not be treated as a depreciable asset and its cost shall be excluded while computing 90% of the original cost of the asset.

The Commission has considered closing value of depreciable GFA at Rs.6389.27 Crore and closing grants at Rs.5556.85 crore for FY 2017-18 in review and the same are adopted as opening value of depreciable GFA and opening grants for FY 2018-19 and further updated with capitalisation during FY 2018-19 approved in Table 6.47. The Petitioner has projected addition to land at Rs.71.29 crore and funding of land through grants at Rs.39.67 crore during FY 2018-19. The Commission accordingly has considered the same and net addition to assets of Rs.2876.32 crore (2947.61-71.29) and net grants of Rs.1600.65 crore (1640.32-39.67) are considered for computation of depreciation for FY 2018-19.

The Commission, accordingly, has considered the opening GFA, additions to GFA, closing GFA, rate of depreciation and depreciation on assets created out of grants and depreciation allowed in ARR for FY 2018-19 as detailed in the Table below:

Table 6.51: Depreciation considered for FY 2018-19

(Rs. Crore)

Sl. No.	Particulars	Approved for FY 2018-19 in MYT order dated 21.03.2016	Projected by NBPDCL for FY 2018-19	Approved for FY 2018-19
1	Opening depreciable GFA	11599.62	6389.27	6389.27
2	Additions during the Year	1887.44	2876.32	2876.32
4	Employee cost capitalised	10.02	--	--
5	**Closing GFA (1+2+3+4)**	**13497.08**	**9265.59**	**9265.59**
6	**Average GFA (1+5)/2**	**12548.35**	**7827.43**	**7827.43**
7	Weighted average rate of depreciation	5.08%	5.91%	4.98%
8	**Gross Depreciation (6*7)**	**637.46**	**462.29**	**389.81**
9	Opening Grants	10411.33	3228.16	5556.85
10	Grants during the year	1887.44	1600.65	1600.65
11	**Total Grants (9+10)**	**12298.77**	**4828.80**	**7157.50**
12	**Average Grants (9+11)/2**	**11355.05**	**4028.48**	**6357.18**
13	Weighted average rate of depreciation	5.08%	6.20%	4.98%
14	**Depreciation for GFA on Grants (12*13)**	**576.84**	**249.75**	**316.59**
15	**Depreciation for GFA on Loans (8-14)**	**60.62**	**212.54**	**73.22**

The Commission approves depreciation at Rs.73.22 crore for FY 2018-19 as given in the table above.

6.21 Interest on Loans

Petitioner's submission:

NBPDCL has submitted that interest on normative debt is calculated on the 70% of the amount of capital assets reduced by the value of grants and depreciation representing normative repayment. The rate of interest on the projected loans for FY 2018-19 is calculated as 10.27%. NBPDCL has projected the interest charges for FY 2018-19 as detailed in the Table below:

Table 6.52: Interest on loans projected for FY 2018-19

(Rs. Crore)

Sl. No.	Particulars	Projected by NBPDCL for FY 2018-19
1	Amount of total assets at the beginning	5214.56
2	Less: assets created from grant at beginning	2259.71
3	Additions during the year	2063.33
4	Less: Additions through Grants	1120.45

Sl. No.	Particulars	Projected by NBPDCL for FY 2018-19
5	Net Assets	3897.72
6	Less: Normative repayment	212.54
7	Amount of Debt	3685.18
8	Average debt	4449.87
9	Interest on Loan (%)	10.27%
10	**Interest on Loan**	**456.80**

Commission's analysis:

The Commission has examined the computation of interest on loan of the Petitioner. The Petitioner has submitted that it has considered 10.27% as the average rate of interest for existing as well new loans for FY 2018-19 and furnished the details of loan and computation of average rate of interest as given below:

Sl. No.	Particulars	FY 2018-19
1	**Opening Balance**	**249.65**
	REC Loans	134.34
	APDRP and R-APDRP	41.44
	ADB	73.87
2	**Addition during the year**	**5.00**
	REC Loans	--
	APDRP and R-APDRP	--
	ADB	5.00
3	**Repayment of loans**	**21.50**
	REC Loans	13.00
	APDRP and R-APDRP	8.50
	ADB	--
4	**Closing balance**	**233.15**
	REC Loans	121.34
	APDRP and R-APDRP	32.94
	ADB	78.87
5	**Average Loans (1+4)/2**	**241.40**
6	**Interest on Loans**	**24.78**
	REC Loans	11.51
	APDRP and R-APDRP	3.35
	ADB	9.93
7	**Weighted average rate of interest**	**10.27%**

The Commission has examined the computation of weighted average rate of interest projected by the Petitioner for FY 2018-19.

The Commission has observed that the addition to loans during FY 2018-19 is not in commensurate with the capital investment plan of Rs.2626.19 crore projected by the Petitioner. The capex plan includes IPDS and DDUGJY for FY 2018-19 and funding of these schemes is through Grants 60%, Equity 10% and Loan 30%. The loan works out Rs.262.62 crore (2626.19 x 10%) for FY 2018-19, however the Petitioner has projected loans for FY 2018-19 at Rs.5.00 crore only. In view of inconsistency in value of projected loans, the Commission provisionally considers the weighted average rate of interest at 4.06% in line with the interest rate considered in true up for FY 2016-17, subject to true up based actual loans and interest on loans for FY 2018-19 based on audited accounts for FY 2018-19.

The Commission has approved closing loan balance at Rs.1268.58 Crore in review for FY 2017-18 and the same is considered as opening loan balance for FY 2018-19. The loan additions are considered in line with funding of capitalisation approved for FY 2018-19 as given hereunder:

Particulars	**Amount (Rs. Crore)**
Capitalisation	2947.61
Less: Grants	1640.32
Net capitalisation	1307.29
Debt @70%	915.10
Equity @30%	392.19

Regulation 25 of the BERC (Multi Year Distribution Tariff) Regulations, 2015 specify;

Regulation 25: Treatment of interest on loan

(a) *The Distribution licensee shall provide detailed loan-wise, project-wise and utilization-wise details of all the loans.*

(b) *if the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan.*

(c) *actual loan or normative loan, if any, shall be referred as gross normative loan in this Regulation*

(d) normative loan outstanding as of 1st April of control period shall be computed by deducting the cumulative repayment as approved by the Commission (basis as mentioned below) up to 31st March of current period (a year before control period) from the gross normative loan.

(e) the repayment for the control period shall be deemed to be equal to the depreciation allowed for the year.

(f) notwithstanding any moratorium period availed by the Distribution Licensee, the repayment of the loan shall be considered from the first year of the control period as per annual depreciation allowed.

(g) the rate of interest shall be the weighted average rate of interest calculated on the basis of actual loan portfolio at the beginning of each year of the control period, in accordance with terms and conditions of relevant loan agreements, or bonds or non-convertible debentures:

Provided that if no actual loan is outstanding but normative loan is still outstanding, the last available weighted average rate of interest shall be applicable.

Provided further that the interest on loan shall be calculated on the normative average loan of the year by applying weighted average rate of interest.

…………………

(h) ……………….

(i) the Distribution licensee shall enable tracking of the loans converted into grants under schemes like, APDRP, R-APDRP, RGGVY, RSVP, etc or any other loan from the Central or State Government by providing information and data regularly to the Commission, for enabling the Commission to recover from Distribution licensee the amount of interest on loans which have been passed on to the consumers in the earlier years and have been converted into grant subsequently so that the recovered amount is passed on to the consumers

(ii) Addition to loan during the year for interest purpose will be restricted to the quantum of assets capitalised and put to use.

The Regulation 25 above, clearly specify that rate of interest shall be weighted average rate of interest computed on the basis of project loans. The loan repayment shall be equivalent to depreciation allowed for the year and loan addition shall be the quantum of assets capitalised and put to use during the year.

The Commission has considered repayment of loan equal to the depreciation allowed for the year and loan addition as per the capitalisation approved in Table 6.47. The Commission has considered the rate of interest @4.06% (weighted average effective rate of interest considered in true up for FY 2016-17) for providing interest on normative loan, subject to true up based on audited accounts for FY 2018-19.

The Commission, considering the above, has computed interest on loans for FY 2018-19 as detailed in the Table below:

Table 6.53: Interest on loan approved for FY 2018-19

(Rs. Crore)

Sl. No.	Particulars	Approved for FY 2018-19 in MYT order dated 21.03.2016	Projected by NBPDCL for FY 2018-19	Approved for FY 2018-19
1	**Opening loan balance**	1922.88		1268.58
2	Additions during the year	0.00		915.10
3	Normative Repayment	60.62		73.22
4	Closing Loans (1+2-3)	**1862.26**		**2110.46**
5	**Average Loans {(1+4)/2}**	**1892.57**	**4449.87**	**1689.52**
6	Interest rate	9.96%	10.27%	4.06%
7	**Interest Charges (5*6)**	**188.50**	**456.80**	**68.59**

The Commission approves interest on loans at Rs.68.59 crore for FY 2018-19 as given in the table above.

6.22 Other Finance Charges

Petitioner's submission:

NBPDCL has submitted that finance charges represent Discount to consumers for timely payment of bills (Rebate), power factor rebate, interest to suppliers/contractors, etc. NBPDCL has projected the other finance charges for FY 2018-19 with escalation at 10% over the previous year i.e. FY 2017-18 as detailed in the Table below:

Table 6.54: Other finance charges projected for FY 2018-19

(Rs. Crore)

Particulars	Projected by NBPDCL for FY 2018-19
Estimated expenses in FY 2017-18	66.96
Escalation %	10%
Other Finance charges estimated for FY 2018-19	73.66

Commission's analysis:

The Commission has considered other finance charges at Rs.23.95 Crore in review for FY 2017-18 and the same is considered as base other finance charges for FY 2018-19. The Commission considers escalation @ 10% provisionally as considered for FY 2018-19 in MYT order dated 21.03.2016. Accordingly the Commission considers other finance charges for FY 2018-19 as given in the Table below:

Table 6.55: Other finance charges approved for FY 2018-19

(Rs. Crore)

Sl. No.	Particulars	Approved for FY 2018-19 in MYT order dated 21.03.2016	Projected by NBPDCL for FY 2018-19	Approved for FY 2018-19
1	Base other finance charges	31.10	66.96	23.95
2	Escalation considered	10.00%	10.00%	10.00%
3	Increase	3.11	6.70	2.39
4	Other finance charges	34.21	73.66	26.34

The Commission approves other finance charges at Rs.26.34 crore for FY 2018-19 as given in the table above.

6.23 Operation and Maintenance (O&M) Expenses

6.23.1 Employee Costs

Petitioner's submission:

NBPDCL has submitted that at present strength of employees in FY 2017-18 is 3444 and recruitment of employees is in pipeline and the total manpower requirement is estimated at 3800 by the end of FY 2018-19.

NBPDCL has submitted that employee cost is projected considering recruitment plan and increase in cost by 10%. The 7^{th} Pay Commission impact on employee cost is considered at a multiplying factor of 2.62 from a range of 2.57 to 2.72 on salaries and DA as 10% of salary. NBPDCL has projected the employee cost for FY 2018-19 as detailed in the Table below:

Table 6.56: Employee Cost projected for FY 2018-19

(Rs. Crore)

Sl. No.	Particulars	Projected by NBPDCL for FY 2018-19
1	Salaries & Allowances	
(i)	Existing employees	234.18
(ii)	New employees	26.02
(iii)	Total	260.20
2	Contribution to terminal benefits (Accruals basis)	18.76
3	**Total Employee cost**	**278.96**

Commission's analysis:

Regulation 22.1 of BERC (Multi Year Distribution Tariff) Regulations, 2015 specify;

Regulation 22.1: Employee cost

Employee cost shall be computed as per the approved norm escalated by consumer price index (CPI), adjusted by provisions for expenses beyond the control of the Distribution Licensee and one time expected expenses, such as recovery/adjustment of terminal benefits, implication of pay commission, arrears and interim relief, governed by the following formula:

*EMPn = (EMPb * CPI inflation) + Provision*

Where:

EMPn : Employee expense for the year n

EMPb : Employee expense as per the norm

CPI inflation : is the average increase in the consumer price index (CPI) for immediately preceding three years.

Provision : Provision for expenses beyond control of the Distribution Licensee and expected one-time expenses as specified above.

Till the norms is specified by the Commission the employee cost shall be determined on the basis of actual historical cost.

As per Regulation 22 (a) of the BERC (Multi Year Distribution Tariff) Regulations, 2015 the Commission shall stipulate a separate trajectory of norms for each of the component of O&M expenses viz. Employee cost, R&M expense and A&G expense. The Commission opined at paragraph 7.27.1 in Tariff order dated 21.03.2016 that norms shall be determined for O&M expenses from the next MYT control period in view of non availability of last 3 (three) years audited accounts.

Regulation 22.1 of the BERC (Multi Year Distribution Tariff) Regulations, 2015 specify that till the norms is specified by the Commission the employee cost shall be determined on the basis of actual historical cost.

The Commission has computed the average increase in the CPI for immediately preceding three years i.e. FY 2014-15 and FY 2016-17 which worked out to 3.24% (CAGR) as given hereunder:

Particulars	Index points
Average consumer price index points for 2016-17 (A)	276.00
Average consumer price index points for 2014-15 (B)	250.83
No of years (C)	3
CAGR – CPI (A/B)^(1/C)-1	3.24%

The Petitioner has considered 7th Pay Commission impact of pay revision in the employee cost of FY 2017-18 and also in FY 2018-19. The Commission has considered the 7th Pay Commission impact during FY 2017-18 in review and employee cost considered for FY 2017-18 includes the pay revision impact also. Hence, the pay revision impact is not further considered for FY 2018-19. Further, the Commission has not considered projected new employee cost in view of the fact that nothing has been initiated for recruitment of new employees.

The Commission, in terms of regulation 22, has considered the employee cost approved in true up for FY 2017-18 as base employee cost with year on year escalation for inflationary indexation at 3.24% as above.

The Commission has observed from the audited accounts for FY 2016-17, the Petitioner is not charging the employee cost during construction (IEDC) to the capital works. Similarly, no IEDC was charged to capex in earlier year audited accounts also. As such, the Commission has not considered IEDC for FY 2018-19.

The Commission has considered employee cost at Rs.230.88 Crore in review for FY 2017-18 and the same is considered as base employee cost for FY 2018-19 and further escalated at 3.24% for inflationary increase. The Commission, accordingly, has considered the employee cost as detailed in the Table below:

Table 6.57: Employee cost approved for FY 2018-19

(Rs. Crore)

Sl. No.	Particulars	Approved for FY 2018-19 in MYT order dated 21.03.2016	Projected by NBPDCL for FY 2018-19	Approved for FY 2018-19
1	Employee cost	190.38	278.96	230.88
2	Inflationary index	5.25%		3.24%
3	Inflationary increase	9.99	0.00	7.48
4	**Employee Cost (1+3)**	**200.37**	**278.96**	**238.36**
5	Less: Capitalisation	10.02	--	--
6	**Total Employee Cost (4-5)**	**190.35**	**278.96**	**238.36**

The Commission approves net employee cost at Rs.238.36 crore for FY 2018-19 as given in the table above.

6.23.2 Repairs and Maintenance (R&M) Expenses

Petitioner's submission:

NBPDCL has submitted that Regulation 22.2 of BERC (Multi Year Distribution Tariff) Regulations 2015, R&M shall be calculated as a percentage of opening GFA based on previous 3 years audited accounts for FY 2015-16 & FY 2016-17. NBPDCL has calculated the 'K' factor for projecting R&M on GFA as given below:

Particulars	FY 2015-16	FY 2016-17	FY 2017-18
Opening GFA	4299	4574	5158
R & M expenses	64.99	49.21	69.72
Percentage of R&M to GFA	1.51%	1.08%	1.35%
Average percentage of R&M to GFA	1.31%		

NBPDCL has projected R&M expenses for FY 2018-19 as given in the Table below:

Table 6.58: Repairs and Maintenance expenses projected for FY 2018-19

(Rs. Crore)

Sl. No.	Particulars	Projected by NBPDCL for FY 2018-19
1	Opening GFA	7449.37
2	Percentage of R&M to opening GFA	1.31%
2	R&M expenses	97.64

Commission's analysis

Regulation 22.1 of BERC (Multi Year Distribution Tariff) Regulations, 2015 specify;

Regulation 22.2: Repairs and Maintenance (R&M) Expenses

Repairs and Maintenance expense shall be calculated as percentage (as per the norm determined) of Opening Gross Fixed Assets for the year governed by following formula:

*R&Mn = Kb * GFAn*

Where

R&Mn : Repairs and Maintenance expense for nth year

GFAn : Opening Gross Fixed Assets for nth year

Kb : Percentage point as per the norm

The Regulation 22 (a) of the BERC (Multi Year Distribution Tariff) Regulations, 2015 specify; the Commission shall stipulate a separate trajectory of norms for each of the component of O&M expenses viz. Employee cost, R&M expense and A&G expense.

The Regulation 22 (i) specify to estimate values of ***norms shall be based on the last 3 (three) years audited accounts of operations***.

The Commission had opined at paragraph 7.27.3 in Tariff order dated 21.03.2016 that "*..... the 'K' factor (as above) shall be revised based on 3 (three) years audited accounts while considering truing up for FY 2015-16 and accordingly, the R&M shall be adopted in truing up process for the MYT control period*".

The Commission, in terms of Regulation 22.2 of BERC (Multi Year Distribution Tariff) Regulations 2015, has computed (based on 3 (three) years audited accounts from FY 2013-14 to FY 2015-16) and approved the 'K' factor at 1.21% (i.e. R&M norm) for MYT control period of FY 2016-17 to FY 2018-19 in Tariff order dated 24.03.2017. The 'K' factor (i.e. R&M norm) is applicable for the entire MYT control period of FY 2016-17 to FY 2018-19 and accordingly, the R&M expenses shall be considered by applying 'K' factor on the opening GFA (year on year). The Commission has adopted 'K' factor at 1.21% on opening GFA of Rs.7449.36 crore for considering R&M expenses for FY 2018-19.

The Commission, accordingly, has computed the R&M expenses adopting 'K' factor on the Opening GFA for FY 2018-19 as detailed in the Table below:

Table 6.59: R&M expenses considered for FY 2018-19

(Rs. Crore)

Sl. No.	Particulars	Approved for FY 2018-19 in MYT order dated 21.03.2016	Projected by NBPDCL for FY 2018-19	Approved for FY 2018-19
1	Opening GFA	12586.70	7449.37	7449.36
2	K factor	1.06%	1.31%	1.21%
3	**R & M expenses**	**133.42**	**97.64**	**90.14**

The Commission approves R&M expenses at Rs.90.14 crore for FY 2018-19 as given in the table above.

6.23.3 Administration and General (A&G) Expenses

Petitioner's submission

NBPDCL has submitted that as per regulation 22.3 Administration and General expenses shall be computed as per the norm escalated by WPI. NBPDCL has projected the A&G expenses for FY 2018-19 as furnished in Table below:

Table 6.60: Administration & General expenses projected for FY 2018-19

(Rs. Crore)

Sl. No.	Particulars	Projected by FY for FY 2018-19
1	Rent, Rates and Taxes	0.34
2	Insurance	3.80
3	Telephone, Postage & Telex charges	12.00
4	Consultancy	0.07
5	Other professional charges	9.85
6	Commission to RRF	26.99
7	Conveyance & Travel	10.15
8	Electricity and water charges	5.66
9	Freight	0.53
10	Remuneration to executive assistant	6.01
11	Printing & stationery	1.54
12	Home guard & Security	3.33
13	Meter Reading & bills dist.	5.44
14	Commission others	1.47
15	Computer billing	12.47
16	Compensation	6.12
17	Holding tax expenses	13.08
18	Any other expenses	5.07
	Total	**123.92**

Commission analysis:

The Commission has examined the A&G expenses projected by the Petitioner for FY 2018-19.

The Commission observes that Regulation 22.3 of BERC (Multi Year Distribution Tariff) Regulations, 2015 specify;

Regulation 22.3: Administration and General (A&G) Expense

A&G expense shall be computed as per the norm escalated by wholesale price index (WPI), adjusted by provisions for confirmed initiatives (IT etc initiatives as proposed by the Distribution Licensee and validated by the Commission) or other expected one-time expense and shall be governed by the following formula:

*A&Gn = (A&Gb * WPI inflation) + Provision*

Where:

A&Gn : A&G expense for the year n

A&Gb : A&G expense as per the norm

WPI inflation : is the average increase in the Wholesale Price Index (WPI) for immediately preceding three years.

Provision : Cost for initiatives or other one-time expenses as proposed by the Distribution Licensee and validated by the Commission.

Till the norm of A&G expenses is specified by the Commission, the actual historical cost will be considered for determination of A&G expenses.

As per Regulation 22 (a) of the BERC (Multi Year Distribution Tariff) Regulations, 2015 the Commission shall stipulate a separate trajectory of norms for each of the component of O&M expenses viz. Employee cost, R&M expense and A&G expense. The Regulation 22 (i) specify to estimate values of norms shall be based on the last 3 (three) years audited accounts of operations.

The Commission opined at paragraph 7.27.1 in Tariff order dated 21.03.2016 that norms shall be determined for O&M expenses from the next MYT control period in view of non availability of last 3 (three) years audited accounts of operations.

Regulation 22.1 of the BERC (Multi Year Distribution Tariff) Regulations, 2015 specify that till the norms is specified by the Commission, the A&G expense shall be determined on the basis of actual historical cost.

The Commission has computed the average increase in the WPI for immediately preceding three years i.e. FY 2014-15 and FY 2016-17 which worked out to (-)0.67% (CAGR) as given below:

Particulars	Index points
Average Wholesale price index points for 2016-17 (A)	111.62
Average Wholesale price index points for 2014-15 (B)	113.88
No of years (C)	3
CAGR – WPI (A/B)^(1/C)-1	(-)0.67%

The Commission observes that the CAGR of three years WPI has worked out to negative i.e. (-) 0.67%. The Commission opines that the A&G expenses shall incline to increase year on year. The Commission in view of the above regulations considers the actual A&G expenses reported in the audited accounts of FY 2016-17 as base year historical A&G expenses and further projected at Rs.77.21 crore for FY 2017-18 in review. Hence the Commission considers the A&G expenses for FY 2018-19 provisionally at the same level as approved in review for FY 2018-19, subject to true up.

The Commission, accordingly, has considered the A&G expenses as detailed in the Table below:

Table 6.61: A&G expenses approved for FY 2018-19

(Rs. Crore)

Sl. No.	Particulars	Approved for FY 2018-19 in MYT order dated 21.03.2016	Projected by NBPDCL for FY 2018-19	Approved for FY 2018-19
1	Base A&G expenses	51.35	--	77.21
2	WPI Inflationary index %	2.63%	--	--
3	Inflationary increase (1*2)	1.35	--	--
4	**A&G expenses (1+3)**	**52.70**	**123.92**	**77.21**

The Commission approves A&G expenses at Rs.77.21 crore for FY 2018-19 as given in the table above.

6.23.4 Allocation of Holding Company Expenses

Petitioner's submission

NBPDCL has estimated the Holding Company expenses based on the holding expenses considered in review for FY 2017-18 with escalation at 10% for FY 2018-19 as given in Table below:

Table 6.62: Holding Company Expenses projected for FY 2018-19

(Rs. Crore)

Particulars	Projected by NBPDCL for FY 2018-19
Holding company expenses considered for FY 2017-18 (RE)	5.92
Escalation % considered	10.00%
Increase considered	0.59
Total	6.51

Commission's analysis:

The Commission has provisionally considered the holding company expenses as projected by the Petitioner, in terms of Bihar State Electricity Reforms Transfer Scheme, 2012 for FY 2018-19 as detailed in the Table below:

Table 6.63: Holding Company expenses approved for FY 2018-19

(Rs. Crore)

Particulars	Approved for FY 2018-19 in MYT order dated 21.03.2016	Projected by NBPDCL for FY 2018-19	Approved for FY 2018-19
Holding company expenses allocated	7.72	6.51	6.51

The Commission approves holding company expenses at Rs.6.51 crore for FY 2018-19 as given in the table above.

6.23.5 Summary of Operation and Maintenance (O&M) Expenses

The summary of the O&M expenses approved for FY 2018-19 as tabulated below:

Table 6.64: Total O&M cost approved for FY 2018-19

(Rs. Crore)

Sl. No.	Particulars	Approved for FY 2018-19 in MYT order dated 21.03.2016	Projected by NBPDCL for FY 2018-19	Approved for FY 2018-19
1	Employee cost	190.35	278.96	238.36
2	R&M expenses	133.42	97.64	90.14
3	A&G Expenses	52.70	123.92	77.21
4	Holding company expenses	7.72	6.51	6.51
5	Total O& M cost (1+2+3+4)	**394.21**	**507.03**	**412.22**
6	Less: Expenses capitalised	10.02	--	--
7	Net O&M expenses (5-6)	**384.19**	**507.03**	**412.22**

The Commission approves net O&M expenses at Rs.412.22 crore for FY 2018-19 as given in the table above.

6.24 Return on Equity

Petitioner's submission:

NBPDCL has submitted that Return on Equity has been projected as per Regulation 27 of the BERC (Multi Year Distribution Tariff) Regulations 2015 and RoE is calculated on 30% of the fixed assets reduced by grants. The Petitioner has projected RoE for FY 2018-19 as detailed in the Table below:

Table 6.65: Return on Equity projected for FY 2018-19

(Rs. Crore)

Sl. No.	Particulars	Projected by NBPDCL for FY 2018-19
1	Amount of total assets at the beginning	2234.81
2	Less: Assets created from grant at beginning	968.45
3	Additions during the year	884.28
4	Less: Additions through grants	480.19
5	Net Assets	1670.45
6	Average equity	1952.63
7	Amount of equity eligible for return	1952.63
8	Rate of return on equity	16.00%
9	**Return on Equity**	**312.42**

Commission's analysis

The Commission has examined the computation of RoE claim of NBPDCL.

The Petitioner has claimed RoE at Rs.312.42 crore for FY 2018-19 and adopted rate of return on equity at 16%.

The Regulation 27 of the BERC (Multi Year Distribution Tariff) Regulations 2015, specify;

(a) ***Return on equity shall be computed on 30% of the capital base or actual equity, whichever is lower****:*

Provided that assets funded by consumer contribution, capital subsidies/grants and corresponding depreciation shall not form part of the capital base. Actual equity invested in the Distribution Licensee as per book value shall be considered as perpetual and shall be used for computation in this regulation:

(b) The return on the equity invested shall be allowed from the date of start of commercial operation:

(c) The project which will be commissioned w.e.f. 01.04.2016 will be allowed RoE of 15.50% and if project is completed in schedule period 0.5% incentives in form of RoE will be allowed.

As per above regulation, RoE shall be computed on 30% of the net Capital base (after reducing the value of consumer contributions, capital subsidies/grants) or actual equity whichever is less. Further, RoE shall be allowed @14% on the net capital base as on 31.03.2016 and @15.50% on the net capital base w.e.f. 01.04.2016.

The Commission has approved closing equity at Rs.440.86 Crore to the end of 31.03.2016 on which RoE @14% shall be allowed.

Further, the Commission has considered closing equity at Rs.314.17 crore (i.e. with effect from 1.4.2016) in review for FY 2017-18 (RE) and the same is considered as opening equity for FY 2018-19.

The Commission has approved capitalisation at Rs.2947.61 crore and funding of capitalisation for FY 2018-19 as depicted in Table 6.47.

The Commission has approved capitalisation and funding of capitalisation for FY 2018-19 as given hereunder:

Particulars	Amount (Rs. Crore)
Capitalisation	2947.61
Less: Grants	1640.32
Net capitalisation	1307.29
Debt @70%	915.10
Equity @30%	392.19

The Commission, in view of the above Regulations, for the purpose of computation of Return on Equity, has considered equity addition at Rs.392.19 crore (@30% of net capitalisation) for FY 2018-19 as above.

Accordingly, the Commission has computed return on equity for FY 2018-19 as detailed in the Table below:

Table 6.66: Return on Equity approved for FY 2018-19

(Rs. Crore)

Sl. No.	Particulars	Approved for FY 2018-19 in MYT order dated 21.03.2016	Projected by NBPDCL for FY 2018-19	Approved for FY 2018-19
1	Equity as on 31.3.2016			440.86
2	Rate of return on equity			14.00%
3	Return on equity (1*2)			61.72
	Equity with effect from1.4.2016			
4	Opening equity			314.17
5	Addition during the year			392.19
6	Closing equity (4+5)			706.36
7	Average Equity (4+6)/2		1952.63	510.26
8	Rate of Return on Equity %	15.50%	16.00%	15.50%
9	**Return on Equity (7*8)**		**312.42**	**79.09**
10	**Total Return on equity (3+9)**		**312.42**	**140.81**

The Commission approves return on equity at Rs.140.81 crore for FY 2018-19 as given in the table above.

6.25 Interest on Security Deposit

Petitioner's submission:

NBPDCL has submitted that interest on Security Deposit amount has been claimed as per the provisions of BERC Supply Code. The interest on consumer security deposit has been considered at 7.75%. The Petitioner has projected interest on security deposit for FY 2018-19 as detailed in the Table below:

Table 6.67: Interest on security deposit projected for FY 2018-19

(Rs. Crore)

Particulars	Projected by NBPDCL for FY 2018-19
Opening balance	309.27
Additions during the year	37.73
Closing security deposit	346.99
Average security deposit	328.13
Rate of Interest	7.75%
Interest on security deposit	25.43

Commission's analysis:

The BERC (Multi Year Distribution Tariff) Regulations 2015, Regulation 26 (iii) specifies that "*Provided further that interest shall be allowed on consumer security deposits and security deposits from Distribution system users at the Bank Rate as of the date on which the petition for determination of tariff is accepted by the Commission".*

The Commission has considered the closing Security Deposits from Consumer at Rs.309.28 for FY 2017-18 (RE) and the same is considered as opening balance of Security deposits from consumers for FY 2018-19. The Commission considers increase in consumer security deposit at Rs.37.73 crore during FY 2018-19 as projected by the Petitioner. The RBI rate prevailing as on the date of acceptance of the petition i.e.18.01.2018 is considered at 6.00% (with effect from 02.08.2017) and the same is adopted, in terms of regulation 26 (iii), for computation of interest on security deposits from consumers for FY 2018-19.

The Commission, accordingly, considers interest on consumer's security deposit for FY 2018-19 as given in the Table below:

Table 6.68: Interest on security deposit approved for FY 2018-19

(Rs. Crore)

Sl. No.	Particulars	Approved for FY 2018-19 in MYT order dated 21.03.2016	Projected by NBPDCL for FY 2018-19	Approved for FY 2018-19
1	Opening Security Deposit from consumers	318.74	309.27	309.28
2	Addition during the year	40.00	37.73	37.73
3	Closing Security Deposit from consumers	358.74	347.00	347.01
4	Average Security Deposit from consumers	338.74	328.14	328.15
5	Rate of interest (RBI Rate) %	7.50%	7.75%	6.00%
6	**Interest on Security Deposit from consumers**	**25.41**	**25.43**	**19.69**

The Commission approves interest on consumer security deposit at Rs.19.69 crore for FY 2018-19 as given in the table above.

6.26 Contribution to Contingency Reserve

Petitioner's submission:

The Petitioner has not projected contribution to contingency reserve for FY 2018-19 in the petition.

Commission's analysis

Regulation 24 (a) of the BERC (Multi Year Distribution Tariff) Regulations, 2015 specify "*if the distribution licensee has made an appropriation to the Contingency Reserve, a sum not less than 0.25 per cent and not more than 0.5 per cent of the original cost of fixed assets shall be allowed annually towards such appropriation in the calculation of ARR*".

The Commission has approved opening GFA at Rs.7449.36 crore for FY 2018-19 (Table 6.46). The opening GFA approved includes assets revalued of Rs.965.91 Crore. The Commission, in terms of regulation 24(a) (as above) has reduced the value of assets revalued to arrive at the original cost of GFA and considered 0.5% on the original cost of GFA. The Opening GFA, assets revalued, contingency reserve considered for FY 2018-19 is given in the Table below:

Table 6.69: Contribution to Contingency Reserve approved for FY 2018-19

(Rs. Crore)

Sl. No.	Particulars	Approved for FY 2018-19
1	Opening GFA	7449.36
2	Less: Assets revalued	965.91
3	Original cost of GFA	6483.75
4	% of Appropriation to Contingency	0.50%
5	**Contingency reserve (3* 4)**	**32.42**

The Commission approves contribution to contingency reserve at Rs.32.42 crore for FY 2018-19.

6.27 Interest on working capital

Petitioner's submission:

NBPDCL has submitted that interest on working capital for FY 2018-19 is estimated as per regulation 26 of BERC (Multi Year Distribution Tariff) (First amendment) Regulations 2017. The gross working requirement has been reduced by depreciation and RoE for 2 months, consumer security deposit for 1 month of average consumer security deposit for FY 2018-19. The rate of interest is considered @14.75% as per the SBI advance rate.

NBPDCL has projected interest on working computed based on the norms for FY 2018-19 as detailed in the Table below:

Table 6.70: Interest on working capital projected for FY 2018-19

(Rs. Crore)

Sl. No.	**Particulars**	**Projected by NBPDCL for FY 2018-19**
1	Two months equivalent expected revenue	1201.27
2	Maintenance spares @40% of R&M expenses for one month	3.25
3	**Less**: (i)Power purchase cost, transmission charges and load dispatch charges of one month	478.17
	(ii) Depreciation, return on equity and contribution to contingency reserve for one month	87.49
	(iii) Security Deposits from consumers	27.34
	(iv) Grant received from the State Govt. For power purchase and other O&M expenses	--
4	Net working capital	611.51
5	Interest rate	14.75%
6	Interest on working capital	90.20

Commission analysis

The Commission has examined the computation of interest on working capital submitted by the Petitioner.

Regulation 26 of BERC (Multi Year Distribution Tariff) (First Amendment) Regulations, 2017 notified on 30.06.2017 specify;

The Distribution Licensee shall be allowed interest on estimated level of working capital for the financial year, computed as follows:

(a) Two months equivalent of expected revenue

(b) Maintenance spares @40% of R&M expenses for one month

***Less**:*

(i) Power purchase cost, transmission charges and load dispatch charges of one month

(ii) Depreciation, return on equity and contribution to contingency reserves equivalent to two months

(iii) Security deposits from consumers, if any.

Provided that the interest on working capital shall be on normative basis and rate of *interest shall be equal to the State Bank Advance Rate (SBAR) as of the date on which petition for determination of tariff is accepted by the Commission.*

Provided further that interest shall be allowed on consumer security deposits and security deposits from Distribution system users at the Bank Rate as of the date on which the petition for determination of tariff is accepted by the Commission.

Provided further that if, the State Government is providing resource gap grant or subsidy, working capital shall be reduced by that amount.

The Commission has computed the interest on working capital as per the norms prescribed in Regulation 26 of the BERC (Multi Year Distribution Tariff) (First Amendment) Regulations, 2017 notified on 30.06.2017. The regulations specify that the rate of interest shall be equal to the State Bank Advance Rate (SBAR) as of the date on which petition for determination of tariff is accepted by the Commission. The Commission has admitted the tariff petition of NBPDCL on 18.01.2018. The SBI advance rate with effect from 18.01.2018 is at 13.70%%. Accordingly, the Commission has applied rate of interest on the working capital @13.70% as per the SBI Advance Rate.

The Commission has observed that the Petitioner has reduced depreciation and RoE equivalent to 2 (two) months and SD from Consumers equivalent to one (1) month of average SD from consumers for FY 2018-19. The Commission, in terms of regulations 26 of the BERC (Multi Year Distribution Tariff) (First Amendment) Regulations, 2017 notified on 30.06.2017, has considered two months equivalent depreciation and RoE and total (closing balance) SD from consumers to end of FY 2018-19 and accordingly reduced from the working capital requirement.

The Commission has considered Security Deposits from the Consumers at Rs.347.01 Crore in Table 6.68 for FY 2018-19 and accordingly, the same is considered and reduced from the working capital requirement as per norms.

The Commission based on the expenses/costs approved, has computed the working capital requirement and interest on working capital for FY 2018-19 as detailed in the Table below:

Table 6.71: Interest on working capital approved for FY 2018-19

(Rs. Crore)

Sl. No.	Particulars	Approved for FY 2018-19 in MYT order dated 21.03.2016	Projected by NBPDCL for FY 2018-19	Approved for FY 2018-19
1	O&M expenses (1 month)	32.85	--	--
2	Two months equivalent expected revenue	1745.71	1201.27	1174.56
3	Maintenance spares @40% of R&M expenses for one month	4.45	3.25	3.00
4	**Sub-total (1+2+3)**	**1783.01**	**1204.52**	**1177.56**
5	**Less**: (i) Power purchase cost, transmission charges and load dispatch charges of one month	819.65	478.17	540.03
	(ii) Depreciation, return on equity and contribution to contingency reserve	59.48	87.49	41.07
	(iii) Security Deposits from consumers	358.74	27.34	347.01
	(iv) Grant received from the State Govt. For power purchase and other O&M expenses	--	--	--
6	Sub-total (5(i)+5(ii)+5(iii)+5(iv))	**1237.87**	**593.00**	**928.11**
7	**Net working capital requirement (4-6)**	**545.15**	**611.52**	**249.45**
8	Rate of interest %	14.75%	14.75%	13.70%
9	**Interest on working capital (7*8)**	**80.41**	**90.20**	**34.17**

The Commission approves interest on working capital at Rs.34.17 crore for FY 2018-19 as given in the table above.

6.28 Non-Tariff Income

Petitioner's submission:

NBPDCL has submitted that non-tariff income is projected taking the amount estimated for FY 2017-18 and then escalated by 10% as detailed in the Table below:

Table 6.72: Projected Non-tariff Income for FY 2018-19

(Rs. Crore)

Sl. No.	Particulars	Projected by NBPDCL for FY 2018-19
1	Interest on advances to suppliers/contractors	59.69
2	Interest from Banks	9.09
3	Delayed payment surcharge from consumers	64.47
4	Interest on staff loans and advances	0.28
5	Income from sale of tender paper	0.65
6	Misc. Receipts	0.92
7	Rebate and Discount received	12.32
8	Supervision charges	0.16
9	Meter Rent/Service line rental	95.00
10	Miscellaneous recoveries	18.80
11	**Total**	**261.38**
12	Less: Interest on funding of principal of DPS	52.83
13	**Net Non tariff income**	**208.55**

Commission's analysis:

The Commission has approved non-tariff income at Rs.164.05 crore (excluding rebate on payment of power purchase bills) as per the audited annual accounts of NBPDCL for FY 2016-17 in truing up. Further, the Commission has considered non-tariff income for FY 2017-18 in review based on the trued up non-tariff income with escalation @ 10% and considered Rs.180.46 crore for FY 2017-18 in review. The Commission has adopted the same methodology for considering the non-tariff income for FY 2018-19 i.e. based on non tariff income considered in review for FY 2017-18 as base NTI and projected NTI with escalation @10% for FY 2018-19.

The Commission has considered release of new connections of 1057816 during FY 2018-19 out of which KJY, DS-I and DS-II connections are at 926233. The Commission has considered supervision charges, etc. per connection on the new connections of 131583 (excluding KJY, DS-I and DS-II connections as they are being released free of cost under DDUGJY and Soubhagya Scheme) at the applicable rates and Meter rent per month/per connection for all the new connections at the applicable rates keeping in view the mandate of the Electricity Act, 2003 that all the new connections has to be released with meter and accordingly, has considered Rs.41.66 crore towards non-tariff income for FY 2018-19 as given hereunder:

Sl. No.	Category	No. of new connections	Supervision, Labour, Establishment charges per connection	Meter Rent per connection per month	Supervision charges, etc.	Meter rent per annum	Total income
1	Kutir Jyoti	338188		20	0	81165120	81165120
2	DS-I	400000		20	0	96000000	96000000
3	DS-II	188045		20	0	45130800	45130800
4	NDS-I	9212	400	20	3684800	2210880	5895680
5	NDS-II	2146	400	20	858400	515040	1373440
6	SS	14	400	20	5600	3360	8960
7	IAS-I	117500	900	50	105750000	70500000	176250000
8	IAS-II	50	900	50	45000	30000	75000
9	PWW	155	900	50	139500	93000	232500
10	LTIS-I	2026	1500	50	3039000	1215600	4254600
11	LTIS-II	137	1500	500	205500	822000	1027500
12	HTS-I	343	3000	1000	1029000	4116000	5145000
13	HTS-II	0	3000	3000	0	0	0
14	HTS-III	0	3000	15000	0	0	0
15	HTSS	0	3000	3000	0	0	0
16	RT	0			0	0	0
	Total	**1057816**			**114756800**	**301801800**	**416558600**

The Commission has considered the non-tariff income for the FY 2018-19 as detailed in the Table below.

Table 6.73: Non-tariff income approved for FY 2018-19

(Rs. Crore)

Sl. No.	**Particulars**	**Approved for FY 2018-19 in MYT order dated 21.03.2016**	**Projected by NBPDCL for FY 2018-19**	**Approved for FY 2018-19**
1	Base Non-tariff income	184.72	208.55	180.66
2	Rate of Increase	10.00%	--	10.00%
3	Increase in non-tariff income	18.47	--	18.07
4	**Sub-total**	**203.19**	**208.55**	**198.73**
5	Additional income due to release of new connections	--	--	41.66
6	**Total non-tariff income**	**203.19**	**208.55**	**240.39**

The Commission approves nontariff income at Rs.240.39 crore for FY 2018-19 as given in the table above.

6.29 Revenue from sale of power at existing tariff

Petitioner's submission

NBPDCL has submitted the category wise revenue based on the existing tariff for 2018-19 as detailed in the table below:

Table 6.74: Projected Revenue from sale of power at existing tariff for FY 2018-19

Category	Sales (MU)	FY 2018-19	ABR (INR/kWh)
Domestic	**5,450.68**	**1,968.58**	**3.61**
Kutir Jyoti- BPL Consumers	1,515.08	361.57	2.39
Domestic – I	2,223.25	717.22	3.23
Domestic – II	1,712.35	889.78	5.20
Commercial	**784.48**	**580.19**	**7.40**
Non-Domestic – I	85.64	35.47	4.14
Non-Domestic – II	698.84	544.72	7.79
Public Lighting	**16.83**	**15.26**	**9.06**
Street Light – I	6.88	5.40	7.86
Street Light – II	9.96	9.86	9.90
Irrigation	**522.95**	**253.06**	**4.84**
IAS – I	338.06	71.80	2.12
IAS – II	184.88	181.26	9.80
Public Water Works	**35.67**	**38.37**	**10.75**
Industrial LT	**294.67**	**213.28**	**7.24**
LTIS – I	270.32	190.24	7.04
LTIS – II	24.36	23.05	9.46
Industrial HT	**716.15**	**570.97**	**7.97**
HTS – I	434.39	365.37	8.41
HTS – II	149.33	118.69	7.95
HTS – III	65.95	53.32	8.09
HTSS	66.49	33.58	5.05
Railway	**62.67**	**61.64**	**9.84**
Nepal	**1,188.89**	**665.39**	**5.60**
DF	**1,058.00**	**484.56**	**4.58**
Total	**10,131.00**	**4,851.30**	**4.79**

Commission's analysis

The Petitioner has submitted that, the tariff subsidy from State Government is considered at the same level of FY 2017-18 and calculated the revenue from sale of power reducing the existing energy tariff rates with expected Government subsidy.

The State Government has not announced any such subsidy for FY 2018-19. The expected revenue from sale of power at existing tariff considering the energy sales as approved by the Commission for FY 2018-19 is as detailed in Table below.

For Muzaffarpur DF area, the input energy is considered as sale to DF and the weighted average per unit rate as per MoU is considered i.e., 7 months of FY 2017-18 and 5 months of FY 2018-19.

For sale of power to Nepal, the average per unit rate as per actuals during FY 2017-18 is considered for FY 2018-19 as per the Minutes of 11th Power Exchange Committee Meeting on 08.08.2017.

Table 6.75: Revenue from sale of power at existing tariff considered for FY 2018-19

Category	Consumers	Connected Load (KW)	Units Consumed(MU)	Existing Tariff			Revenue from Fixed Charges(in Cr)	Revenue from Energy Charges(in Cr)	Total Revenue (in Cr)	ABR (Rs/kWh)
				Fixed charge	Unit	Energy Charges				
KJ										
Unmetered	15624	3906	9.37	350.00	/connection/month		6.56	0.00	6.56	7.00
Metered (0-50)	3140800	785200	1505.71	10.00	/connection/month	5.75	37.69	865.78	903.47	6.00
Total	**3,156,424**	**789,106**	**1,515.08**				**44.25**	**865.78**	**910.04**	**6.01**
DSI (Rural)										
Unmetered	637308	746522	573.58	500.00	/connection/month	0.00	382.38	0.00	382.38	6.67
Metered							**59.35**	**971.72**	**1031.07**	
First 50 Units	1776739	2081214	933.99	20.00	per kW Per month	5.75	49.95	537.04	586.99	6.28
51 - 100 Units	214678	251467	160.07	20.00	per kW Per month	6.00	6.04	92.82	98.86	6.18
Above 100 Units	119688	140198	555.59	20.00	per kW Per month	6.25	3.36	341.86	345.22	6.21
Total	**2,748,412**	**3,219,401**	**2,223.23**				**441.73**	**971.72**	**1413.46**	**6.36**
DSII										
1-100 U/Month	1089973	1340001	592.71	40.00	per kW Per month	5.75	64.32	340.81	405.13	6.84
101 - 200 U/Month	175077	215238	454.65	40.00	per kW Per month	6.50	10.33	279.76	290.10	6.38
201 -300 U/Month	80305	98726	353.11	40.00	per kW Per month	7.25	4.74	234.33	239.06	6.77
above 300 U/Month	83182	103619	351.48	40.00	per kW Per month	8.00	4.97	236.27	241.24	6.86
Total	**1,428,537**	**1,757,584**	**1,751.95**				**84.36**	**1091.16**	**1175.53**	**6.71**
NDS-I (Rural)										
Unmetered	3377	2117	1.31	550.00	/connection/month	0.00	2.23	0.00	2.23	17.00
Metered							4.20	51.18	55.38	#DIV/0!
1-100 U/Month	78106	90256	42.43	30.00	per kW Per month	6.00	3.25	25.46	28.71	6.77
101 - 200 U/Month	8776	11657	21.77	30.00	per kW Per month	6.50	0.42	13.62	14.04	6.45
above 200 U/Month	11081	14687	20.13	30.00	per kW Per month	7.00	0.53	12.10	12.63	6.27
Total	**101,339**	**118,717**	**85.64**				**6.43**	**51.18**	**57.60**	**6.73**
NDS-II										

Category	Consumers	Connected Load (KW)	Units Consumed(MU)	Existing Tariff			Revenue from Fixed Charges(in Cr)	Revenue from Energy Charges(in Cr)	Total Revenue (in Cr)	ABR (Rs/kWh)
				Fixed charge	Unit	Energy Charges				
upto 0.5 kW	8650	12280	10.26	100.00	per kW Per month	6.00	1.47	6.16	7.63	7.44
Above 0.5 kW							146.06	413.94	560.00	#DIV/0!
1-100U/m	200094	523435	332.18	180.00	per kW Per month	6.00	113.06	199.31	312.37	9.40
101-200 U/m	22483	67607	170.42	180.00	per kW Per month	6.50	14.60	109.43	124.03	7.28
above 200 U/m	28387	85174	157.59	180.00	per kW Per month	7.00	18.40	105.20	123.60	7.84
Total	**259,614**	**688,496**	**670.45**				**147.54**	**420.09**	**567.63**	**8.47**
IAS_I										
Unmetered	40660	136698	160.14	800.00	per HP Per month	0.00	175.98	0.00	175.98	10.99
metered	109487	368094	177.86	30.00	per HP Per month	5.25	17.77	93.37	111.14	6.25
Total	**150,147**	**504,792**	**338.00**				**193.75**	**93.37**	**287.12**	**8.49**
IAS_II										
Unmetered	2854	35196	99.91	2100.00	per HP Per month	0.00	118.94	0.00	118.94	11.90
metered	3209	29934	84.97	200.00	per HP Per month	6.20	9.63	52.68	62.32	7.33
Total	**6,063**	**65,130**	**184.88**				**128.57**	**52.68**	**181.26**	**9.80**
PWW	904	17275	36.95	350.00	Per kW per month	7.50	7.26	34.21	41.47	11.22
Total	**904**	**17,275**	**37**				**7.26**	**34.21**	**41.47**	**11.22**
SS										
Metered	157	1064	6.88	50.00	Per kW per month	7.00	0.06	5.35	5.41	7.87
Unmetered	125	2577	7.73	3750.00	Per kW per month	0.00	11.60	0.00	11.60	15.00
Total	**282**	**3,641**	**14.61**				**11.66**	**5.35**	**17.01**	**11.64**
LTIS										
LTIS-I	15379	30297	202.53	160.00	Per kW per month	6.05	5.82	136.15	141.96	7.01
LTIS - II	686	38082	19.80	200.00	Per kW per month	6.05	9.14	13.31	22.45	11.34
Total	**16,065**	**68,379**	**222.33**				**14.96**	**149.46**	**164.41**	**7.39**
HTS-I	1037	221348	456.22	300.00	Per kVA per month	6.20	88.54	314.28	402.82	8.83
HTS-II	25	41636	99.25	300.00	Per kVA per month	6.15	16.65	67.82	84.48	8.51
HTS-III	2	34170	65.95	300.00	Per kVA per month	6.10	13.67	44.70	58.37	8.85

Category	Consumers	Connected Load (KW)	Units Consumed(MU)	Existing Tariff			Revenue from Fixed Charges(in Cr)	Revenue from Energy Charges(in Cr)	Total Revenue (in Cr)	ABR (Rs/kWh)
				Fixed charge	Unit	Energy Charges				
HTS-IV	0	0	0.00	300.00	Per kVA per month	6.05	0.00	0.00	0.00	#DIV/0!
HTSS	5	10737	66.49	700.00	Per kVA per month	3.70	10.02	27.33	37.36	5.62
Total	**1,069**	**307,891**	**687.91**				**128.88**	**454.14**	**583.02**	**8.48**
RTS	7	54900	65.80	280.00	Per kVA per month	6.35	20.50	46.43	66.92	10.17
Sale to Nepal	0	0	1189			6.15	0.00	731.23	731.23	6.15
DF			1058.00			4.58	0.00	484.56	484.56	4.58
Total	**7**	**54,900**	**2,312.79**				**20.50**	**1262.22**	**1282.71**	**5.55**
Grand Total	**7,868,863**	**7,595,312**	**10,043.82**				**1229.89**	**5451.37**	**6681.26**	**6.65**

6.30 Annual Revenue Requirement for FY 2018-19

Petitioner's submission:

The Petitioner has submitted the ARR for FY 2018-19, as detailed in the Table below:

Table 6.76: ARR projected for FY 2018-19

(Rs. Crore)

Sl. No.	Particulars	Projected by NBPDCL for FY 2018-19
1	Purchase of power	5070.88
2	PGCIL & Other transmission charges	325.48
3	BSPTCL transmission charges	257.34
4	BGCL Transmission charges	84.39
4	SLDC charges	
6	**O & M Expenses**	**507.03**
	a. Employee expenses	278.96
	b. R&M expenses	97.64
	c. A&G expenses	123.92
	d. Holding company expenses allocated	6.51
7	Depreciation	212.54
8	Interest & Finance charges	530.46
9	Interest on working capital	90.20
10	Return on equity	312.42
11	Interest on Security Deposit	25.43
12	Contingency reserve	--
13	**Total Revenue requirement (1 to 12)**	**7416.17**
14	**Less**: Non-tariff income	208.55
15	**Net Revenue requirement (13 - 14)**	**7207.62**

Commission analysis:

The Commission has computed the net annual revenue requirement based on the costs approved in the preceding paragraphs for FY 2018-19 as detailed in the Table below:

Table 6.77: ARR approved for FY 2018-19

(Rs. Crore)

Sl. No.	Particulars	Approved for FY 2018-19 in MYT order dated 21.03.2016	Projected by NBPDCL for FY 2018-19	Approved for FY 2018-19
1	**Total Purchase of power (a to h)**	**9835.76**	**5738.59**	**6480.33**
	a. Purchase of power	9132.13	5278.88	5427.36
	b. PGCIL & Other transmission charges	394.70	325.48	390.46
	c. BSPTCL transmission charges	308.93	257.34	549.41
	d. BGCL transmission charges	--	84.89	127.07
	e. SLDC Charges	--	--	1.97
	f. Sale of power to SBPDCL	--	(208.00)	--
	g. Less: 1% rebate	--	--	(64.96)
	h. RECs purchases to meet RPO	--	--	49.02
2	**O & M Expenses (a+b+c+d)**	**394.22**	**507.03**	**412.22**
	a. Employee expenses	200.37	278.96	238.36
	b. R&M expenses	133.42	97.64	90.14
	c. A&G expenses	52.70	123.92	77.21
	d. Holding company expenses allocated	7.72	6.51	6.51
3	Depreciation	60.62	212.54	73.22
4	Interest charges	188.50	456.80	68.59
5	Other finance charges	34.21	73.66	26.34
6	Return on equity	0.23	312.42	140.81
7	Income Tax	--	--	--
8	Interest on Security Deposit	25.41	25.43	19.69
9	Contingency Reserve	58.10	--	32.42
10	Interest on working capital	80.41	90.20	34.17
11	**Total Revenue requirement (1 to 10)**	**10677.46**	**7416.17**	**7287.78**
12	**Less**: Non-tariff income	203.19	208.55	240.39
13	**Net Revenue requirement (11-12)**	**10474.27**	**7207.62**	**7047.39**

6.31 Trued up net Revenue Surplus of FY 2016-17

The Commission had arrived at net revenue surplus of Rs.6.51 crore in truing up for FY 2016-17.

Regulation 14 (e) of the BERC (Multi Year Distribution Tariff) Regulations 2015 specify "***the Revenue gap/surplus arising out of truing up shall be considered by the Commission while determining the ARR of ensuing year and allow the carrying costs as determined of such expenses/revenues***".

The Commission, in terms of regulation 14 (e) has carried forward the trued up revenue surplus of Rs.6.51 crore along with carrying cost in the ARR of FY 2018-19.

The Commission has considered carrying cost @ 14.75% (SBI Advance Rate) for half year of FY 2016-17, @14.05% for full year of FY 2017-18 and @14% for half year of FY 2018-19 on the trued up revenue surplus of FY 2016-17 assuming that the surplus has been created over FY 2016-17 and adjustment/recovery would have been made over the year 2018-19 following the methodology adopted by the Hon'ble APTEL order dated 08.04.2015 in Appeal No.160 of 2012 (Reliance Infrastructure Limited *Vs* MERC & others) as detailed in the Table below:

Table 6.78: Trued up Approved Revenue Surplus of FY 2016-17 carried forward to ARR of FY 2018-19

(Rs. Crore)

Particulars	Amount
Revenue Surplus approved in true up for FY 2016-17	6.51
Interest for FY 2016-17 (SBI PLR @ 14.75%) for 6 months	0.48
Interest for FY 2017-18 (SBI PLR @ 14.05%) for 1 year	0.91
Interest for FY 2018-19 (SBI PLR @ 14.00%) for 6 months	0.46
Total Surplus with carrying cost/interest	**8.36**

The Commission, accordingly, carried forward and adjusted the revenue surplus of FY 2016-17 along with carrying cost against the ARR for FY 2018-19

6.32 Consolidated approved ARR of DISCOMs for FY 2018-19

The Commission, based on the Annual Revenue Requirement (ARR) approved for FY 2018-19 and estimated revenue from sale of power with existing tariff has arrived the revenue gap/(surplus) for FY 2018-19 as given in the Table below:

Table 6.79: Approved consolidated revenue Gap/(Surplus) for FY 2018-19

(Rs. Crore)

Sl. No.	Particulars	NBPDCL	SBPDCL	Total
1	ARR requirement	7047.39	9201.56	16248.95
2	Add: Revenue Gap/(Surplus) carried forward from FY 2016-17 including carrying cost	(8.36)	(0.18)	(8.55)
3	**Total ARR requirement (1+2)**	**7039.03**	**9201.38**	**16240.41**
4	**Less**: Revenue from Existing tariff	5950.03	8898.39	14848.42
5	**Less**: Revenue from sale of power-Nepal	731.23	0.00	731.23
6	**Net Gap / (Surplus) before subsidy (3-4-5)**	**357.77**	**302.99**	**660.76**

The Commission approves the net consolidated revenue Gap of Rs.660.76 Crore for DISCOMs for FY 2018-19.

6.33 Revenue with proposed Tariff

The Commission has computed the expected revenue for FY 2018-19 from sale of power by considering the fixed charges per unit and variable charges per unit. The Commission has considered the Gaya DF area as a separate entity as already discussed as per energy input supplied is to be billed at the rate considered in the agreement for the relevant year.

The additional revenue mobilisation through increase in tariff vis-a-vis the revenue with the existing tariff for FY 2018-19 are as given in the Tables below:

Table 6.80: Consolidated revenue with existing tariff and approved consolidated revenue Gap/(Surplus) for FY 2018-19

(Rs. Crore)

Sl. No.	Particulars	NBPDCL	SBPDCL	Total
1	Net ARR for FY 2018-19	7047.39	9201.56	16248.95
2	Revenue Gap/(Surplus) of FY 2016-17 carried forward including carrying cost	(8.36)	(0.18)	(8.55)
3	**Total revenue requirement**	**7039.03**	**9201.38**	**16240.41**
4	Revenue with existing Tariff	6681.26	8898.39	15579.65
5	**Gap**	**357.77**	**302.99**	**660.76**

Table 6.81: Consolidated revenue with approved tariff and approved consolidated revenue Gap/(Surplus) for FY 2018-19

(Rs. Crore)

Sl. No.	Particulars	NBPDCL	SBPDCL	Total
1	Net ARR (including past period gap)	**7039.03**	**9201.38**	**16240.41**
2	Revenue with approved tariff excluding DF	6448.99	9096.05	15545.05
3	Revenue from DF – Gaya	--	266.77	266.77
4	Revenue from DF – Muzaffarpur	484.56	--	484.56
5	Total revenue (2+3+4+5)	**6933.56**	**9362.82**	**16296.38**
6	Gap after tariff revision (1-6)	**105.47**	**(161.44)**	**(55.97)**

The additional revenue mobilised through increase in tariff is Rs.716.72 Crore (Rs.464.42 Crore for SBPDCL and Rs.252.30 Crore for NBPDCL) during FY 2018-19.

The consolidated Revenue surplus of Rs.55.97 Crore shown in the above table is based on estimates/projections of the Discoms. It is often experienced by the Commission that the financial performance of the Discoms is varying with reference to actuals reported through audited accounts, hence, the Commission retains the projected surplus subject to true up based on audited accounts for FY 2018-19.

6.34 Average Tariff as a percentage of Average Cost of Supply

The Commission has approved tariff for various consumer categories considering gradual reduction in cross subsidy in line with the requirement of Tariff Policy. As seen from the Table below, tariff as a percentage of average cost of service is moving towards the band of ± 20% of average cost of service as suggested in Tariff Policy. The average tariff as a percentage of average cost of service approved in Tariff Order for FY 2017-18 and that approved for FY 2018-19 (present tariff order) is as shown in the Table below:

Table 6.82: Average realisation as a percentage of average Cost of supply

Sl. No.	Category	FY 2017-18 (approved in Tariff Order dated 24.03.2017)			FY 2018-19 (approved by Commission)		
		Average realisation (Rs./kWh)	Average cost of supply (Rs./kWh)*	% of cost of supply	Average realisation (Rs./kWh)	Average cost of supply (Rs./kWh) *	% of cost of supply
1	Kutir Jyoti	6.08	7.31	83%	6.43	7.35	87%
2	Domestic – I	6.45	7.31	88%	6.62	7.35	90%
3	Domestic – II	6.48	7.31	89%	7.23	7.35	98%
4	Non-Domestic – I	6.78	7.31	93%	6.92	7.35	94%
5	Non-Domestic – II	8.02	7.31	110%	8.78	7.35	119%
6	Irrigation IAS – I	5.79	7.31	79%	6.61	7.35	90%
7	Irrigation IAS-II	8.09	7.31	111%	7.75	7.35	105%
8	LT IS-I	8.59	7.31	118%	8.60	7.35	117%
9	LT IS-II	8.62	7.31	118%	8.60	7.35	117%
10	Public Water Works	8.49	7.31	116%	8.67	7.35	118%
11	Street lights	8.72	7.31	119%	8.75	7.35	119%
12	HTS-I	8.69	7.31	119%	8.67	7.35	118%
13	HTS-II	8.69	7.31	119%	8.60	7.35	117%
14	HTS-III	8.02	7.31	110%	8.01	7.35	109%
15	HTSS	7.90	7.31	108%	5.88	7.35	80%
16	RTS	7.96	7.31	109%	7.93	7.35	108%

***** average cost of supply is combinedly for SBPDCL and NBPDCL

6.35 Average Tariff as a percentage of Voltage wise Cost of supply

The Commission has determined the voltage-wise cost of supply based on the limited data/information made available as details in Chapter-8. The average tariff as a percentage of voltage cost of supply approved in Tariff Order for FY 2017-18 and the average tariff as a percentage of voltage-wise cost of supply determined in Chapter-8 for FY 2018-19 (present tariff order) is as shown in the Table below:

Table 6.83: Average realisation as a percentage of voltage-wise Cost of Supply

Sl. No.	Category	FY 2017-18 (approved in Tariff Order dated 24.03.2017)			FY 2018-19 (approved by Commission)		
		Average realisation (Rs./kWh)	Voltage wise cost of supply (Rs./kWh)*	% of voltage-wise cost of supply	Average realisation (Rs./kWh)	Voltage wise cost of supply (Rs./kWh) *	% of Voltage-wise cost of supply
1	Kutir Jyoti	6.08	7.44	82%	6.43	7.72	83%
2	Domestic – I	6.45	7.44	87%	6.62	7.72	86%
3	Domestic – II	6.48	7.44	87%	7.23	7.72	94%
4	Non-Domestic-I	6.83	7.44	92%	6.92	7.72	90%

Sl. No.	Category	FY 2017-18 (approved in Tariff Order dated 24.03.2017)			FY 2018-19 (approved by Commission)		
		Average realisation (Rs./kWh)	Voltage wise cost of supply (Rs./kWh)*	% of voltage-wise cost of supply	Average realisation (Rs./kWh)	Voltage wise cost of supply (Rs./kWh) *	% of Voltage-wise cost of supply
5	Non-Domestic-II	8.02	7.44	108%	8.78	7.72	114%
6	Irrigation IAS-I	5.79	7.44	78%	6.61	7.72	86%
7	Irrigation IAS-II	8.09	7.44	109%	7.75	7.72	100%
8	LT IS-I	8.59	7.44	116%	8.60	7.72	111%
9	LT IS-II	8.62	7.44	116%	8.60	7.72	111%
10	Public Water Works	8.49	7.44	114%	8.67	7.72	112%
11	Street Lights	8.72	7.44	117%	8.75	7.72	113%
12	HTS-I	8.97	6.98	129%	8.67	7.23	120%
13	HTS-II	8.69	6.66	130%	8.60	6.89	125%
14	HTS-III	8.02	6.41	125%	8.01	6.63	121%
15	HTSS	7.90	6.66	119%	5.88	6.89	85%
16	RTS-I	7.96	6.41	124%	7.93	6.63	120%

* average cost of supply is combinedly for SBPDCL and NBPDCL

7. Government Grant/Revenue Subsidy

7.1 Background

The Government of Bihar has been giving resource gap grant to the erstwhile BSEB and now to the DISCOMs mainly to facilitate timely payment of power purchase bills and to meet the power purchase cost partly. Energy Department, Govt. of Bihar in its letter dated 19th September 2011 communicated to the Commission regarding its decision on the priority of the use of resource gap funding provided by the Government. The letter outlined that the State Government grants shall be used to compensate the financial losses caused on account of additional power purchase due to the difference in the actual T&D loss and the T&D loss determined/approved by the Commission and the remaining portion of grants will be used as subsidy to agriculture and rural domestic and non-domestic consumers.

Providing of resource gap grant and its utilisation as per GoB directions continued till end of FY 2016-17.

7.2 Resource Gap Grant Received during FY 2016-17

The State Finance Department had informed vide its letter no. 2835 dated 22.09.2016 that the quantum of subsidy to be given under resource gap assistance for FY 2016-17 would be Rs. 3834 Crores. Accordingly, the Commission had factored this information in the APR of FY 2016-17. Based on the audited accounts of FY 2016-17 and the information given in the tariff petition by the DISCOMs, it appears that the DISCOMs have received Rs. 3834 Crores from the State Government i.e., SBPDCL has received Rs. 2320.34 Crore and NBPDCL has received Rs. 1513.66 Crore.

Accordingly, the Commission has considered Rs.2320.37 Crore for SBPDCL and Rs. 1513.66 Crore for NBPDCL while truing up of the ARR of 2016-17 of the DISCOMs. The Commission while approving ARR of FY 2016-17 of SBPDCL and NBPDCL has approved utilization of such resource gap grant as tabulated below:

Table 7.1 : Resource Gap Grants received by Discoms during 2016-17 (Rs. Crore)

Particulars	2016-17					
	SBPDCL		NBPDCL		Total	
	Projected	Approved	Projected	Approved	Projected	Approved
Revenue Subsidy to subsidise tariff	1905.91	1006.95	1368.35	963.64	3274.26	1970.59
Revenue subsidy to compensate disallowance of PP cost	414.43	1313.39	145.32	550.02	559.75	1863.41
Total Resource gap grant	**2320.34**	**2320.34**	**1513.66**	**1513.66**	**3834.00**	**3834.00**

7.3 Tariff Subsidy for FY 2017-18

In the tariff petitions for FY 2017- 18, the DISCOMs have not proposed any resource gap assistance. Before admitting the tariff petition the Commission had specifically asked the petitioner DISCOMs to clarify whether the retail tariff for FY 2017-18 had to be determined without considering resource gap assistance from the Government. Upon this query, the representatives of the Petitioner Discoms during the process of hearing on tariff petition submitted that on the basis of a decision taken in the various review meetings at state level, the Discoms have filed the ARR petitions for 2017-18 without taking into consideration the resource gap assistance from the state government. It was also submitted by the Discoms that the decision as what category of consumers will get subsidy and how the subsidy will be transferred to such categories will be taken by the state government. The Commission therefore, considered that the DISCOMs would not be receiving upfront resource gap assistance during FY 2017-18 and had accordingly determined the ARR and tariff for FY 2017-18 of both the DISCOMs without taking it into consideration the resource gap assistance from the state Government.

The tripartite MoU of UDAY scheme which was signed by the Government of India, Government of Bihar and the DISCOMs provides for State Government support towards subsidy to BPL and rural consumers beginning from FY 2015-16 to FY 2019-

20. It also mentions Operational Funding Requirement (OFR) from FY 2015-16 to FY 2018-19. On a query from the Commission, the DISCOMs have clarified vide letter no. 18 dated 08.01.2018 (SBPDCL) and letter no. 42 dated 12.01.2018 (NBPDCL) that SBPDCL is receiving a sum of Rs. 148.88 Crore per month and NBPDCL is receiving a sum of Rs. 97.12 Crore per month i.e. Total of Rs.246 Crore (148.88+97.12) per month as State Government support towards tariff subsidy directly to the consumers. The same is also reflected in the electricity bill. The Commission considers this amount as part of revenue. DISOM are directed to apprise the State Government at the end of every month, category-wise details of energy sales billed amount with approved tariff rate, subsidy amount and total subsidy amount to be adjusted to the DISCOM by the Government.

7.4 Resource gap grant/subsidy for FY 2018-19

In the ARR of FY 2018-19 also, the DISCOMs have not projected any resources gap assistance from the Government but computed the revenue at the existing tariff of FY 2017-18 after reducing the subsidy component. In other words, the revenue has been computed at subsidized rates of FY 2017-18. During the validation session on 09.01.2018, DISCOMs clarified that they had not received any communication from the Government of Bihar regarding tariff subsidy for FY 2018-19.

Regulation 35 of BERC (Multi Year Distribution Tariff) Regulations 2015 mentions following provision for treatment of subsidy in determination of ARR and Tariff which is reproduced below:

"35: Subsidy

(a) The Commission shall determine the ARR and Tariff without considering subsidy. Provided that if the State Government declares subsidy for the categories of consumers after notification of Tariff Order, the licensee shall incorporate the same in the tariff and intimate the Commission with the revised Tariff Schedule that shall be charged if the subsidy is received in

advance: Provided further that in case the State Government declares subsidy in advance or during tariff filing proceedings and the licensee incorporates the subsidy in the petition, the Commission shall notify two tariff schedules, one with subsidy and the other without subsidy: Provided also that the Government's subsidy provided for or declared shall be supported by documentary evidence of time schedule of payment, mode of the payment of the subsidy and categorization of the subsidy amount into subsidized consumer categories:

(b) The Commission may clarify in the tariff order, post the declaration from the Government, the quantum of Government's subsidy as applicable to the fuel cost adjustment along with the range (%) of variable cost upto which the fuel adjustment cost shall not be passed to the consumers, category wise classification, mode of payment and schedule of payment etc.

(c) In case of no disbursement or delayed disbursement of subsidy by the Government, the licensee shall charge consumers as per the tariff schedule which is approved by the Commission without consideration of subsidy.

(d) In case the amount of subsidy by the Government is not utilized in full, the balance amount of subsidy amount shall be used for adjusting in ARR of the ensuing year(s)"

Section 65 of Electricity Act 2003 lays down following provision in respect of subsidy by the state government which is reproduced below:

"Section 65. Provision of subsidy by State Government:

If the State Government requires the grant of any subsidy to any consumer or class of consumers in the tariff determined by the State Commission under section 62, the State Government shall, notwithstanding any direction which may be given under section 108, pay, in advance and in such manner as may be specified, the amount to compensate the person affected by the grant of subsidy in the manner the State Commission may direct, as a condition for the *licence or any other person concerned to implement the subsidy provided for by the State Government:*

Provided that no such direction of the State Government shall be operative if the payment is not made in accordance with the provisions contained in this section and the tariff fixed by State Commission shall be applicable from the date of issue of orders by the Commission in this regard."

Since there is no documentary evidence either from License or the State Government regarding declaration of subsidy, Commission has determined the ARR and tariff for FY 2018-19 of both the DISCOMs without taking into consideration the resource gap assistance subsidy from the State Government.

In view of the circumstances wherein the information regarding declaration of advance resource gap assistance is not available, the Commission having considered the total ARR gap of Rs. 660.76 Crore for NBPDCL and SBPDCL together has decided to increase the overall average tariff rate by 5% during FY 2018-19.

8. Voltage-wise Cost of Supply

8.1 Introduction

Section 61 (g) of the Electricity Act 2003 states that *"the tariff progressively reflects the cost of supply of electricity and also reduces cross-subsidies in the manner specified by the Appropriate Commission"*.

Cost of supply is a study of total costs incurred by a utility in providing service to its consumers, category-wise and voltage level wise. Vital input to cost of supply study is reliable, accurate and consistent information which is derived from special studies conducted in the field level i.e. category wise Load Factors, category – wise coincident Demand Factors etc., based on which the cost related to Demand (MW), Energy (MU) and customer charges have to be allocated to various consumer categories. Since many utilities were expressing difficulties to compute voltage wise cost of supply in the absence of such data, Honourable APTEL has suggested a simple methodology for computing voltage wise cost of supply.

The Appellate Tribunal for Electricity (APTEL) in its order dated 10th May, 2012 in the Appeal No.14 of 2011 of Bihar Industries Association and Appeal No.27 of 2011 Kalyanpur Cements Limited has issued the guidelines on the alignment of tariff to Cost of Supply.

The methodology indicated by the Tribunal for determination of "Cost of Supply" in the order is reproduced below:

"31. We appreciate that the determination of cost of supply to different categories of consumers is a difficult exercise in view of non-availability of metering data and segregation of network costs. However, it will not be prudent to wait indefinitely for availability of the entire data and it would be advisable to initiate a simple formulation which could take into account the major cost element to a great extent reflect the cost of supply. There is no need to make distinction between the

distribution charges of identical consumers connected at different nodes in the distribution network. It would be adequate to determine the voltage-wise cost of supply taking into account the major cost element which would be applicable to all the categories of consumers connected to the same voltage level at different locations in the distribution system. Since the State Commission has expressed difficulties in determining voltage wise cost of supply, we would like to give necessary directions in this regard.

32. Ideally, the network cost can be split into the partial costs of the different voltage level and the cost of supply at a particular voltage level is the cost at that voltage level and upstream network. However, in the absence of segregated network costs, it would be prudent to work out the voltage-wise cost of supply taking into account the distribution losses at different voltage levels as a first major step in the right direction. As power purchase cost is a major component of the tariff, apportioning the power purchase cost at different voltage levels taking into account the distribution losses at the relevant voltage level and the upstream system will facilitate determination of voltage wise cost of supply, though not very accurate, but a simple and practical method to reflect the actual cost of supply.

33. The technical distribution system losses in the distribution network can be assessed by carrying out system studies based on the available load data. Some difficulty might be faced in reflecting the entire distribution system 11 kV and 0.4 kV due to vastness of data. This could be simplified by carrying out field studies with representative feeders of the various consumer mix prevailing in the distribution system. However, the actual distribution losses allowed in the ARR which include the commercial losses will be more than the technical losses determined by the system studies. Therefore, the difference between the losses allowed in the ARR and that determined by the system studies may have to be apportioned to different voltage levels in *proportion to the annual gross energy consumption at the respective voltage level. The annual gross energy consumption at a voltage level will be the sum of energy consumption of all consumer categories connected at that voltage plus the technical, distribution losses corresponding to that voltage level as worked out by system studies. In this manner, the total losses allowed in the ARR can be apportioned to different voltage levels including the EHT consumers directly connected to the transmission system of GRIDCO. The cost of supply of the appellant's category who are connected to the 220/132 kV voltage may have zero technical losses but will have a component of apportioned distribution losses due to difference between the loss level allowed in ARR (which includes commercial losses) and the technical losses determined by the system studies, which they have to bear as consumers of the distribution licensee.*

34. Thus power purchase cost which is the major component of tariff can be segregated for different voltage levels taking into account the transmission and distribution losses, both commercial and technical, for the relevant voltage level and upstream system. As segregated network costs are not available, all the other costs such as return on equity, interest on loan, depreciation, interest on working capital and O&M costs can be pooled and apportioned equitably, on pro-rata basis, to all the voltage levels including the appellant's category to determine the cost of supply. Segregating power purchase cost taking into account voltage-wise transmission and distribution losses will be a major step in the right direction for determining the actual cost of supply to various consumer categories. All consumer categories connected to the same voltage will have the same cost of supply. Further, refinements in formulation for cost of supply can be done gradually when more data is available.

35……………………..

36. The learned counsel for the Appellants has argued that it would not be difficult to determine cost of supply for them as they draw electricity directly from the transmission system of the State Transmission Licensee. We feel that even if it is not difficult for the State Commission to determine the cost of supply for the appellants, unless the cost of supply is determined for all the consumer categories connected to different voltage levels, it will not serve any purpose. We also do not accept the argument of the learned counsel for the appellant that the distribution losses and network costs in respect of the appellant consumer categories will be nil. As stated above, the commercial losses of the distribution system have to be borne by all the consumers of the distribution licensee. However, as the distribution losses reduce gradually, the cost of supply for the appellants' category will also reduce. We also can not grant any relief to the appellants on account of fixed charges for the distribution system assets and O&M expenses, etc., due to complexities involved in determining the segregated cost of service and in light of amendment of 2007 of the Act removing the provision of elimination of subsidies.

37. We, however, direct the State Commission to determine the cross subsidy for each consumer category after working out the voltage-wise cost of supply based on the directions given in the preceding paragraphs. The cross subsidy will be calculated as the difference between the average tariff realization for that category as per the Annual Revenue Requirement and the cost of supply for the consumer category based on voltage-based cost of supply".

8.2 Background

The Commission has been computing the voltage-wise cost of supply since the Tariff Order for FY 2013-14 keeping in view the guidelines indicated by the Hon'ble APTEL in its order dated 10th May, 2012.

8.3 Computation of Voltage-wise cost of supply

Petitioner's Submission

DISCOMs have submitted that the voltage wise losses are computed based on certain assumptions after observing the sample feeder data available with DISCOMs and also submitted that the voltage wise cost of supply is computed keeping in view of distribution loss percentage approved by the Commission for FY 2018-19.

Table 8.1: Voltage wise Technical losses considered by DISCOMs for FY 2018-19

S. No.	Voltage Level (kV)	Technical loss (%)	Cumulative loss (%)
1	220/132	3.92%	3.92%
2	33	5.00%	8.72%
3	11	6.00%	10.70%
4	0.4	10.50%	20.08%

DISCOMs have arrived at voltage wise sales considering the projected sale of power for FY 2018-19, across various categories at the respective voltages as mentioned in the Table below

Table 8.2 : Classification of Categories on the basis of Voltage of power supply

S. No.	Voltage Level	Categories
1	220/132 kV	HTS-III, Railways, Nepal
2	33 kV	HTS-II, HTSS, DF
3	11 kV	HTS-I
4	LT	Domestic, Non Domestic, Agriculture and Others

The Petitioners further submitted that since the voltage wise cost of supply study is based on the sample data certain parameters such as total loss, energy input etc. may not tally with the main energy balance projected for FY 2018-19.

Methodology adopted by DISCOMs for determination of Cost of Supply

DISCOMs have submitted that due to lack of data for segregation of technical and commercial losses, it is not feasible to fix the technical and commercial loss levels within proposed loss levels. In order to understand component of technical losses in total T&D loss, technical loss at each voltage level need to be grossed up. Following is the technical loss considered for each voltage level and cumulative losses at subsequent voltage levels.

Table 8.3 : Voltage wise Technical losses considered by DISCOMs for FY 2018-19

S.No.	Voltage Level (kV)	Technical loss (%)	Cumulative loss (%)
1	132	3.92%	3.92%
2	33	5.00%	8.72%
3	11	6.00%	10.70%
4	0.4	10.50%	20.08%

SBPDCL has calculated apportionment of technical losses to the voltage wise sale as below:

Table 8.4: Apportionment of technical losses to voltage wise sale projected by SBPDCL

Sl. No.	Voltage Level (kV)	Technical losses (%)	Cumulative loss (%)	Energy Sale (MU)	Energy input (MU)	Technical loss (MU)
1	220/132	3.92%	3.92%	751.42	782.08	30.66
2	33	5.00%	8.72%	1,275.32	1,342.44	67.12
3	11	6.00%	10.70%	647.10	688.40	41.30
4	0.4	12.70%	22.04%	9,793.87	11,218.63	1,424.77
	Total			**12,467.71**	**14,031.56**	**1,563.85**

NBPDCL has calculated apportionment of technical losses to the voltage wise sale as below:

Table 8.5 : Apportionment of technical losses to voltage wise sale projected by NBPDCL

S. No.	Voltage Level (kV)	Technical losses(%)	Cumulative loss (%)	Energy Sale (MU)	Energy input (MU)	Technical loss (MU)
1	220/132	3.92%	3.92%	1,317.51	1,371.27	53.75
2	33	5.00%	8.72%	1,273.27	1,340.29	67.01
3	11	6.00%	10.70%	434.39	462.12	27.73
4	0.4	10.50%	20.08%	7,105.83	7,939.47	833.64
Total				**10,131.00**	**11,113.14**	**982.14**

SBPDCL has submitted that Commercial losses (difference of total losses and grossed up technical losses) are apportioned pro rata to energy sales at each voltage level.

Table 8.6: Apportionment of Commercial losses to voltage wise sale projected by SBPDCL

S. No.	Voltage Level (kV)	Energy sale(MU)	Technical loss(MU)	Sales + Tech Loss (MU)	Commercial Loss (MU)	Energy Input at State Periphery (MU)
1	220/132	751.42	30.66	782.08	166.29	948.37
2	33	1275.32	67.12	1342.44	285.43	1627.87
3	11	647.10	41.30	688.40	146.37	834.77
4	0.4	9793.87	1424.77	11218.63	2385.29	13603.93
Total		**12467.71**	**1563.85**	**14031.56**	**2983.38**	**17014.94**

NBPDCL has submitted that Commercial losses (difference of total losses and grossed up technical losses) are apportioned pro rata to energy sales at each voltage level.

Table 8.7: Apportionment of Commercial losses to voltage wise sale projected by NBPDCL

S. No.	Voltage Level (kV)	Energy sale(MU)	Technical loss(MU)	Sales + Tech Loss (MU)	Commercial Loss (MU)	Energy Input at State Periphery (MU)
1	220/132	1,317.51	53.75	1,371.27	252.30	1,623.57
2	33	1,273.27	67.01	1,340.29	246.60	1,586.88
3	11	434.39	27.73	462.12	85.02	547.14
4	0.4	7,105.83	833.64	7,939.47	1,460.77	9,400.25
Total		**10,131.00**	**982.14**	**11,113.14**	**2,044.69**	**13,157.84**

SBPCL has submitted that the projected Power Purchase Cost (including PGCIL, POSOCO, BSPTCL, BGCL & ERLDC transmission costs) of the Petitioner for FY 2018-19 is Rs. 4.36/ kWh and has computed the allocation of power purchase cost to the total energy sales as given below:

Table 8.8 : Allocation of power purchase cost to the total energy sales projected by SBPDCL

S. No.	Voltage Level kV	Energy Sale (MU)	Energy Input at State periphery(MU)	Average power purchase cost	Power Purchase Cost (INR Cr)	Cost of Power per unit sale of Energy (INR/kWh)
1	220/132	751.42	948.37	4.36	413.36	5.50
2	33	1,275.32	1,627.87	4.36	709.54	5.56
3	11	647.10	834.77	4.36	363.85	5.62

4	0.4	9,793.87	13,603.93	4.36	5,929.54	6.05
Total		12,467.71	17,014.94	4.36	7,416.30	5.95

NBPCL has submitted that the projected Power Purchase Cost (including PGCIL, POSOCO, BSPTCL, BGCL & ERLDC transmission costs) of the Petitioner for FY 2018-19 is Rs. 4.36/ kWh and has computed the allocation of power purchase cost to the total energy sales as given below:

Table 8.9: Allocation of power purchase cost to the total energy sales projected by NBPDCL

S. No.	Voltage Level (kV)	Energy Sale (MU)	Energy Input at State periphery(MU)	Average power purchase cost	Power Purchase Cost (INR Crore)	Cost of Power per unit sale of Energy (INR/kWh)
1	220/132	1,317.51	1,623.57	4.37	709.34	5.38
2	33	1,273.27	1,586.88	4.37	693.32	5.45
3	11	434.39	547.14	4.37	239.05	5.50
4	0.4	7,105.83	9,400.25	4.37	4,107.02	5.78
Total		**10,131.00**	**13,157.84**	**4.37**	**5,748.73**	**5.67**

DISCOMs have submitted that the details of fixed distribution costs for FY 2018-19 are as provided below which are excluding Power Purchase and PGCIL charges.

Table 8.10 : Allocation of Network Cost projected by DISCOMs

S. No.	Particulars	SBPDCL (Rs. Cr)	NBPDCL (Rs. Cr)
1	Employee Cost	413.20	278.96
2	R&M costs	151.45	97.64
3	A&G expenses	81.53	123.92
4	Holding Company	6.59	6.51
5	Depreciation	278.80	212.54
6	Interest & Finance Charges	792.37	530.46
7	Interest on Working Capital	121.40	90.33
8	RPO fund		
9	Return on Equity	452.27	312.42
10	Interest on Security Deposit	39.33	25.43
11	Less: IDC		
12	Less: Non-Tariff Income	152.21	208.55
13	Total	2,184.72	1,469.67

14	Transmission cost	851.21	347.46
15	Total cost	3,035.93	1,817.13
16	Energy Sales (MU)	12,467.71	10,131.00
17	**Network Cost per unit sale of energy (Distribution + Transmission) (INR/kWh)**	**2.44**	**1.79**

SBPDCL has submitted that the Cost of Supply computed for different voltage levels for FY 2018-19 as given in the table below:

Table 8.11: Cost of Supply at different Voltage Levels projected by SBPDCL

S. No.	Supply Voltage	Cost of power purchase (INR/kWh)	Network cost (INR/kWh)	Cost of supply (INR/kWh)
1	220/132 kV	5.50	2.44	7.94
2	33 kV	5.56	2.44	8.00
3	11 kV	5.62	2.44	8.06
4	0.4 kV	6.05	2.44	8.49

NBPDCL has submitted that the Cost of Supply at different voltage levels for FY 2018-19 is as given in the table below:

Table 8.12: Cost of Supply at different Voltage Levels projected by NBPDCL

S. No.	Supply Voltage	Cost of power purchase (INR/unit)	Network cost	Cost of supply
			(INR/unit)	(INR/unit)
1	220/132 KV	5.38	1.79	7.18
2	33 KV	5.45	1.79	7.24
3	11 KV	5.50	1.79	7.30
4	0.4 KV	5.78	1.79	7.57

Computation of Voltage-wise cost of supply by the Commission

Commission's Analysis

The Commission has observed many mistakes in the calculation of voltage-wise cost of supply by the Petitioners. The method of apportionment of energy input calculated in Table 8.6 above by SBPDCL and Table 8.7 above by NBPDCL are not correct. Instead of considering energy input at transmission periphery they have considered total energy purchase projected for FY 2018-19. SBPDCL in Table 8.8 above and NBPDCL in Table 8.9 above have calculated the average power purchase cost including PGCIL, BSPTCL and BGCL charges instead of only PGCIL charges. While computing network cost per unit sale of energy PGCIL charges also included in the transmission cost in Table 8.10 above by SBPDCL.

The Commission has computed the voltage-wise cost of supply for FY 2018-19 adopting the energy sales, T&D losses, network expenses as approved by the Commission for FY 2018-19 as explained below:

1. **APTEL's guidelines on alignment of tariff to cost of supply:**
   The Hon'ble Appellate Tribunal for Electricity (APTEL) in its order dated 10th May, 2012 on the Appeal No.14 of 2011 of Bihar Industries Association and Appeal No.27 of 2011 Kalyanpur Cements Limited has issued the orders on the alignment of tariff to Cost of Supply.

2. **Methodology suggested by APTEL**

   The methodology given by the APTEL for determination of voltage-wise "Cost of Supply" and the inputs required are briefly given below:

   (i) *The technical distribution system losses in the distribution network are to be assessed by carrying out system studies based on available load data for 33 kV and above voltages and in the case of 11 kV and 0.40 kV (LT), due to vastness of data, field studies to be carried out with representative feeders for the various consumer mix prevailing in the distribution system.*

   (ii) *The total losses in the system, which include commercial or non-technical losses, will be more than the technical losses determined based on the system* *studies. Therefore, the difference between the total losses in the system and the technical losses determined by the studies may have to be apportioned to different voltage levels in proportion to annual gross energy consumption at the respective voltage level.*

The annual gross energy consumption of all consumers at a voltage level will be the sum of energy consumption of all consumer categories connected at that voltage plus the technical losses corresponding to that voltage level as worked out by the system studies.

(iii) *(The power purchase cost which is the major component of tariff is to be segregated for different voltage levels taking into account the transmission and distribution losses, both technical and non-technical commercial for the relevant voltage level and upstream system.*

The network costs such as O&M costs, interest on loans, depreciation, interest on working capital and return on equity are to be pooled and apportioned equitably on pro-rata basis to all voltage levels to determine the cost of supply.

3. Pre-requisite for arriving at the voltage wise Cost of Supply (CoS):

As per the APTEL judgment, assessment of the technical loss in the distribution system network by carrying out system studies based on the available load data for 33 kV and above and field studies for representative feeders for 11 kV and 0.4 kV of the various consumer mix prevailing in the distribution system is a pre- requisite for arriving at the voltage-wise cost of supply as per methodology ordered by the APTEL.

4. Fixation of T&D Loss:

The technical losses indicated by the DISCOMs are based on the limited field study only.

APTEL in its guidelines has indicated that the T&D loss as approved by the Commission in its Tariff Order has to be considered while computing the voltage - wise cost of supply. Due to lack of data for segregation of technical and commercial losses, the Commission could not separately fix the technical and commercial loss level within the total distribution loss approved for FY 2018-19. It is considered appropriate to assume technical and commercial loss levels for realistic assessment of Cost of Supply within overall T&D loss level i.e. Transmission Loss of 3.92% as approved to BSPTCL and Distribution Loss of 22.00% allowed to SBPDCL and 20% allowed to NBPDCL by the Commission.

The Commission has considered the following voltage-wise technical loss level to Discoms for FY 2018-19 for computing voltage wise cost of supply:

Table 8.13: Voltage –wise technical losses considered by Commission

Sl.No.	Voltage Level	L Loss (%)
1	State Transmission Loss (220/132 kV)	3.92%
2	33 kV	5.00%
3	11 kV	6.00%
4	LT	8.00%

Based on the above assumptions, the Commission has computed the voltage-wise Cost of Supply. The Commission has computed the voltage-wise cost of supply for both the distribution companies separately for FY 2018-19, in view of the separate distribution loss percentage approved for FY 2018-19.

5. Energy Sales approved for FY 2018-19:

The Commission has considered the approved energy sales and voltage-wise energy sales for FY 2018-19 as given in the Table below:

Table 8.14: Approved Sales of the DISCOMs for FY 2018-19

(MU)

Sl. No	Category	Energy Sales approved (including DF Area) for FY 2018-19 (MU)

		SBPDCL	NBPDCL	Total
1	Kutir Jyoti	650.54	1606.52	2257.06
2	Domestic-I	1898.32	2291.86	4190.18
3	Domestic-II	4251.93	2047.22	6299.15
4	Non-Domestic-I	50.91	90.10	141.01
5	Non-Domestic-II	1321.67	768.35	2090.02
6	Street Light-I	23.45	7.14	30.59
7	Street Light-II	11.43	34.55	45.98
8	IAS-I	557.39	338.92	896.31
9	IAS-II	153.81	192.35	346.16
10	Public Water Works	95.58	41.64	137.22
11	LTIS-I	329.41	230.71	560.12
12	LTIS-II	189.16	28.66	217.82
13	HTS-I	719.84	534.90	1254.74
14	HTS-II	358.62	114.45	473.07
15	HTS-III	180.94	65.95	246.89
16	HTSS	899.95	167.79	1067.74
17	Railway	591.79	65.80	657.59
18	Nepal	0.00	1188.89	1188.89
19	**Total**	**12284.74**	**9815.90**	**22100.64**

Sl. No.	Voltage and Category	Sales Approved for SBPDCL (MU)	Sales Approved for NBPDCL (MU)
A	**220/132 KV**		
	HT Industry (HTS-III)	180.94	65.95
	Railway Traction	591.79	65.80
	Nepal	-	1,188.89
	Sub – Total	**772.73**	**1,320.64**
B	**33 KV**		
	HTS-II	358.62	114.45
	HTSS	899.95	167.79
	Sub – Total	**1,258.57**	**282.24**
C	**11 KV**		
	HTS-I	719.84	534.90
	Sub-Total	**719.84**	**534.90**
D	**LT**		
	Domestic, Non-Domestic, Agriculture and Others	9,533.60	7678.12
	Total (A+B+C+D)	**12,284.74**	**9815.90**

6. Voltage-wise Losses:

As per APTEL guidelines Distribution system technical losses have to be assessed by carrying out system studies based on available data. Since the DISCOMs have not provided such data the Commission has assumed the technical losses at various voltage levels as shown in the table 8.13 above.

As stated in para 33 of APTEL order dated 10.05.2012, the voltage-wise commercial losses are to be arrived at by segregating the total commercial losses in proportion to grossed up sales (Actual consumption + technical loss) voltage-wise.

In para 34 of APTEL order it is reiterated that the power purchase cost is to be segregated for different voltage levels taking into account the transmission and distribution losses, both commercial and technical, for relevant voltage level and upstream system. Thus the losses (technical) at 33 KV shall be the losses at that voltage and also at upstream 132 KV voltages.

Computation of Technical Losses:

The technical Losses are arrived based on the following formulae as given below:

Voltage Level	Sales (MU)	Volt. Wise Tech. Loss (%)	Energy Input (MU)	Tech. Losses (MU)
1	2	3	4	5
132/220 KV	A	**w**	=A/(1-w%)	=(4)-(2)
33 KV	B	**x**	=B/(1-x%)(1-w%)	=(4)-(2)
11 KV	C	**y**	=C/(1-y%)(1-x%)(1-w%)	=(4)-(2)
LT	D	**z**	=D/(1-z%)/(1-y%)(1-x%)(1-w%)	=(4)-(2)
Total	**(A+B+C+D)**			

The technical losses and commercial Losses are computed as given in the Tables below:

Technical Losses for SBPDCL

Sl. No.	Voltage Level (kV)	Voltage-wise Technical Losses (%)	Cumulative Loss (%)	Energy Sale (MU)	Energy input (MU)	Technical Loss (MU)
1	**2**	**3**	**4**	**5**	**6**	**7=(6-5)**
1	220/132	3.92%	3.92%	772.73	804.26	31.53
2	33	5.00%	8.72%	1258.57	1378.86	120.29

3	11	6.00%	14.20%	719.84	838.98	119.14
4	0.4	8.00%	21.06%	9533.6	12077.71	2544.11
Total				**12284.74**	**15099.81**	**2815.07**

Technical Losses for NBPDCL

Sl. No.	Voltage Level (kV)	Voltage-wise Technical Losses (%)	Cumulative Loss (%)	Energy Sale (MU)	Energy input (MU)	Technical Loss (MU)
1	**2**	**3**	**4**	**5**	**6**	**7=(6-5)**
1	220/132	3.92%	3.92%	1320.64	1374.52	53.88
2	33	5.00%	8.72%	282.24	309.22	26.98
3	11	6.00%	14.20%	534.9	623.43	88.53
4	0.4	8.00%	21.06%	7678.12	9727.08	2048.96
Total				**9815.90**	**12034.25**	**2218.35**

Technical and Commercial Losses for SBPDCL

Sl. No.	Voltage Level (KV)	Energy Sale (MU)	Technical Loss (MU)	Sales + Tech Loss (MU)	Commercial Loss (MU)	Energy Sales + Tech. Loss + Commercial Loss (MU)
1	**2**	**3**	**4**	**5=(3+4)**	**6**	**7=(5+6)**
1	220/132	772.73	31.53	804.26	68.84	873.10
2	33	1258.57	120.29	1378.86	118.02	1496.88
3	11	719.84	119.14	838.98	71.81	910.79
4	LT	9533.60	2544.11	12077.71	1033.76	13111.47
	Total	**12284.74**	**2815.07**	**15099.81**	**1292.43**	**16392.24**

Note: The commercial losses are obtained by reducing the sales + technical losses from the energy input at state periphery (16392.24-15099.81=1292.43). The commercial losses so arrived are allocated in proportion to the sales and the technical losses to each voltage level.

Technical and Commercial Losses for NBPDCL

Sl. No.	Voltage Level (KV)	Energy Sale (MU)	Technical Loss (MU)	Sales + Tech Loss (MU)	Commercial Loss (MU)	Energy Sales + Tech. Loss + Commercial Loss (MU)
1	**2**	**3**	**4**	**5=(3+4)**	**6**	**7=(5+6)**
1	220/132	1320.64	53.88	1374.52	48.75	1423.27
2	33	282.24	26.98	309.22	10.97	320.18
3	11	534.9	88.53	623.43	22.11	645.54
4	LT	7678.12	2048.96	9727.08	345.02	10072.10
	Total	**9815.9**	**2218.35**	**12034.25**	**426.85**	**12461.10**

Note: The commercial losses are obtained by reducing the sales + technical losses from the energy input at state periphery (12461.10-120034.25=426.85). The commercial losses so arrived are allocated in proportion to the sales and the technical losses to each voltage level.

Allocation of Power Purchase Cost for FY 2018-19

The power purchase cost has been allocated for different voltage levels (excluding PGCIL Losses) taking into account the State Transmission loss and Distribution loss, (both commercial and technical) for the relevant voltage level and upstream as per methodology indicated by APTEL.

The Commission, after deducting the regional transmission losses from the total power purchases, the average power purchase cost per unit computed as detailed below:

Sl. No.	Particulars	SBPDCL	NBPDCL	Total
1	Gross Power Purchase (MU)	16706.46	12696.16	29402.62
2	Less: PGCIL Loss (MU)	314.14	235.06	549.20
3	**Net Power Purchase (MU)**	**16392.32**	**12461.10**	**28853.42**
4	Power Purchase Cost including PGCIL Charges (Rs. Crore)	7274.82	5817.82	13092.64
5	Average purchase Rate (Rs./kWh) (4/3)	4.44	4.67	4.54

a. Allocation of power purchase cost for SBPDCL

Sl. No.	Voltage Level (kV)	Energy Sale (MU)	Energy Sales + Technical loss + Comml. loss (MU)	Cost of power purchase approved by the Commission (Rs./unit)	Power Purchase Cost (Rs. Cr)	Cost of Power per unit sale of Energy (Rs./unit)
1	**2**	**3**	**4**	**5**	**6 = (4*5)**	**7= (6÷3)**
1	220/132 kV	772.73	873.10	4.54	396.18	5.13
2	33 kV	1258.57	1496.88	4.54	679.23	5.40
3	11 kV	719.84	910.79	4.54	413.28	5.74
4	LT	9533.6	13111.47	4.54	5949.51	6.24
	Total	**12284.74**	**16392.24**		**7438.21**	**6.05**

Allocation of power purchase cost for NBPDCL

Sl. No.	Voltage Level (kV)	Energy Sale (MU)	Energy Sales + Technical loss + Comml. loss (MU)	Cost of power purchase approved by the Commission (Rs./unit)	Power Purchase Cost (Rs. Cr)	Cost of Power per unit sale of Energy (Rs./unit)
1	**2**	**3**	**4**	**5**	**6 = (4*5)**	**7= (6÷3)**
1	220/132 kV	1320.64	1423.27	4.54	645.83	4.89
2	33 kV	282.24	320.18	4.54	145.29	5.15
3	11 kV	534.9	645.54	4.54	292.92	5.48
4	LT	7678.12	10072.10	4.54	4570.35	5.95

Sl. No.	Voltage Level (kV)	Energy Sale (MU)	Energy Sales + Technical loss + Comml. loss (MU)	Cost of power purchase approved by the Commission (Rs./unit)	Power Purchase Cost (Rs. Cr)	Cost of Power per unit sale of Energy (Rs./unit)
	Total	**9815.9**	**12461.10**		**5654.40**	**5.76**

Network Cost

Hon'ble APTEL in its order has indicted the method for allocation of network costs at different voltage levels as under:

" ………… all other cost such as Return on Equity , interest on loan , interest on working capital and O&M costs can be pooled and apportioned equitably, on pro - rata basis to all the voltage level to determine the cost of supply".

The network costs approved by the Commission for FY 2017-18 are as given below:

Table 8.15: Network Cost approved by the Commission for FY 2018-19

(Rs. Crore)

Sl. No.	Particulars	NBPDCL	SBPDCL	Total Amount
1	Employee Cost	238.36	351.82	590.18
2	R&M costs	90.14	156.7	246.84
3	A&G expenses	77.21	56.62	133.83
4	Holding Company	6.51	6.59	13.1
5	Depreciation	73.22	188.63	261.85
6	Interest & Finance Charges	68.59	169.06	237.65
7	Other Finance charges	26.34	20.97	47.31
8	Interest on Working Capital	34.17	33.60	67.77
9	Deposit of RPO	0	0	0
10	Interest on security deposit	19.69	30.45	50.14
11	Contingency reserve	32.42	43.82	76.24
12	Return on Equity	140.81	271.28	412.09
13	Less: IDC	0	0	0
14	**Total (1 to 12)**	**807.46**	**1329.54**	**2137**
15	BSPTCL Transmission cost	549.41	644.96	1194.37
16	SLDC	1.97	2.31	4.28
17	BGCL	127.07	149.17	276.24

Sl. No.	Particulars	NBPDCL	SBPDCL	Total Amount
18	**Total cost (14 to 17)**	**1485.91**	**2125.98**	**3611.89**
19	Energy Sales (MU)	9815.9	12284.74	22100.64
20	Network Cost per unit sale of energy (Distribution + Transmission) (Rs./kWh)	**1.51**	**1.73**	**1.63**

Cost of supply at different voltage levels

Based on the power purchase cost and network cost as above, the cost of supply at different voltage levels is arrived at as below:

Table 8.16: Cost of supply at different voltage levels approved for FY 2018-19 for SBPDCL

Sl. No.	Supply voltage	Cost of Power Purchase (Rs./unit)	Network cost (Rs./unit)	Cost of supply (Rs./unit)
1	**2**	**3**	**4**	**5=(3+4)**
1	220/132 kV	5.13	1.73	6.86
2	33 kV	5.40	1.73	7.13
3	11 kV	5.74	1.73	7.47
4	LT	6.24	1.73	7.97

Table 8.17: Cost of supply at different voltage levels approved for FY 2018-19 for NBPDCL

Sl. No.	Supply voltage	Cost of Power Purchase (Rs./unit)	Network cost (Rs./unit)	Cost of supply (Rs./unit)
1	**2**	**3**	**4**	**5=(3+4)**
1	220/132 kV	4.89	1.51	6.40
2	33 kV	5.15	1.51	6.66
3	11 kV	5.48	1.51	6.99
4	LT	5.95	1.51	7.47

Table 8.18: Combined Average Cost of supply at different voltage levels approved for FY 2018-19

Sl. No.	Supply voltage	Cost of supply (Rs./unit)		
		SBPDCL	NBPDCL	Average cost

				of supply
1	220/132 kV	6.86	6.40	6.63
2	33 kV	7.13	6.66	6.89
3	11 kV	7.47	6.99	7.23
4	LT	7.97	7.47	7.72

The Commission is of the view that in the absence of actual data of voltage-wise technical and commercial losses as well as voltage-wise network costs, the voltage-wise cost of supply worked out based on above methodology suggested by Hon'ble APTEL will not be a true reflection of actual voltage-wise cost of supply; there is a need to work out the voltage-wise cost of supply in a more scientific manner considering the actual data based on technical studies for ascertaining voltage-wise loss levels. Accordingly, the Commission has decided to continue the determination of category-wise tariff and cross subsidy on the basis of average cost of supply. However, the Commission directs the DISCOMs to undertake a detailed study to estimate the technical loss levels at each voltage level and accordingly compute the voltage-wise cost of supply for FY 2019-20 in next tariff petition.

9. Tariff Principles, Design and Tariff Schedule

9.1. Background

The Commission in determining the Annual Revenue Requirement (ARR) and the retail tariff for FY 2018-19 has been guided by the provisions of the Electricity Act, 2003 (Act), National Electricity Policy 2005 (NEP), revised Tariff Policy 2016 (TP), Regulations on Terms and Conditions for Determination of Tariff issued by the Central Electricity Regulatory Commission (CERC) and BERC (Multi Year Distribution Tariff) Regulations, 2015. Section 61 of the Act lays down the broad principles, which shall guide determination of retail tariff. As per these principles the tariff should progressively reflect cost of supply and also reduce cross subsidies within the period to be specified by the Commission. The Act also lays special emphasis on safeguarding consumer interests and also requires that the costs should be recovered in a reasonable manner. The Act mandates that tariff determination should be guided by the factors, which encourage competition, efficiency, economical use of resources, good performance and optimum investment.

The National Electricity Policy (NEP) aims at increased access to electricity, supply of reliable and quality power at reasonable rates, minimum life line consumption, financial turnaround and commercial viability of electricity sector and protection of consumer’s interest. The Commission has considered factors as far as possible which aim at achieving the objectives of NEP while determining the revenue requirement of the two distribution companies and designing the retail tariff for consumers.

The revised Tariff Policy (TP) dated 28th January 2016 notified by the Government of India provides comprehensive guidelines for determination of tariff and revenue requirement of power utilities. The Commission has endeavored to follow these guidelines as far as possible.

The Tariff Policy mandates that tariff should be within ±20% of the average cost of supply and requires the Commissions to lay down a road map for reduction of cross subsidy.

The Commission has computed the average cost of supply on the basis of the annual revenue requirement and the sales approved by the Commission for FY 2018-19 for arriving at the cross subsidy level during FY 2018-19.

The Commission has also determined the voltage-wise cost of supply as per the direction and guidelines provided by APTEL, for assessing whether the tariff rates are within ±20% of the voltage-wise cost of supply.

9.2. Revenue gap for FY 2018-19

NBPDCL and SBPDCL, in tariff petition for FY 2018-19, have projected the revenue gap of Rs.2356.32 Crore and Rs.2765.55 Crore respectively calculating the revenue with existing tariff rates reduced by expected subsidy component by State Government and the total projected revenue gap for FY 2018-19 is Rs.5121.87 Crore. The DISCOMs have proposed overall tariff hike of around 43.85% over the existing tariff. The DISCOMs have proposed an uniform tariff rate for both NBPDCL and SBPDCL i.e. across whole State of Bihar.

However, on detailed scrutiny and application of prudence check on the annual revenue requirement filed by the DISCOMs, the Commission has arrived at a revenue gap of Rs.669.30 Crore (Rs.366.13 Crore for NBPDCL and Rs.303.17 Crore for SBPDCL) for FY 2018-19. The Commission has also considered trued up revenue surplus of FY 2016-17 with carrying cost Rs.8.55crore (Rs. 0.18 crore for SBPDCL and Rs. 8.36 crore for NBPDCL) resulting in to a net gap of Rs.660.76 crore (Rs.357.77 Crore for NBPDCL and Rs.302.99 crore for SBPDCL). The Commission finds that overall hike of about 5% will be required to bridge this gap, reflecting cost reflective tariff of the DISCOMs. Further, the Commission observes that the DISCOMs have not proposed any resource gap grant from State Government in their ARR of FY 2018-19 although as discussed above, the DISCOMs have calculated the revenue from existing tariff rates reduced by expected state government subsidy at existing level meaning thereby it has considered the resource gap grant (Revenue subsidy) from state government for FY 2018-19 at the same level what it has received for FY 2017-18.

9.3. Simplification of Tariff Structure

Petitioner's Submission

The Discoms have submitted that they have followed the below given key guiding principles for proposing the new tariff structure and tariffs, which they wish to introduce in the ensuing financial year viz. FY 2018-19 which is the same as used for the prevalent tariff structure..

i. Merging or elimination of category / sub-category has been done based on relevance, whether the categorization is still valid in the current scenario;

ii. Ensure that each major tariff category has a maximum of 3 energy slabs to maintain simplicity of structure;

iii. Introduction of two part tariff for all metered consumer categories;

iv. Unmetered tariff category to be phased out with the large metering drives that the Discoms are planning to undertake over the next twelve to eighteen months;

v. Apart from a few categories such as Kutir Jyoti, DS-I and Agriculture, move to a Maximum Demand based billing for recovering of fixed charges from all other metered consumers. Demand for levying of fixed charge to be taken as maximum of actual demand or 85% of connected load. And in case the MD is recorded at more than 110% of Contracted Load more than thrice a year, the Contracted Load is proposed to be revised to the MD. For unmetered consumers however, fixed charges to be currently billed on connected load basis;

vi. Preserving kVAh based billing for all consumer categories wherever feasible, starting with Street Lighting, and gradually include Non-Domestic category as well. This would be in addition to the already existingLTIS, PWW, HT Supply, HTSS and RTS categories which are on kVAh based billing;

vii. Termination of Monthly Minimum Charges (MMC) for all consumer categories.

DISCOMs have proposed the following changes in structure of the following categories

1. For DS-I, NDS-I and SS metered categories, fixed charges are proposed to be recovered through maximum demand based tariff.
2. For SS Metered category energy charges are proposed to be billed on KVAH basis.

Commission's View:

As the categories DS-I and NDS-I are applicable to loads upto 2 KW only, the difference in billing on maximum demand and connected load of a consumer under these categories will be negligible. Thus Demand Side Management which is one of the main objective may not be achieved in these categories by introducing demand based tariff. Therefore, the Commission has not accepted the proposal of demand based tariff for DS-I and NDS-I categories.

Similarly for SS Metered consumers, as the purpose of supply is exclusively for street lighting and either all loads will be switch on / off at any point of time, there may not be any scope of Demand Side Management at all in these categories. Also being lighting load these loads are largely resistive in nature and kVAH based tariff is not desirable for SS metered category. Therefore , the Commission has neither accepted demand based tariff nor kVAH based for SS metered category.

The Commission is constantly directing the DISCOMs to complete 100% metering of consumers so that the unmetered categories may be removed. However, the Petitioners have requested to continue with Unmetered categories under DS-I and NDS-I. The Commission has decided to remove unmetered categories in a phased manner and for ensuing year FY 2018-19, the Commission has removed unmetered categories of NDS-I and IAS-II categories where the number of connections are not much and for which 100% metering can be provided immediately.

In LTIS-I, LTIS-II & PWW category, the existing demand charge is in Rs./kW whereas the existing energy charge is in Rs./kVAh. The Petitioner has again retained the same structure in the petition. However, the Commission opines that the demand charge should be in synchronism with the energy charge and wherever the energy charge is is in Rs./kVAh, the demand should be in Rs./kVA. Hence in view of the above the Commission decides to Synchronise the demand charge and energy charge in said three categories and determines the demand charge in Rs./kVA w.e.f. 01.04.2018.

9.4. Terms and conditions of LT and HT Tariff

Petitioner's Submission

DISCOMs have proposed the following changes in Terms and Conditions of LT Supply and HT Supply

Existing	**Proposed Changes**
LT Tariff	**LT Tariff**
1. Rebate for prompt payment The due date for making payment of energy bills or other charges shall be 15 days from the date of issue of the bill. Rebate of 1.5% on the billed amount for timely payment of the bills for all the consumers served in LT category shall be allowed.	**Rebate for prompt payment** The due date for making payment of energy bills or other charges shall be 15 days from the date of issue of the bill. To motivate the consumers to make timely payment of the bills it is proposed to provide a rebate of 1.5% on the billed amount for timely payment of the bills for all the consumers served in LT category. In case a consumer makes full payment after due date but within 10days after the due date, no DPS shall be levied for this period but rebate for prompt payment will not be admissible.
2. Rebate for Online Payment To motivate the consumers to make online payment of the bills through online web portal a rebate of 1% of the billed amount in addition to a rebate of 1.5% shall be allowed. However, online payment rebate shall be applicable if the consumer makes full of the bill within due date.	**Rebate for Online Payment** The due date for making payment of energy bills or other charges shall be 15 days from the date of issue of the bill. To motivate the consumers to make timely payment of the bills it is proposed to provide a rebate of 1.5% on the billed amount for timely payment of the bills for all the consumers served in LT category. Payment made through all electronic modes of payment made directly in the Discom account will be considered as online payment. However,

<table>
<tr><td></td><td>online payment rebate shall be applicable if the consumer makes the payment within due date in full.

In case a consumer makes full payment after due date but within 10 days after the due date, no DPS shall be levied for this period but rebate for prompt payment will not be admissible.</td></tr>
<tr><td>3. Shunt Capacitor Installation
Para 8(e)
Any LT consumer except Domestic category and categories having kVAh based billing in whose case, the meter installed has power factor recording feature and who fails to maintain monthly average power factor of 90% shall pay/avail a surcharge/rebate in addition to his normal tariff at the following rates.
Power Factor Surcharge
<table>
<tr><td>(i)For each fall of 0.01 in power factor upto0.80</td><td>One percent on demand and energy charge(Actual Recorded)</td></tr>
<tr><td>(ii) For each fall of 0.01in power factor Below 0.80</td><td>1.5 (one and half) percent on demand and energy charge (Actual Recorded)</td></tr>
</table>
Power Factor Rebate
<table>
<tr><td>(i)For each increase of 0.01in power Factor above 0.90 upto 0.95</td><td>0.5(half) percent on demand and energy charge (Actual Recorded)</td></tr>
<tr><td>(ii) For each increase of 0.01in power Factor below 0.95</td><td>1.0 (one) percent on demand and energy charges. (Actual Recorded)</td></tr>
</table></td><td>Shunt Capacitor Installation
Para 9.3.7
Any LT consumer except Domestic category of consumer in whose case, the meter installed has power factor recording feature and who fails to maintain power factor of 90% in any month shall pay a surcharge of 1% for every fall of 1% below 90% subject to a maximum of 5% in addition to its normal tariff total current bill amount except DPS.</td></tr>
<tr><td>HT Tariff</td><td>HT Tariff</td></tr>
<tr><td>4. Rebate for prompt payment
The due date for making payment of energy bills or other charges shall be 15 days from the date of issue of the bill. Rebate of 1.5% on the billed amount for timely payment of the bills for all the consumers served in HT category shall be allowed.</td><td>Rebate for prompt payment
The due date for making payment of energy bills or other charges shall be15 days from the date of issue of the bill. To motivate the consumers to make timely payment of the bills it is proposed to provide a rebate of 1.5% on the billed amount for timely payment of the bills for all the consumers served in HT category

In case a consumer makes full payment after due date but within 10 days after the due date, no DPS shall be levied for this period but rebate for prompt payment will not be admissible</td></tr>
<tr><td>5. Rebate for Online Payment

To motivate the consumers to make online payment of the bills through online web portal a rebate of 1% of the billed amount in addition to</td><td>Rebate for Online Payment

To motivate the consumers to make online payment of the bills through online web</td></tr>
</table>

rebate @ 1.5% shall be allowed. However, online payment rebate shall be applicable if the consumer makes full payment of the bill within due date.	portal of the Petitioner it is proposed to provide a rebate of 1% of the billed amount in addition to rebate @ 1.5%. Payment made through all electronic modes of payment made directly in the Discom account will be considered as online payment. However, online payment rebate shall be applicable if the consumer makes the payment within due date in full.
6.Exceeding Contract Demand If the actual recorded demand of a consumer having demand based tariff exceeds 110% of the contracted demand, consecutively for three months, the licensee shall issue a notice informing the consumer to get additional contract demand sanctioned as per the tariff or to limit their drawl as per their contract. In case the consumer does not respond to the notice within 30days of issue of notice to get additional demand sanctioned as per the tariff or limit their drawal as per the contract, the licensee may disconnect the supply to the consumer, after serving fifteen days notice. However, the distribution licensee may revise and enhance the contract demand as per the tariff of the consumer to the extent of highest demand recorded in the past three months of the violation, provided the consumer agrees for the same.	**3.Exceeding Contract Demand** If the actual recorded demand of a consumer exceeds 110% consecutively for three months Licensee may issue a notice and inform the consumer to get additional contract demand sanctioned or to limit their drawal as per their contract. Otherwise Licensee will take action as per provisions of the Act/Rules/Regulations. In case the consumer do not respond to the notice within 30 days of issue of notice, to get additional demand sanctioned or limit their drawal as per the contract, the Distribution Licensee may revise and enhance the contracted demand of the consumer to the extent of highest demand in the past three months of the violation.

Commission's View

Commission has examined above proposed changes by the DISCOMs and where ever necessary has revised the terms and conditions of LT and HT Supply in the tariff schedule.

Apart from above proposal the petitioner has proposed procedure for determination of security deposit from HT Consumers and procedure for billing in case where meter is burnt/ defective/damaged. The Commission has not considered these proposal as procedure for billing in case where meter is burnt/ defective/damaged is already there in Bihar Electricity Supply Code, 2007. Further, for determination of Security Deposit the Petitioner shall file a separate petition in accordance with Clause 7.15 (2) of the Bihar Electricity Supply code, 2007 for both LT and HT consumers which will be considered by the Commission.

9.5. Recovery of Fixed charges

Petitioner's Submission

DISCOMs have submitted that the total gross ARR for FY 2018-19 for the two Discoms has been estimated at INR 17,152 crores, with a split of 57% as fixed costs and 43% as variable costs. The fixed costs include the establishment and network costs, as well as the fixed costs payable to the Generators, irrespective whether power is drawn from them. The variable costs is the energy cost paid to Generators for supply of energy. On one hand wherein the cost structure of the two Discoms is heavily tilted towards fixed charges, the recovery of revenue through the existing tariff approved by the Hon'ble Commission is tilted more towards energy tariffs (for FY 2018-19 at existing tariffs, the revenue from fixed charges is only 17% and the balance 83% is from energy charges). Due to this skewed nature of tariff recovery, the Discoms have limited revenue assurance and therefore face uncertainty. For designing the tariff structure for FY 2018-19, a ratio of 27% revenues from fixed tariff and 73% revenue from energy tariff has been considered.

Commission's View

The Commission opines that the fixed cost of the DISCOMs are only its network cost required to create & maintain it for smooth running of the distribution business of the DISCOMs. The following tables shows how the fixed cost of ARR are getting recovered through expected revenue billing at existing tariff for FY 2018-19.

ARR for FY 2018-19	NBPDCL		SBPDCL		Total	
	(Rs. Crore)	(%)	(Rs. Crore)	(%)	(Rs. Crore)	(%)
Fixed charges (O&M, Depreciation, RoE Etc)	567.06	8.05%	1133.40	12.32%	1700.46	10.47%
Power Purchase (Incl Tr Charges)	6480.33	91.95%	8068.16	87.68%	14548.49	89.53%
Total	**7047.39**		**9201.56**		**16248.95**	
Revenue with Existing Tariff	**NBPDCL**		**SBPDCL**		**Total**	
Fixed charges with existing tariff (Rs. Crore)	1229.89		1740.28		2970.17	

Total ARR (Rs. Crore)	**7047.39**	**9201.56**	**16248.95**
% of Fixed charges Vs ARR	17.45%	18.91%	18.28%

As is clear from the above table, against the requirement of 10.47% of fixed charges of ARR to be recovered, about 18.28% cost of ARR (excluding power purchase cost) are already being recovered through fixed charge / Demand charge. Further, for every unit of energy sold and billed, the fixed cost and variable cost component of the power purchase cost are getting recovered. Hence the Commission finds no justification to increase the fixed / demand charges as suggested by DISCOMs.

9.6. Tariff schedule for consumers under DDG scheme of DDUGJY

Petitioner's Submission

There are certain localities within the licensing area of the Petitioner where traditional way of electrifications is neither possible nor commercially viable. For such areas the Petitioner has chosen SOLAR Power based Stand Alone system under Decentralized Distribution Generation (DDG) Scheme of DDUGJY recommended by M/s Rural Electrification Corporation Limited, New Delhi (REC) as per their guidelines. The Petitioner has chosen *M/s Larsen & Toubro Ltd, Chennai* through open competitive bidding vide NIT No. 01/PR/SBPDCL/2017 Dated 11/01/2017 to electrify, operate, maintain and collect revenue in such areas.

The DISCOMs have submitted that as per the contract agreement, the implementing agency need to collect fixed revenue from rural households as per the tariff plan finalized in the contract agreement as tabulated below;

Table 146: Revenue collection under DDG scheme

Habitation / Non-habitation	Category	Revenue (Rs. / month)
House Holds	BPL	Rs 30 Per Month
	APL	Rs 60 Per Month
Non Households	Street Light Per Point of 20 Watts	Rs 20 Per Month
	Community Building of 100 Watts	Rs 55 Per Month
	Atta Chakki (5 HP)	Rs 1500 per Month
	Water Pumping per HP	Rs 267 per HP/ Month

Commission's View

The Commission has noted that the above stated areas are being electrified off grid i.e. Licensees distribution network are not being extended to those areas. Proviso 7 of Section 14 of the Electricity Act, 2003 exempts a person from requirement of license who intends to generate and distribute electricity in a rural area notified by the state government. Further the tariff policy authorizes such person to recover charges at mutually agreed rate. The Commission observes that the DISCOMs have proposed rate which is different from the approved tariff of the Commission. Thus, in view of above the Commission opines that the DISCOMs are discharging its obligation through stand alone system as its non-licensed business and need not require approval of the Commission so long as it is a non-licensed business. However, they are required to adhere BERC(Treatment of Income of Other Businesses of Transmission Licensees and Distribution Licensees) Regulations, 2013. Hence the Commission doesn't feel it necessary to approve any tariff for such areas.

9.7. Miscellaneous and General charges

Petitioner's Submission

The DISCOMs have not proposed changes in Miscellaneous and General charges except for monthly meter rent to be recovered from the consumer. Meter rent charges proposed to be recovered from the consumers is as given in the table below:

Table 9.1: Proposed Monthly Meter Rent

S. No.	Particulars	Current Rent (Rs. /month)	Proposed Rent (Rs./month)
1	KJ	10	10
2	Single Phase LT Except KJ	20	20
3	Three Phase LT up to 100 Amps	50	50
4	LT meter with CT	500	500
5	11 kV HTS-I		
	Meter at low Voltage	500	1,900
	Metering at 11kV	700	1,900
6	33 kV HT metering equipment for HTS-II and HTSS	3,000	3,000
7	132 kV EHT metering equipment for HTS-III	15,000	15,000
8	25 kV RTS	3,000	4,000

S. No.	Particulars	Current Rent (Rs. /month)	Proposed Rent (Rs./month)
9	132 kV RTS	15,000	15,000
10	Smart/Prepaid Programmable Meters (GPRS based): Single Phase	0	90
11	Smart/Prepaid Programmable Meters (GPRS based): Three Phase	0	120
12	Prepaid Meters: Single Phase	0	80
13	Prepaid Meters: Three Phase	0	110

DISCOM have submitted that the meter cost has to be recovered before expiry of warranty period of the meter purchased and has proposed 5 years as reasonable period for recovery of the cost of meter. It is submitted that the petitioner is unable to recover the meter cost from its consumer with in a certain time frame with the existing monthly meter rent fixed by the Commission. It is also submitted that a timely recovery of the investment will help the DISCOM to utilize the recover amount for further investment in progressive technologies. Further DISCOM has submitted the details of procurement cost of various types of meters and cost recovery time of various types of meters in its petition.

Commission's View

The Commission has examined the proposal in detail and observes that the petitioner has submitted that it is unable to fully recover the meter cost from consumers within a time frame at the existing approved meter rent. The Commission has found such submission wrong and frivolous. In fact, the petitioner has been submitting its capex year on year wherein the meter has also been a part of the capex. The Commission opines that once the capex including meter is approved by the Commission, the expenses towards, such capex is part of ARR and consequently its share of recovery is included in the approved tariff. Hence, the cost of meter is fully recovered through approved tariff. However, carrying the legacy modus-operandy, the Commission has been approving meter rent over and above the tariff and any recovery under meter rent is considered as income under non-tariff income thus lowering the net requirement of ARR. However, the Commission following the precedence approves the Monthly Meter Rent to be recovered as detailed in the table below:

Table 9.2: Monthly Meter Rent approved by the Commission

S. No.	Particulars	Existing Monthly Meter Rent	Approved Monthly Meter Rent
1	L.T. Single Phase whole current static meter	20*	20
2	L.T. Three phase whole current static meter	50	50
3	L.T. Three phase static meter with CTs	500	500
4	11 KV HT Trivector meter with metering equipment	700	1000
5	33 KV HT Trivector meter with metering equipment	3000	3000
6	220/132 KV HT Trivector meter with CTs and PTs	15000	15000
7	25 KV HT Trivector meter with CTs and RTs	3000	4000
8	LT single phase smart/prepaid meter	-	50
9	LT three phase smart / prepaid meters	-	100

* For consumers under KJ existing Meter rent is Rs 10/month

9.8. Commission's Observation on need to increase tariff

The Commission has aptly deliberated the issue in foregone para 9.2. It is noted that there is a revenue gap of Rs. 660.76 Crore combinedly for both the DISCOMs in ARR for FY 2018-19, the reason for which can be summarized as under:

(i) Accelerated growth in new connections of KJ, DS-I and DS-II consumers which have high incidence of the distribution loss and lower tariff.

(ii) Increase in quantum of power required to be purchased to meet the demand to maintain 24X7 power for all in the state.

(iii) Increase in transmission charges due to ambitious expansion of transmission network; by BSPTCL and BGCL on fast track.

The Petitioner, NBPDCL/SBPDCL have computed the Revenue for FY 2018-19 considering the tariff rates after reducing with subsidy component by state government at the same level of FY 2017-18 but they have not considered corresponding revenue compensatory component from state government required for reducing the tariff approved by the Commission. On the basis of revenue so computed considering tariff less than approved by the Commission for FY 2017-18, petitioner has proposed overall tariff hike of around 44%. for FY 2018-19.

Section 61 (g) of the Electricity Act, 2003 also states that **the tariff should progressively reflect the cost of supply of electricity and also reduce cross subsidy in the manner specified by the Appropriate Commission. Endorsing this view t**he National Electricity Policy 2005 and revised national Tariff Policy 2016, specify further that efforts should be made to make electricity affordable for the consumers of very poor category particularly below poverty line consumers by special support like cross subsidy. At the same time, it also says that tariff of such a designated group of consumers should be at least 50% of the average (overall) cost of supply.

Section 65 of the Electricity Act 2003 stipulates that if the State Govt. requires grant of any subsidy to any consumer or class of consumers in the tariff determined by the state Commission, the state govt. shall pay such subsidy amount in advance.

Regulation 35 of BERC (Multi Year Distribution Tariff) Regulations, 2015 has following provisions for subsidy

"35. Subsidy

(a) The Commission shall determine the ARR and Tariff without considering subsidy.

Provided that if the State Government declares subsidy for the categories of consumers after notification of Tariff Order, the licensee shall incorporate the same in the tariff and intimate the Commission with the revised Tariff Schedule that shall be charged if the subsidy is received in advance:

Provided further that in case the State Government declares subsidy in advance or during tariff filing proceedings and the licensee incorporates the subsidy in the petition, the Commission shall notify two tariff schedules, one with subsidy and the other without subsidy:

Provided also that the Government's subsidy provided for or declared shall be supported by documentary evidence of time schedule of payment, mode of the *payment of the subsidy and categorization of the subsidy amount into subsidized consumer categories:"*

The Petitioners have not indicated any resource gap assistance in the ARR of their tariff petitions for FY 2018-19. Consequently, The Commission had no alternative but to determine the ARR and cost reflective tariff without taking into consideration the state resource gap assistance.

The Commission while going through the MoU of the UDAY finds that there is a **provision of State Government support towards subsidy to BPL and Rural Consumers in the Tripartite MoU of UDAY signed between the Centre Government, State Government of Bihar and the respective Distribution Companies. The Commission has decided to increase the tariff of KJ, DS-I NDS-I and agriculture consumers (IAS-I) to the extent possible to recover the cost of supply of electricity. However, conscious of the fact that cost reflective tariff rates which are supposed to be determined by the Commission as a regulator would cause undue hardship to these erstwhile subsidized categories of consumers at this juncture, the Commission has** considered cross subsidization of the tariff rates of KJ, DS-I, NDS-I and agriculture (IAS-I) to the extent possible. Since the base of high end (cross subsidizing Category) consumers in Bihar is small and cross subsidization has its own limitation (it has to be within ± 20 % of ACS and has to be minimize gradually) and the number of subsidized category (KJ, DS-I, NDS-I and agriculture) is large especially after the launch of 24X7 Power for All and Seven Nischey programme, Har Ghar Bhijili and Saubhagya Schemes, the cushion available for cross-subsidisation is also limited. It is hoped that this cross subsidization will lessen the burden of tariff hike to some extent and avoid tariff shock to poorer sections of the society and farmers which is the mainstay of the people of Bihar.

Under the given circumstances, the Commission has decided to recover the ARR gap by increasing tariff. Accordingly, the Commission has considered overall increase of

5% through flat increase of 7% in energy charges across all categories except HTSS category keeping fixed charge unchanged.

In case of HTSS category with increase of 7% in existing energy charge the ABR comes to Rs 5.66/kWh which is only 77% of approved average cost of supply. The Tariff Policy, 2016 provides that:

> *"For achieving the objective that the tariff progressively reflects the cost of supply of electricity, the Appropriate Commission would notify a roadmap such that tariffs are brought within ±20% of the average cost of supply"*.

Therefore, in order to make the tariff of HTSS category at least 80% of average cost of supply the Commission has decided to increase existing energy charge by 11.2% and approves energy charge of Rs4.15/kWh w.e.f 01.04.2018.

After this hike in tariff NBPDCL and SBPDCL will get additional revenue of Rs. 252.30 Crore and Rs.464.42 Crore respectively. Therefore, at approved tariff the Commission has arrived revenue surplus of Rs. 161.44 Crore for SBPDCL and Revenue Gap of Rs. 105.47 Crore NBPDCL respectively, thus an overall surplus of Rs. 55.97 Crores for both DISCOMs combinedly.

The consolidated Revenue surplus of Rs. 55.97 Crore is based on estimates/ projections of the Discoms. It is often experienced by the Commission that the financial performance of the Discoms is varying with reference to actuals reported through audited accounts, hence, the Commission retains the projected surplus subject to true up based on audited accounts for FY 2018-19.

9.9. Tariff Schedule

The approved Tariff Schedule which shall be effective from 1st April 2018 is given in **Appendix-I.**

Part A- Tariff Schedule for Low Tension
Part B- Tariff Schedule for High Tension
Part C- Miscellaneous and General Charges

Appendix - I

TARIFF SCHEDULE FOR RETAIL TARIFF RATES AND TERMS AND CONDITIONS OF SUPPLY FOR FY 2018-19

(Effective from 1st April, 2018)

PART - A: LOW TENSION SUPPLY

System of supply: Low Tension – Alternating Current, 50 cycles per second

Single Phase supply at 230 Volts

Three Phase supply at 400 Volts

The tariffs are applicable for supply of electricity to L.T consumers with a connected / contracted demand up to 70 kW for domestic, non-domestic category and Street Light Category, up to 74 kW for industrial (LTIS) and for public water works (PWW) category and up to 100 HP for irrigation category under single or three phase supply as detailed below:

- Single Phase supply up to 7 kW
- Three Phase supply 5 kW and above.
- Consumers having load between 5 kW and 7 kW have the option to take single phase or three phase supply.
- LT Industrial and Agriculture load up to 5 kW have option to avail supply at single phase or three phase

Category of Service and TARIFF RATES

1.0 DOMESTIC

Service Applicability

This tariff is applicable for supply of electricity for domestic purposes such as lights, fans, televisions, heaters, air-conditioners, washing machines, air-coolers, geysers, refrigerators, ovens, mixers and other domestic appliances including motor pumps for lifting water for domestic purposes. This is also applicable to the common facilities in the multistoried, purely residential apartments, buildings. This Tariff also includes Kutir Jyoti connections in rural and urban areas.

1.1 Kutir Jyoti / BPL Connections (KJ/BPL) – Rural / Urban

This will be applicable to (i) all huts (Kutir) and dwelling houses of rural and urban families below the poverty line (BPL) (ii) houses built under schemes like Indira Awas Yojana and similar such schemes for BPL families.

i. Hut (Kutir) means a living place with mud wall and thatched roof or house built under Indira Awas Yojana and other similar schemes for BPL families which shall not exceed 200 Sq ft area.
ii. The total connected load of Kutir Jyoti connection in a rural and urban area should not exceed 250 watts and maximum consumption of 50 units per month shall be allowed under this category.
iii. Use of LED / CFL both in rural areas and urban areas should be encouraged.
iv. In case it is detected that the norms prescribed in para (i) and (ii) above are violated, the Kutir Jyoti Tariff shall immediately become inoperative and rates applicable to DS – I and DS- II category as the case may be shall apply.

1.2 Domestic Service – I (DS – I Rural)

This is applicable to domestic premises in notified rural areas for a load up to 2 kW not covered by areas indicated under DS-II.

1.3 Domestic Service – II (DS – II Urban)

This is applicable for domestic premises in urban areas covered by Notified area committee/Municipality/Municipal Corporation/Development Authority/All District and Sub-divisional towns/Block Head Quarters/Industrial areas. Rural consumers having sanctioned load above 2 kW will also come under this category.

TARIFF RATES

1.0 Domestic Service

1.1 Kutir Jyoti - BPL Consumers (Connected load based)

Sl. No	Category of consumer	Fixed charge (Rs.)	Energy charge (Paisa/ Unit.)
(i)	K.J. - (Consumption up to 50 units per month)		
1	**Unmetered**	Rs.350 / connection / per month	X
2	**Metered**	Rs.10 / connection / per month	First 50 units at 615 Ps/ unit Remaining units, rate as per DS-I (Metered) or DS-II as applicable.

1.2 DS – I: (Connected load based)

Sl. No	Category of consumer	Fixed charge (Rs.)	Energy charge (Paisa/ Unit.)	
1	**Unmetered** **Upto 2Kw**	Rs.500 / connection / per month	X	
2	**Metered (load upto 2 kW)**	Rs.20 / kW or part thereof per month	First 50 units	615
			51-100 units	640
			Above 100 units	670

1.3 DS – II (Demand based)

Sl. No	Category of consumer	Fixed charge (Rs.)	Energy charges	
			Consumption in a month (Units)	Rate (Paisa/unit)
1	**Metered (Contract demand up to 70 kW)**	Rs.40 / kW or part thereof per month	1-100 units	615
			101-200 units	695
			201-300 units	780
			Above 300 units	860

2.0 NON-DOMESTIC SERVICE (NDS)

Applicability

This is applicable for supply of electrical energy for non-domestic consumers having sanctioned/contracted load up to 70 kW, using electrical energy for light, fan and power loads for non-domestic purposes like shops, hospitals, nursing homes, clinics, dispensaries, restaurants, hotels, clubs, guest houses, marriage houses, public halls, show rooms, centrally air-conditioning units, offices, commercial establishments, cinemas, X-ray plants, non-government schools, colleges, libraries and research institutes, boarding/lodging houses, libraries, railway stations, fuel/oil stations, service stations, All India Radio/T.V. installations, printing presses, commercial trusts, societies, banks, theatres, circus, coaching institutes, common facilities in multistoried commercial office/buildings, Government and semi–government offices, public museums, Government educational institutions, their hostels and libraries, Government hospitals and government research institutions and non–profitable government aided educational institutions their hostels and libraries, non-profitable recognized charitable cum public institutions, places of worship like temples, mosques, gurudwaras, churches etc. and burial/crematorium grounds, glow signboards, banners and hoardings for advertisement and other installations not covered under any other tariff schedule.

2.1 Non-Domestic Service (NDS – I) Rural (Connected load based)

Applicable to loads up to 2 kW in rural areas not covered by areas indicated under NDS – II.

Sl. No	Category of consumer	Fixed charge (Rs.)	Energy charge (Paisa/ Unit.)	
1	**Metered**	Rs.30 /kW or part thereof per month	1-100 units	640
			101-200 units	695
			Above 200 units	750

2.2 Non - Domestic Service – NDS – II (Demand based)

Applicable to contracted load up to 70 kW in urban areas covered by Notified Area Committees/Municipalities/Municipal Corporations/Regional Development Authorities/District and Sub–divisional towns/Block headquarters/Industrial areas. This tariff shall also be applicable to places of worship like temples, mosques, gurudwaras, churches etc. burial/crematorium grounds hoardings/glow sign boards/advertising boards. Rural consumers having sanctioned load above 2 kW will also come under this category. If any portion of the premises is used for commercial purposes, a separate connection shall be taken for that portion and NDS-II tariff schedule shall be applicable for that service.

Sl. No.	Category of Consumer	Fixed charge (Rs.)	Energy charges	
			Consumption in a month (Units)	Rate Ps/unit
1.	Contract demand up to 0.5 kW	Rs.100/ month/connection	All Units	640
2	Contract demand above 0.5 kW and up to 70 kW	Rs. 180/kW or part thereof per month	1-100 Units	640
			101-200 units	695
			Above 200 Units	750

3.0 IRRIGATION and AGRICULTURE SERVICE (IAS)

This is applicable for supply of electrical energy for bonafide use for agricultural purposes including processing of Agricultural Produce, confined to chaff-cutter, thrasher, cane crusher and rice Huller when operated by the agriculturist in the field or farm. This is also applicable to hatcheries, poultries (with more than 1000 birds) and fisheries (fish ponds).

3.1 IAS – I (Connected load based)

This is applicable for all purposes indicated above including private tube wells of load upto 100 HP.

Tariff Rates

Sl. No	Category of consumer	Fixed charge (Rs.)	Energy charge (Paisa/ Unit.)	
1	**Unmetered**	Rs.800 / HP or part thereof / month	X	
2	**Metered**	Rs.30 / HP or part thereof / month	All units	560

Note: Hatcheries, poultries and fisheries are not covered under unmetered supply they have to be metered only.

3.2 IAS – II (Connected load based)

This is applicable to state tube wells/ state lift irrigation pumps / state irrigation pumps up to 100 HP.

Sl. No	Category of consumer	Fixed charge (Rs.)	Energy charge (Paisa/ Unit.)	
1	**Metered**	Rs.200 / HP or part thereof / month	All units	665

4.0 LOW TENSION INDUSTRIAL SERVICE (LTIS)

This is applicable for supply of electricity to low tension industrial consumers with connected load /contract demand up to 99 HP or 74 kW, which includes incidental lighting for industrial processing or agro – industries purposes, arc welding sets, flour mills, oil mills, rice mills, dal mills, atta chakki, Huller, expellers etc.

4.1 LTIS – I (Demand based)

All those consumers opting for LTIS-I category with contract demand upto 19 KW shall be required to pay at the rates indicated below:

Sl. No	Category of consumer	Demand charge (Rs./kW)	Energy charges Paise / kVAh	
1	Contract demand upto 19 KW	Rs. 144/kVA or part thereof per month.	All units (kVAh)	650

4.2 LTIS –II (Demand based)

All those consumers under LTS-II category with 3 phase supply and with contract demand above 19kW and up to 74kW shall be required to pay at the rates indicated below:

Sl. No	Category of consumer	Demand charge (Rs./kW)	Energy charges Paise / kVAh	
1	Contract demand above 19 kW	Rs. 180/kVA or part thereof per month.	All units (kVAh)	650

5.0 PUBLIC WATER WORKS (PWW) (Demand based)

Applicability

This is applicable to public water works, sewerage treatment plant and sewerage pumping stations functioning under state government and state government under takings and local bodies.

Sl. No	Category of consumer	Demand charge (Rs./kW)	Energy charges	
			Consumption in a month (kVAh)	**Rate Ps/unit**
1	Contract demand upto 74 kW	Rs. 315/kVA or part thereof per month.	All units(kVAh)	805

6.0 STREET LIGHT SERVICES (SS)

This is applicable for supply of electricity for street light system including signal system in corporation, municipality, notified area, committees, panchayats etc. and also in areas not covered by municipality and notified area committee provided the number of lamps from a point of supply is not less than five. Also applicable for Traffic Lights, Mast lights/Blinkers etc.

6.1 SS Metered Supply (Connected load based)

Sl. No	Category of consumer	Fixed charge (Rs.)	Energy charge (Paisa/ Unit.)	
1	Contract demand upto 74 kW	Rs. 50/kW or part thereof / month	All units	750

6.2 SS Unmetered Supply

Sl. No	Category of consumer	Fixed charge (Rs.)	Energy charge (Paisa/ Unit.)
1	**Unmetered**	Rs.375 /100W or part thereof / month	X

TERMS AND CONDITIONS OF LOW TENSION TARIFF

The above tariffs are subject to the following conditions:

1. Demand based Tariff

The billing demand shall be the maximum demand recorded during the month or 85% of the contract demand whichever is higher (minimum demand shall be taken as 1kW except for NDS-II where separate 0.5kW cap is there and SS-unmetered). If in any month the recorded maximum demand of the consumer exceeds 110% of the contract demand, that portion of the demand in excess of the contract demand shall be billed at twice the normal rate.

2. Fuel and Power Purchase Cost Adjustment (FPPCA)

In addition to the above tariff Fuel and Power Purchase Cost Adjustment (FPPCA) charges as applicable will be charged extra.

3. Rebate for prompt payment

The due date for making payment of energy bills or other charges shall be 15 days from the date of issue of the bill. Rebate of 1.5% on the billed amount for timely payment of the bills for all the consumers served in LT category shall be allowed.

In case a consumer makes full payment after due date but within 10 days after the due date, no DPS shall be levied for this period and rebate for prompt payment will not be admissible.

4. Rebate for online payment

To motivate the consumers to make online payment of the bills through online web portal a rebate of 1% of the billed amount in addition to rebate @ 1.5% shall be allowed. However, online payment rebate shall be applicable if the consumer makes full payment of the bill within due date.

5. Accounting of Partial Payment

All payment made by consumers in full or part shall be adjusted in the following order of priority:

a. Statutory taxes and duties on current consumption
b. Arrear of Statutory taxes and duties

c. Delayed payment surcharge
d. Balance of arrears
e. Balance of current bill

6. Delayed Payment Surcharge (DPS)

In case a consumer does not pay energy bills in full within 10 days grace period after due date specified in the bill, a delayed payment surcharge of one and half (1.5) percent per month or part thereof on the outstanding principal amount of bill will be levied from the due date for payment until the payment is made in full without prejudice to right of the licensee to disconnect the supply in accordance with Section 56 of the Electricity Act, 2003. The licensee shall clearly indicate in the bill itself the total amount, including DPS, payable for different dates after the due date after allowing for the grace period of 10 days. No DPS shall be charged on DPS arrear. The bill shall indicate the energy charges for the month, arrears of energy charges and DPS separately.

7. Duties and Taxes

Other statutory levies like electricity duty or any other taxes, duties etc., imposed by the State Government / Central Government or any other competent authority, shall be extra and shall not be part of the tariff as determined under this order.

8. Shunt Capacitor Installation and Rebate/surcharge for deviating from norm of Power Factor.

Any LT consumer except Domestic category and categories having kVAh based billing in whose case, the meter installed has power factor recording feature and who fails to maintain monthly average power factor of 90% shall pay/avail a surcharge/rebate in addition to his normal tariff at the following rates:

Power factor surcharge

(i) For each fall of 0.01 in power factor upto 0.80	One percent on demand and energy charge (Actual Recorded)
(ii) For each fall of 0.01 in power factor below 0.80	1.5 (one and half) percent on demand and energy charge (Actual Recorded)

Power factor Rebate

(i) For each increase of 0.01 in power factor above 0.90 upto 0.95	0.5 (half) percent on demand and energy charge (Actual Recorded)
(ii) For each increase of 0.01 in power factor above 0.95	1.0 (one) percent on demand and energy charges. (Actual Recorded)

9. Advance Payment:

If a consumer makes advance payment against his future bills he shall be allowed for interest @ 6 % per annum. Such amount of interest shall be adjusted in subsequent monthly regular electricity bills on reducing balance, provided that the minimum amount of advance payment shall not be less than Rs.2000 (Two thousand).

Notwithstanding anything contained above, pre-paid metered consumers shall be allowed for interest @ 6 % per annum.

10. Charges to Tatkal Connections (Optional)

If any consumer (other than High Tension and Railway) opts for availing connection under Tatkal scheme, the licensee shall release the Tatkal connection to such consumer with the following conditions:

- The Tatkal connections shall be released by licensee in half the time limit prescribed in the Supply code for that consumer category.
- Two (2) times of the following charges approved under head miscellaneous and general charges will be taken from the consumers willing to avail Tatkal connection.
- Application fees for new connection, and;
- Supervision, labor and establishment charge for service connection
- In case licensee fails to release connection within this time limit, licensee will refund the additional amount claimed to the consumer in the first energy bill.

PART – B: HIGH TENSION SUPPLY

7.1 HTS – I (11 kV)

Applicable for supply of electricity for use in installations with a minimum contract demand of 50 kVA and maximum contract demand of 1500 kVA.

Character of service: AC, 50 cycles, 3 phase at 11 kV.

TARIFF RATES

Demand charge Rs./ kVA / Month of billing demand	**Energy charges (Paise / kVAh)**
300	All units – 665
The billing demand shall be the maximum demand recorded during the month or 85% of the contract demand whichever is higher. if in any month the recorded maximum demand exceeds 110% of contract demand, that portion of the demand in excess of the contract demand shall be billed at twice the normal charges.	

7.2 HTS – II (33 kV)

This is applicable for use in installations with a minimum contract demand of 1000 kVA and maximum contract demand of 15,000 kVA.

Character of service: AC, 50 cycles, 3 phase at 33 kV.

TARIFF RATES

Demand charge Rs./ kVA / Month of billing demand	**Energy charges (Paise / kVAh)**
300	All units – 660
The billing demand shall be the maximum demand recorded during the month or 85% of the contract demand whichever is higher. if in any month the recorded maximum demand exceeds 110% of contract demand, that portion of the demand in excess of the contract demand shall be billed at twice the normal charges.	

7.3 HTS – III (132 kV)

This is applicable for installations with a minimum contract demand of 7.5MVA. Character of service: AC, 50 cycles, 3 phase at 132 kV

TARIFF RATES

Demand charge **Rs./ kVA / Month of billing demand**	**Energy charges** **(Paise / kVAh)**
300	All units – 655
The billing demand shall be the maximum demand recorded during the month or 85% of the contract demand whichever is higher. if in any month the recorded maximum demand exceeds 110% of contract demand, that portion of the demand in excess of the contract demand shall be billed at twice the normal charges.	

7.4 HTS-IV (220 kV)

This is applicable for installation with a minimum contract demand of 10MVA.

Character of service: AC, 50 cycles, 3 phase at 220 kV.

TARIFF RATES

Demand charge **Rs./ kVA / Month of billing demand**	**Energy charges** **(Paise / kVAh)**
300	All units – 650
The billing demand shall be the maximum demand recorded during the month or 85% of the contracted demand whichever is higher. if in any month the recorded maximum demand exceeds 110% of contract demand, that portion of the demand in excess of the contract demand shall be billed at twice the normal charges.	

7.5 HTSS – (33 kV/11 kV)

This is applicable for supply of electricity to all consumers who have contract demand of 300 kVA and more for induction furnace including Ferro Alloy loads. This tariff will not apply to casting units having induction furnace of melting capacity of 500 Kg and below.

The capacity of induction furnace shall be 600 kVA per metric ton as existing for determining the contract demand of induction furnace in the existing HTSS service connections. However, for new connection and if the furnace is replaced with a new one for the existing connections, the contract demand shall be based on total capacity of the furnace and equipment as per manufacturer technical specifications, and in case of difference of opinion, the provisions of clause Nos. 6.39 and 6.4 0 of the Bihar Electricity Supply Code shall apply.

Those consumers who are having rolling/re-rolling mill in the same premises will take additional contract demand for the rolling/re-rolling mill over and above the contract demand required for induction furnace. The consumer will have the option to segregate the rolling/re-rolling mill and take separate new connection following all prescribed formalities with a separate transformer. This new connection, if taken by the consumer will be allowed to be billed in appropriate tariff schedule. Such rolling/re-rolling mill will be allowed to avail power at 33 kV.

Character of service: **AC, 50 cycles, 3 phase at 33 kV or 11kV.**

TARIFF RATES at 33 kV

TARIFF RATES

Demand charge **Rs./ kVA / Month of billing demand**	**Energy charges** **(Paise / kVAh)**
700	All units – 415
The billing demand shall be the maximum demand recorded during the month or the contract demand whichever is higher. If in any month the recorded maximum demand of the consumer exceeds contract demand that portion of the demand in excess of the contract demand shall be charged at twice the normal charges. If the power is availed at 11 kV a surcharge of five (5) % will be charged extra on demand and energy charges.	

8.0 Railway Traction Service (RTS)

Applicable to Railway Traction loads only.

Tariff rates at 132 kV

<table>
<tr><th>Demand charge
Rs. / kVA / Month of billing demand</th><th>Energy charges
(Paise / kVAh)</th></tr>
<tr><td>280</td><td>All units - 680</td></tr>
<tr><td colspan="2">i. 13 Ps/kVAh of rebate shall be provided for availing supply at voltages higher than 132 kV.
ii. 13 Ps/kVAh of surcharge shall be billed for availing supply at lower voltages than 132 kV.
iii. The billing demand shall be the maximum demand recorded during the month or 85% of the contract demand whichever is higher.</td></tr>
</table>

Time of Day tariff (ToD)

ToD tariff shall be mandatory for all HT consumers. Under the Time of Day (ToD) Tariff, electricity consumption and maximum demand in respect of HT consumers for different periods of the day, i.e. normal period, peak load period and off-peak load period, shall be recorded by installing a ToD meter. The maximum demand and consumption recorded in different periods shall be billed at the following rates on the tariff applicable to the consumer.

Time of Use	Demand Charges	Energy Charges
(i) Normal period (5:00 a.m. to 5:00 p.m)	Normal Rate	Normal rate of energy charges
(ii) Evening peak load period (5:00 p.m to 11.00 p.m)	Normal Rate	120% of normal rate of energy charges
(iii) Off-peak load period (11:00 p.m to 5:00 a.m)	Normal Rate	85% of normal rate of energy charges

TERMS AND CONDITIONS OF HT TARIFF

The above tariffs are subject to the following conditions:

1. Fuel and Power Purchase Cost Adjustment (FPPCA)

In addition to the above tariff Fuel and Power Purchase Cost Adjustment (FPPCA) charges as applicable will be charged extra.

2. Rebate for prompt payment

The due date for making payment of energy bills or other charges shall be 15 days from the date of issue of the bill. Rebate of 1.5% on the billed amount for timely payment of the bills for all the consumers served in LT category shall be allowed.

In case a consumer makes full payment after due date but within 10 days after the due date, no DPS shall be levied for this period and rebate for prompt payment will not be admissible.

3. Rebate for online payment

To motivate the consumers to make online payment of the bills through online web portal a rebate of 1% of the billed amount in addition to rebate @ 1.5% shall be allowed. However, online payment rebate shall be applicable if the consumer makes full payment of the bill within due date.

4. Delayed Payment Surcharge (DPS)

In case, consumer does not pay energy bills in full within 10 days grace period after due date specified in the bill, a delayed payment surcharge of one and half (1.5) % per month or part thereof on the outstanding principal amount of bill will be levied form the original due date for payment until the payment is made in full without prejudice to right of the licensee to disconnect the supply in accordance with Section 56 of the Electricity Act, 2003. The licensee shall clearly indicate in the bill itself the total amount, including DPS, payable for different dates after the due date after allowing for the grace period of 10 days. No DPS shall be charged on DPS arrear.

5. Duties and Taxes

Other statutory levies like electricity duty or any other taxes, duties etc., imposed by the State Government / Central Government or any other competitive authority, shall be extra and shall not form part of the tariff as determined under this order.

6. Accounting of Partial payment

All payment made by consumers in full or part shall be adjusted in the following order of priority:

a) Statutory taxes and duties on current consumption

b) Arrear of Statutory taxes and duties

c) Delayed payment surcharge

d) Balance of arrears

e) Balance of current bill

7. Contract Demand for Induction Furnaces

The prevailing practice will continue for determining the contract demand of induction furnaces in the existing services connections. However, for new connections and where the furnaces are replaced in existing connections, contract demand shall be based on the total capacity of the furnace and equipment as per manufacturer technical specifications and in case of difference of opinion, the provisions of clause No.6.39 and 6.40 of Bihar Electricity Supply Code shall apply.

8. Advance Payment:

If a consumer makes advance payment against his future bills he shall be allowed for interest @ 6 % per annum. Such amount of interest shall be adjusted in subsequent monthly regular electricity bills on reducing balance, provided that the minimum amount of advance payment shall not be less than Rs.2000 (Two thousand).

Notwithstanding anything contained above, pre-paid metered consumers shall be allowed for interest @ 6 % per annum.

9. Temporary Supply (LT and HT)

9.1 Applicability

This tariff is for connection of temporary in nature for period of less than one year. The applicability shall be as given in the respective category tariff rate schedule. Temporary supply cannot be claimed by a prospective consumer as a matter of right but will normally be arranged by the Licensee when a requisition is made giving due notice subject to technical feasibility and in accordance with electricity supply code issued by the Commission.

9.2 Tariff

Fixed charge and energy charge shall be chargeable at one and half times the normal tariff as applicable to the corresponding appropriate tariff category.

9.3 Terms of Supply

a) Temporary supply under any category of service may be given for a period not exceeding 30 days in the first instance, the duration of which, however may be extended on month-to-month basis subject to maximum of one year.

b) In addition to the charges mentioned above, the consumer shall have to deposit the following charges before commencement of the temporary supply:

   i. Estimated cost of erection of temporary service line and dismantling.
   ii. Cost of irretrievable materials which cannot be taken back to service.
   iii. Meter rent for the full period of temporary connection as per appropriate Tariff Schedule and miscellaneous charges.
   iv. Rental on the cost of materials as per estimate framed but not payable by the consumer shall be payable at the rate of Rs. 15/- per month on every Rs. 100/- or part thereof.
   v. Ten per cent on the total cost of the estimate for the temporary service connection to cover as security for loss of materials and contingencies. In case such loss is not noticed, the amount will be refunded.

c) The applicants for temporary supply shall be required to make a deposit in advance of the cost as detailed above including the energy consumption charges estimated for full period on the basis of connected load. This will however, be adjusted against the final bill that will be rendered on disconnection of supply month to month basis.

d) If the consumer intends to extend the temporary supply beyond the period originally applied for, he will have to deposit in advance all charges as detailed above including the estimated electricity consumption charges, for the period to be extended and final bill for the previous period, as well.

e) The temporary supply shall continue as such and be governed by the terms and conditions specified above until the supply is terminated or converted into permanent supply at the written request of the consumer. The supply will be governed by the terms and conditions of permanent supply only after the consumer has duly completed all the formalities like execution of agreement, deposit of security money, cost of service connection and full settlement of the account in respect of the temporary supply etc.

10 Seasonal Supply (LT and HT)

1. Seasonal supply shall be given to any consumer on written request to the Licensee subject to the following conditions.

Period of Supply	Tariff Rate
Upto 3 consecutive months in a year	Appropriate tariff plus 30 percent
More than 3 consecutive months and upto 6 consecutive months in a year	Appropriate tariff plus 20 percent
More than 6 consecutive months and upto 9 consecutive months in a year	Appropriate tariff plus 15 percent
More than 9 consecutive months but less than one year	Appropriate tariff plus 5 percent.

2. The meter rent and other charges as provided in the appropriate tariff are applicable to seasonal loads and would be charged extra for the entire period of supply.
3. The supply would be disconnected after the end of the period unless the consumer wants the supply to be continued. Any reconnection charges have to be borne by the consumer.
4. Consumer proposing to avail seasonal supply shall sign an agreement with the Licensee to avail power supply for a minimum period as specified in Bihar Electricity Supply Code, 2007 amended from time to time.
5. The consumers must avail supply in terms of whole calendar month continuously.
6. The consumer is required to apply for seasonal supply and pay initial cost and security deposit as an applicant for normal electricity supply.
7. The consumer shall ensure payment of monthly energy bills within 7 days of its receipt. The supply will be disconnected if payment is not made on due date.

PART – C: MISCELLANEOUS AND GENERAL CHARGES

11 Miscellaneous and General Charges

The Miscellaneous and General charges approved by the Commission are as below:

11.1 Meter Rent

S. No.	Particulars	Approved Monthly Meter Rent
1	L.T. Single Phase whole current static meter	Rs. 20/month
2	L.T. Three phase whole current static meter	Rs. 50/month
3	L.T. Three phase static meter with CTs	Rs. 500/month
4	11 KV HT Trivector meter with metering equipment	Rs. 1000/month
5	33 KV HT Trivector meter with metering equipment	Rs. 3000/month
6	220/132 KV HT Trivector meter with CTs and PTs	Rs. 15000/month
7	25 KV HT Trivector meter with CTs and PTs	Rs. 4000/month
8	LT single phase smart/prepaid meter	Rs. 50/month
9	LT three phase smart / prepaid meters	Rs. 100/month

Note: For those consumers intending to pay the entire cost of metering arrangement are allowed to pay the cost estimated by the DISCOM and no meter rent shall be collected from such consumers and from the consumers opting to provide their own meter as per the specification approved by the licensee.

11.2 Application fee for new connection / reduction of load / enhancement of load / request for permanent disconnection / request for tatkal connection:

Sl. No.	Category / class	Rate
(i)	Kutir Jyoti	Rs.20.00
(ii)	LT Single phase except Kutir Jyoti	Rs. 75.00
(iii)	LT Three phase	Rs. 200.00
(iv)	LT Industrial	Rs. 300.00
(v)	HT Connection	Rs. 750.00
(vi)	For tatkal connection	Two (2) times the normal rate

11.3 Testing / Inspection of consumer's Installation:

Sl. No.	Category / class	Rate
(i)	Initial Test / Inspection	Free of cost
(ii)	Subsequent test and inspection necessitated by fault in installation or by not complying with terms and conditions of supply	Rs. 100.00 for single phase connection Rs. 200.00 for three phase LT connection Rs.800 for HT connection.

11.4 Meter Testing Fee:

The meter testing fee at the following rates shall be charged from the consumers opting to provide their own meters

Sl. No.	Category / class	Rate
(i)	Single Phase meter (L.T.)	Rs. 100.00
(ii)	Three Phase meter (L.T.)	Rs. 200.00
(iii)	Three Phase meter with CT	Rs. 300.00
(iv)	Tri-vector and special type meter	Rs. 1800.00
(v)	33 kV or 11 kV metering equipment	Rs. 5000.00
(vi)	132 kV/220 kV metering equipment	Rs. 8000.00

Note:

1) No meter testing fee shall be charged from the consumers if the meter has been provided by the licensee.

2) If the meter is tested at third party testing laboratory at the request of the consumer then the fees charged by the testing laboratory shall be payable by the consumer.

11.5 Removing / Re-fixing / Changing of Meter / Meter Licensee at consumer's request:

<table>
<tr><th>Sl. No.</th><th>Category / class</th><th>Rate</th><td rowspan="6">Cost of material, as required, will be borne by the consumer</td></tr>
<tr><td>(i)</td><td>Single Phase meter</td><td>Rs. 200.00</td></tr>
<tr><td>(ii)</td><td>Three Phase meter</td><td>Rs. 400.00</td></tr>
<tr><td>(iii)</td><td>Three Phase meter with CT</td><td>Rs. 500.00</td></tr>
<tr><td>(iv)</td><td>Trivector and special type meter</td><td>Rs. 600.00</td></tr>
<tr><td>(v)</td><td>High tension metering equipment</td><td>Rs. 1200.00</td></tr>
</table>

11.6 Reconnection charge:

Sl. No.	Category/class	Rate
(i)	Single Phase supply, LT	Rs. 100.00
(ii)	Three Phase supply other than LT industrial	Rs. 200.00
(iii)	Three Phase LT industrial supply	Rs. 900.00
(iv)	HT supply	Rs. 3000.00

11.7 Supervision, Labour and Establishment charge for service connection:

Sl. No.	Category/class	Rate
(i)	Single Phase LT	Rs. 400.00
(ii)	Three Phase LT other than industrial	Rs. 900.00
(iii)	Three Phase industrial	Rs. 1500.00
(iv)	HT	As per approved estimate

Sl. No.	Category/class	Rate
(v)	For tatkal connection	Two (2) times the normal rate

11.8 Duties and Taxes

Other statutory levies like GST or any other taxes, duties etc., imposed by the State Government / Central Government or any other competent authority, shall be extra and shall not be part of the tariff as determined under this order.

11.9 Initial Security Deposit

All Consumers except BPL (Kutir Jyoti) and Central / State Government departments shall pay intial security in accordance with provisions under Bihar Electricity supply code-2007 as amended from time.

12 Other Terms and Conditions:

The other terms and conditions of supply of electricity not specially provided in this tariff order shall continue to be regulated by the provisions specified in the Bihar Electricity Supply Code notified by the Commission.

10. Fuel and Power Purchase Cost Adjustment

10.1 Background

Section 62 sub-section 4 of the Electricity Act, 2003 provides that no tariff or part of any tariff may ordinarily be amended, more frequently than once in every financial year, except in respect of any changes expressly permitted under the terms of any fuel surcharge formula as may be specified. This provision of the Act requires the Commission to specify the formula for fuel surcharge.

Accordingly, the Commission has been specifying the formula for working out the Fuel and Power Purchase Cost Adjustment (FPPCA) charges and other terms and conditions of FPPCA in each of its tariff orders. Accordingly, the Commission had allowed erstwhile BSEB/distribution licensees to recover the FPPCA charges from the consumers in terms of the formula specified in the respective tariff orders of the Commission from time to time.

The Commission has issued the BERC (Multi Year Distribution Tariff) Regulations, 2015 dated 11.09.2015.

As per these Regulations, the amount of Fuel and Power Purchase Cost Adjustment (FPPCA) charges shall be computed as under:

As per these Regulations, the amount of Fuel and Power Purchase Cost Adjustment (FPPCA) charges shall be computed as under:

$$\text{FPPCA (Paise kwh)} = \frac{Qc(Rc_2 - Rc_1) + Qo(Ro_2 - Ro_1) + Qpp(Rpp_2 - Rpp_1) + Vz + A}{(Qpg1 + Qpp1 + Qpp2) x [1 - L/100]} \text{ X } 100$$

Where,

Qc = Quantity of coal consumed during the adjustment period in Metric Tons (MT)

	=	(SHR x QPg) (1+TSL)x1000 / GCV, or actual whichever is less
Rc_1	=	Weighted average base rate of coal supplied ex-power station coal yard as approved by the Commission for the adjustment period in Rs. / MT
Rc_2	=	Weighted average actual rate of the coal supplied ex-power station coal yard for the adjustment period in Rs. / MT
Qo	=	Actual Quantity of oil (in KL) consumed during the adjustment period or normative oil consumption as per Tariff order whichever is less.
Ro_1	=	Weighted average base rate of oil ex-power station (Rs./KL) approved by the Commission for the adjustment period.
Ro_2	=	Weighted average actual rate of oil ex-power station supplied (Rs. / KL) during the adjustment period.
Qpp	=	Total power purchased from different sources (kWh) = Qpp_2+Qpp_3
Qpp_1	=	Qpp_3 (1-TL/100) in kWh.
TL	=	Transmission loss (CTU) (in percentage terms).
Qpp_2	=	Power purchase from sources with delivery point within the state transmission or distribution system (in kWh)
Qpp_3	=	Power purchase from sources on which CTU transmission loss is applicable (in kWh)
Rpp_1	=	Average rate of power purchase as approved by the Commission (Rs. / kWh)
Rpp_2	=	Average rate of power purchased during the adjustment period (Rs. / kWh)
Qpg	=	Own power generation (kWh)
Qpg_1	=	Own power generation (kWh) at generator terminal – approved auxiliary consumption
L	=	Percentage T&D loss as approved by the Commission or actual, whichever is lower.
SHR	=	Station Heat Rate as approved by the Commission (Kcal / kWh)
TSL	=	Percentage Transit and Stacking Loss as approved by the Commission.
GCV	=	Weighted average gross calorific value of coal as fired basis during the adjustment period (Kcal / Kg).
VZ	=	Amount of variable charges on account of change of cost of unknown factors like water charges, taxes or any other

		unpredictable and unknown factors not envisaged at the time of tariff fixation subject to prior approval of the Commission (Rs.)
A	=	Adjustment, if any, to be made in the current period to account for any excess / shortfall in recovery of fuel or power purchase cost in the past adjustment period, subject to the approval of the Commission (Rs.)

If there are more than one power stations owned by the Licensee Qc, Rc_1, Rc_2, Qo, Ro_1, Ro_2, Qpg and Qpg_1 will be computed separately for each power station and sum of the increase/decrease of cost of all power stations shall be taken into consideration.

Terms and conditions for application of the FPPCA formula

1. The basic nature of FPPCA is 'adjustment' i.e. passing on the increase or decrease in the fuel costs and power purchase costs, as the case may be, compared to the approved fuel costs and power purchase costs in the Tariff Order.
2. The operational parameters / norms fixed by the Commission in the Tariff Regulations / Tariff Order shall be the basis of calculating FPPCA charges.
3. The FPPCA will be recovered every month in the form of an incremental energy charge (Rs/kwh) in proportion to the energy consumption of the month in which incremental cost has been incurred and shall not exceed 10% of the approved avg. cost of supply in the Tariff order and balance amount, if any, in the FPPCA over and above this ceiling shall be carried forward to be billed in subsequent month.
4. Incremental cost of power purchase due to deviation in respect of generation mix or power purchase at higher rate shall be allowed only if it is justified to the satisfaction of the Commission.

5. Any cost increase by the licensee by way of penalty, interest due to delayed payments, and due to operational inefficiencies shall not be allowed.
6. FPPCA charges shall be levied on all categories of consumers.
7. Distribution licensee shall file detailed computation of actual fuel cost in Rs./kWh for each month for each of power stations of the state generators as well as cost of power purchase (Fixed and Variable) from each source/station and a separate set of calculations with reference to permitted level of these costs.
8. The data in support of the FPPCA claims shall be duly authenticated by an officer of the licensee, not below the rank of Chief Engineer on an affidavit supported with the certified copy of energy bills of power purchase, transmission and RLDC charges, bill for coal purchase and its transportation cost, oil purchase bill and the quantity of coal and oil consumed during the month.
9. Levy of FPPCA charge will be allowed only when it is ten (10) paise or more per unit. If it is less than 10 (ten) paise/unit, the same may be carried forward for adjustment in the next month.
10. The incremental cost per kWh due to the FPPCA arrived for a month shall be recovered in the energy bill of the month subsequent to the order of the Commission approving FPPCA with full details of rate and unit(s) on which FPPCA charges have been billed. The Generating Company and the Distribution Licensee shall provide along with the proposal of FPPCA (as applicable to them) for a month, a compliance report of the previous order of the commission in respect of FPPCA.

11. Wheeling and Open Access Charges

11.1. Background

The Commission had computed the wheeling and open access charges for both the DISCOMs combinedly in its earlier Tariff Order for FY 2017-18 dated 24th March 2017, since the Retail Tariffs are common/uniform to all the consumers across State of Bihar. The Commission, accordingly, has determined the Wheeling and Open Access charges for both the DISCOMs combinedly for FY 2018-19 also.

11.2. Wheeling Charges

Petitioner's submission

The Petitioners have submitted that as on date complete segregation of accounts between Wheeling and Retail supply functions has not taken place and have allocated the components of ARR for wire business and retail supply based on same allocation matrix as followed by the Commission in its Tariff Order for FY 2017-18.

Both the Discoms have proposed uniform wheeling charges at 50 paisa/kWh for 33 kV level and at 55 paisa/kWh for 11 kV level for FY 2018-19.

Commission's analysis

The net distribution ARR for both the Distribution licensees as approved in chapter-6 is Rs.16335.63 Crore (Rs.7106.99 crore for NBPDCL and Rs.9228.64crore for SBPDCL). The distribution ARR approved is segregated into wires business and retail supply business in the percentages given below:

Table 11.1: Allocation matrix for segregation of expenses between Distribution Wire Business and Retail Supply Business

Sl. No.	Particulars	Wire Business	Retail Supply
1	Power purchase expenses	--	100%
2	Employee expenses	60%	40%
3	Administration and General expenses	50%	50%
4	Repair and Maintenance expenses	90%	10%
5	Holding Company expenses	60%	40%

Sl. No.	Particulars	Wire Business	Retail Supply
6	Depreciation	90%	10%
7	Interest on loans	90%	10%
8	Other finance charges	10%	90%
9	Interest on Security Deposit	--	100%
10	Interest on working capital	10%	90%
11	Contribution to RPO fund	--	100%
12	Return on equity	90%	10%
13	Contingency Reserve	100%	--
14	Interest during construction	90%	10%
15	Non-tariff income	10%	90%

The total costs (net ARR) are segregated into wire business and retail supply business as per the above matrix as given below:

Table 11.2: Segregation of Wires and Retail supply costs (Rs. Crore)

Sl. No.	Particulars	Total Cost	Wire cost	Retail supply cost
1	Purchase of power	14548.49	--	14548.49
2	Employee cost	590.18	354.11	236.07
3	R&M Expenses	246.84	222.15	24.68
4	A&G Expenses	133.83	66.92	66.92
5	Holding Company expenses allocated	13.10	7.86	5.24
6	Depreciation	261.85	235.67	26.19
7	Interest on loans	237.65	213.89	23.77
8	Other finance charges	47.31	4.73	42.58
9	Interest on SD	50.14	0.00	50.14
10	Interest on working capital	67.77	6.78	60.99
11	RPO Obligation	0.00	0.00	0.00
12	Contribution to contingency reserve	76.23	76.23	0.00
13	Return on Equity	412.09	370.88	41.21
14	**Less**: IDC	0.00	0.00	0.00
15	**Total cost (1 to 14)**	**16685.48**	**1559.21**	**15126.27**
16	**Less**: Non-tariff income	436.53	43.65	392.88
17	**Net cost (15 - 16)**	**16248.95**	**1515.56**	**14733.39**

The wheeling charges have been computed on the basis of approved costs of the DISCOMs for its distribution wire business and the total energy expected to be wheeled through their distribution network. In the absence of segregated data on costs of operation of 33 kV and 11 kV network, it has been assumed that the two costs are equal. The wheeling charges worked out for 33 kV voltage level are given in the table below:

Table 11.3: Wheeling charges at 33 kV Voltage Level

Sl. No.	Particulars	UoM	Wheeling Charges 33kV level
1	Energy input into 33 kV system	MU	27722.3
2	Total distribution cost	Rs. Crore	1515.56
3	Distribution cost for 33 kV voltage levels (assuming 50% of item 2)	Rs. Crore	757.78
4	**Wheeling charges for 33 kV voltage level (item 3÷1)**	**Ps./kWh**	**27**

The wheeling charges determined for 11 kV voltage level are as given in table below:

Table 11.4: Wheeling charges for 11 kV Voltage Level

Sl. No.	Details	UoM	Wheeling Charges 11kV level
1	Energy input into 33 KV system	MU	27722.30
2	Energy sales in 33 kV system as approved by the Commission	MU	1540.81
3	Losses in 33 KV (5.0% on item 1)	MU	1386.12
4	Energy input into 11 kV system [1-(2+3)]	MU	24795.38
5	Total distribution cost	Rs. Crore	1515.56
6	Distribution cost for 11 kV voltage levels (assuming 50% of item 5)	Rs. Crore	757.78
7	**Wheeling charges for 11 kV voltage level (item 6÷4)**	**Ps./kWh**	31

The Commission approves wheeling charges at 27 paisa/kWh for 33 kV voltage level and at 31 paisa/kWh for 11 kV voltage level for the FY 2018-19.

11.3. Open Access Charges

The Commission opines that the HT consumers should be provided a facilitative open access framework for procurement of power from sources other than that available within the State. For Open access to become a feasible option for HT consumers open access charges should be rational so that the cost of delivered power (from sources other than within the State) is comparable to retail tariff.

Pursuant to Section 39, 40 and 42 and all other enabling provisions of the Electricity Act, 2003, the Commission notified the “Terms and Conditions for open access”

Regulations on 20th May, 2006. The Commission through these regulations has introduced open access in phases in Bihar and all consumers having a contract demand of 1 MW and above are eligible in transmission and distribution.

The consumer who seeks open access in accordance with these regulations will have to pay transmission charges, wheeling charges, cross subsidy surcharge, additional surcharge, reactive energy charges, standby charge and charges to SLDC. The applicability of these charges to any open access consumer shall be as provided in the regulations for open access. However, no transmission charges are payable in case of open access transaction of renewable energy generated from solar and wind sources of energy.

11.4. Transmission Charge

The Commission has approved total Rs.1470.61 crore (Rs.1194.37 Crore for BSPTCL and Rs.276.24 crore for BGCL) towards transmission charges for FY 2018-19 in respective tariff order of BSPTCL and BGCL dated 07.03.2018.

The monthly transmission charges leviable for Long term open access customer shall be computed as per the following formula:

Monthly Transmission charges =ATC /SAC X 12

Where

ATC = Annual Transmission charges in Rs. Crore

SAC = Sum of allocated capacities of power to the state in MW

The sum of the total power allocated / arranged to the state is 5836 MW

Monthly Transmission charges = 1470.61/5836 X 12

= 209991 / MW / Month

The Commission determines that the transmission charges will be Rs.209991/MW/month for long term open access consumers and in addition transmission losses of 3.92% will be reduced in kind from the energy input (i.e. energy injected at the point of injection) at the point of delivery.

The Commission has noted from the CERC (Open Access in Inter-State Transmission) Regulations 2008, the charges payable for short term open access customers are determined in terms of Rs/MWh. The Commission is also in the process of amending its open access regulations to facilitate the charges payable in tems of Rs/MWh. Hence, the Commission has determined the transmission charges payable by open access customers for FY 2018-19 as detailed below:

Table 11.5: Transmission Charge for FY 2018-19

Particulars	
Total Transmission charges	Rs.1470.61 Crore
Energy delivered into transmission system	28897.56 MU
Transmission charges for open access customers (Rs.1470.61/28897.56)	Rs.0.51/kWh

The Commission determines that the transmission charges will be Rs.0.51/kWh (Rs.510/MWh) for short term open access consumers and in addition transmission losses of 3.92% will be reduced in kind from the energy input (i.e. energy injected at the point of injection) at the point of delivery.

However, the transmission charges payable by open access customers, long term, medium term, short term shall be in accordance with the open access regulations as amended from time to time or revised by the Commission.

11.5. Transmission, Wheeling and Open Access Charges

The Open access charges shall be paid as per the table given below if the injection and drawl points of the open access customer are at different voltage levels.

Table 11.6: Open Access Charges

Drawl / Injection	**Transmission** (220/132 kV)	**33 KV**	**11 KV**
Transmission (220/132 kV)	Transmission Charges plus transmission losses @ 3.92%	Transmission charges plus wheeling charges of 33 kV. Losses of both transmission and 33 kV network shall be payable (Cumulative loss @ 8.72%)	Transmission Charges plus wheeling charges of 33 and 11 kV network shall be payable. The losses of transmission, 33 and 11 kV network shall be payable (Cumulative loss @14.20%)
33 KV	Transmission charges plus wheeling charges of 33 kV. Losses of both transmission and 33 kV network shall be payable (Cumulative loss @ 8.72%)	Wheeling charges of 33 kV plus losses of 33 kV network (Loss @ 5.0%)	Wheeling Charges of 33 and 11 kV network. Losses for 33 and 11 kV shall also be payable (Cumulative loss @10.70%)
11 KV	Transmission Charges plus wheeling charges of 33 and 11 kV network shall be payable. The losses of transmission, 33 and 11 kV network shall be payable (Cumulative loss @ 14.20%)	Wheeling Charges of 33 and 11 kV network. Losses for 33 and 11 kV shall also be payable (Cumulative loss @10.70%)	Wheeling Charges of 11 kV plus losses of 11 kV network (Loss @ 6.00%)

11.6. SLDC Charges

Open access consumer shall pay all charges payable to the State Load Despatch Centre (SLDC), as determined by the Commission under section 32 of the Act and as per the Regulation 19 (1) of BERC "Terms and Conditions for Open Access" Regulations, 2006.

The Annual SLDC Operating charges for FY 2018-19 are determined as Rs.4.28 Crore in the tariff order for FY 2018-19 dated 07.03.2018 considering the energy delivered into transmission system as 28897.56 MU, the SLDC charges works out to 0.15 Paise/kWh.

11.7. Cross Subsidy Surcharge

The open access consumers are liable to pay cross subsidy surcharge to compensate the distribution utility for any loss of revenue due to shifting of its consumer to the open access system. The cross subsidy surcharge for open access consumers for the year 2018-19 is calculated as per the following recommended formula in the Tariff Policy, 2016.

S = T – [C/(1-L/100) +D+R]

Where,

S = Surcharge

T = Tariff payable by the relevant category of consumers, including reflecting the Renewable Purchase Obligation.

C = Weighted average cost of power purchase by the Licensee, including meeting the Renewable Purchase Obligation.

D = Aggregate of transmission, distribution and wheeling charge applicable to the relevant voltage level.

L = Aggregate of transmission, distribution and commercial losses, expressed as a percentage applicable to the relevant voltage level.

R = Per unit cost of carrying regulatory asset.

The cross subsidy surcharge determined as per the above formula is worked out as follows:

1. Weighted average cost of power purchase for both Discoms = Rs.4.62/kWh

Sl. No.	Particulars	Total
1	Gross Power purchase MU	29402.54
2	Less: PGCIL loss MU	549.28
3	Net power purchase MU	28853.26
4	Power purchase cost including PGCIL charges (Rs. Crore)	13230.27
5	**Average power purchase rate (Rs./kWh)**	4.59

2. Calculation of cross subsidy surcharge

S = T–[C/(1-L/100)+D+R]

3. (a) for 132 kV consumers

= 8.54–[(4.59/ (1-3.92)+0.51+0]= Rs.3.26/kWh

(b) for 33kV consumers

= 9.25 –[(4.59/ (1-3.92)x(1-5%)+(0.51+0.27)+0] = Rs.3.45/kWh

(c) for 11kV consumers

= 9.35–[(4.59/ (1-3.92)x(1-5%)x(1-6%)+(0.51+0.27+0.31)+0] = Rs.2.92/kWh

(d) for HTSS consumers

= 5.88–[(4.59/ (1-3.92)x(1-5%)+(0.51+0.27)+0] = Rs.0.00/kWh

The Revised Tariff Policy suggest that the cross subsidy shall not increase 20% of applicable tariff to the category of consumers seeking Open Access. The cross subsidy surcharge for 132 kV, 33 kV, 11 kV and HTSS category of the consumers are approved by the Commission at 20% of applicable tariff of the respective category of consumers seeking Open Access.

To encourage the competition among Distribution Company, the Commission would like HT consumers to seek power purchase options from sources outside the State also. The Commission, in order to make the cost of delivered power comparable with the retail tariff, approves the following cross subsidy surcharge for FY 2018-19.

For 132 kV consumers	= Rs.1.71/kWh.
For 33 kV consumers (other than HTSS)	= Rs.1.85/kWh.
For 11 kV consumers (other than HTSS)	= Rs.1.87/kWh
For HTSS consumers (33 kV & 11 kV)	= Rs.1.18/kWh

11.8. Additional Surcharge

The Commission is not in favour of levy of any additional surcharge, in the absence of the necessary data. The same shall be leviable only if it is conclusively demonstrated by BSPHCL that open access will lead to stranding of its fixed cost.

BSPHCL should indicate the quantum of such stranded cost and the period over which it would be stranded for determination of additional surcharge.

11.9. Reactive Energy charges

The open access consumers should pay a reactive energy charge to Transmission and Distribution companies as the case may be for drawal / injection of reactive energy.

The DISCOMs proposed reactive energy charges at 4 paisa/kVAR for FY 2018-19 at the same level approved for FY 2017-18 in Tariff Order dated 24.03.2017. Accordingly, the Commission approves the reactive energy charges for FY 2018-19 at 4 paisa/kVAR as proposed by the DISCOMs.

11.10. Standby charges

The Petitioner has submitted that as per Regulation 20.A of BERC (Terms and Conditions for Open Access) (1^{st} Amendment) Regulations 2012 specifies;

"In case of outage of a power plant supplying power to an open access customer, the licensee will, on request, provide standby supply to meet the requirement of load catered through open access. Such standby supply will be provided by the licensee at day ahead request from the open access customer. The open access customer will, for that supply, be liable to pay charges under tariff for temporary connection to that category of consumer."

The Petitioner has requested to approve the same in line with the Regulations.

The Commission approves the stand-by charges for drawal of power by open access customer from distribution licensees as below:

i. In cases of outages of generator supplying to open access customer under open access, stand-by arrangements shall be provided by the distribution licensee for a maximum period of 42 days in a year subject to the load shedding as is applicable to the embedded consumer of the licensee at a charge under Temporary connection tariff for the category of consumer as determined by the Commission from time to time

ii. Provided that such charge shall not exceed 125% of the normal tariff for that category of consumers.

iii. Provided that in cases where temporary rate of charge is not available for that consumer category the distribution licensee shall charge 125% of the normal tariff for the category of consumers.

iv. Provided also that open access customers would have the option to arrange stand-by power from any other source.

11.11. Application Fee

All applications for Open access i.e. Short Term, Medium Term and Long term Open Access shall be made in the prescribed form and submitted to the nodal Agency along with the application fee as stipulated in the Open Access Regulations, 2018.

11.12. Roadmap for reduction of cross subsidy surcharge referring clause 8.3(2) of the Tariff Policy 2016, the Petitioners have provided a roadmap for reduction on cross subsidy in next 3 years i.e. from FY 2019-20 to 2021-22.

The Commission observes that the roadmap projected is based on year on year increase of average cost of supply at 10%.

The Commission, while determining the Annual Revenue Requirement and Tariff for the ensuing year in the Tariff order is ensuring that the band width of +/- 20% of tariff to average cost of supply gets narrowed down year on year gradually keeping in view the paying capacity of the consumers.

11.13. Information to be put on the website

The Commission directs the Petitioner to put all information related to open access facilities/charges on its web site. The information should include open access regulations, procedure for obtaining open access and details of all charges payable by an open access consumer and list of existing open access customers.

12. Directives

12.1 Background

The sub-clause (c) of section 61 of Electricity Act, 2003 stipulates that the Appropriate Commission shall be guided by the factors which would encourage competition, efficiency, economical use of resources, good performance and optimum investments. Under section 23 of the Electricity Act, 2003, the Commission has been giving certain directives to the DISCOMs in the Tariff Orders since FY 2006-07 for improvement in their operational and financial performances, reduction in distribution losses, improvement in quality of supply and services to the consumers, improvement in overall efficiency etc. The Commission has also been monitoring the compliance of the given directives.

The Commission had issued certain directives in the DISCOMs Tariff Orders dated 24.03.2017. The DISCOMs have submitted their status of compliance of these directives vide the letter dated 05.01.2018. On review of the compliance status of the directives submitted by the DISCOMs, it is noted that many directives are either fully or partially complied and some are yet to be complied.

The Commission is of the view that if the directives given by the Commission are implemented in true spirit by the DISCOMs, both operational and financial performance and service to the consumers will certainly improve. Normally the DISCOMs have been submitting the” Compliance of Directives” after filing of Tariff Petition. As such, adequate time could not be spared to analyse compliance of each directive during the period of tariff determination process.

Hence, the Commission has decided to drop those directives which have been fully or partially complied and give issue based afresh directives clubbing the earlier uncomplied directives having similar nature of issues in this Tariff Order to the DISCOMs and critically monitor the compliance status of each directive at the end of every quarter of the year. The DISCOMs are directed to submit the latest compliance on the implementation of each directive for the 1st, 2nd, 3rd and 4th quarter of FY

2018-19 in the prescribed formats by 15th July 2018, 15th October, 2018, 15th January, 2019 and 15th April, 2019 positively which will be reviewed/monitored in the quarterly meeting to be held with DISCOMs during the FY 2018-19 and the Commission has also made institutional mechanism for it as well.

12.2 Directives

12.2.1 Performance of DISCOMs

The Commission directs the DISCOMs to submit the report of performance at the end of each quarter in FY 2018-19 in the following enclosed Formats:

Sl.No.	Subject	Format
1	Revenue Billing and Collection	Format 3 (A)
2	Billing and Collection Efficiency	Format 3 (B)
3	Timely Delivery of Bills	Format 5
4	Release of new connections	Format 6
5	Pilferage of Electricity	Format 8
6	Consumers Grievances Redressal	Format 9
7	Installation of Pre-paid Meters	Format 10
8	Separation of Agricultural feeders	Format 11
9	Rural Electrification	Format 12
10	Rooftop Solar PV Generation	Format 13

12.2.2 Cent percent consumer metering

Commission has noted that 100% metering has been done for all HT and LTIS categories, whereas in the other categories, the target of 100% metering has not yet been achieved. The UDAY MoU envisages target of achievement of 100% metering by March 2018. DISCOMs shall put forth more efforts to achieve the target of achievement of 100% metering as agreed in the UDAY MoU and shall ensure 100% metering to DS-II, NDS-I, NDS-II, IAS-II, PWW and SS-I categories which are less in numbers done on priority. The Commission has decided to gradually remove unmetered tariff category. To begin with, Commission has abolished the unmetered category for NDS-I and IAS-II (Govt tube wells) w.e.f 01.04.2018 through this tariff order. Commission directs the DISCOM to take effective steps to provide meter to remaining unmetered consumers by December 2018 so that by next financial year there will be no unmetered categories.

DISCOMs are directed to submit the quarterly report on status of consumer metering and consumer billing in the **Format-1(A) & Format 1(B)**, along with action being taken to achieve 100% metering. The report should reach the Commission on or before 15th July 2018, 15th October, 2018, 15th January, 2019 and 15th April, 2019.

12.2.3 Energy Accounting/Audit

The Commission has noted that the DISCOMs have not installed 100% system metering even upto 11kV level.

The Commission directs the DISCOMs to install 100% system metering upto 11kV level and conduct energy accounting/audit at the end of every month, both for 33/11 KV substation-wise and Division-wise and consolidated circle-wise. DISCOMs are also directed to submit the quarterly report on energy accounting in the enclosed **Format-2(A), Format 2(B) & Format 2(C).**

12.2.4 Consumer Data Base

DISCOMs have stated that Consumer Database & Management Information System has already been implemented under R-APDRP & non-RAPDRP areas. The Commission has been observing that despite development of MIS, the DISCOMs have not been able to submit the desired data in its tariff petition and/or in other petitions. This needs review of its present developed MIS and needs adequate customisation. Hence, the Commission directs the DISCOMs to customise its present MIS and ensure submission of desired reports in future.

DISCOMs are directed to prepare the statement of slab-wise, sub-category-wise and category-wise details of number of consumers, connected load, energy sales, revenue billed and revenue collected at the end of every month and submit the quarterly report in the **Format-4**.

12.2.5 Reduction of AT&C Losses

Commission has revised the distribution loss trajectory from FY 2017-18 to FY 2019-20 in line with the UDAY MoU, such that the AT&C loss at the end of FY 2019-20 will be 15%.

The Commission has noted that the DISCOMs are far away from their target as envisaged in UDAY MoU.

DISCOMs are directed to monitor the reduction of AT&C losses, Division-wise and circle-wise, every month, duly fixing the targets, keeping in view the overall target for the DISCOM to be achieved by end of 2019-20 at 15% as agreed in UDAY MoU.

DISCOMs are further directed to submit the quarterly report on Division-wise and circle-wise distribution loss in the **Format-7**.

12.2.6 Performance of Distribution Franchisee (DF)

Distribution franchisees have been engaged to improve the billing efficiency, collection efficiency, AT&C loss reduction and consumer satisfaction apart from infusion of CAPEX. The Commission has noted that the agreement of Bhagalpur DF in SBPDCL is terminated due to bad performance.

The Commission has noted that the Distribution Franchisee have failed to improve billing and collection efficiency and there has not been appreciable reduction in AT&C Loss in the franchised area. Further, the Commission has been noticing great consumer dis-satisfaction in DF areas. This clearly shows that the purpose of franchisee is not achieved. Hence the Commission directs the DISCOMs to closely monitor the performance of DF especially w.r.t. capital expenditure, AT&C Loss and Consumer satisfaction in DF areas and submit quarterly report to the Commission.

The Commission directs the DISCOMs to submit the details of input energy, billed energy, billed amount, collected amount, supply position pertaining to the DFs in the **Format - 14.**

12.2.7 Interest on Security Deposit of LT Consumers

The Commission has noted that DISCOMs are passing the Interest on Security Deposit to HT consumers but not to LT consumers on the pretext of limitation in software of LT billing along with non-availability of proper data, DISCOMs have submitted that the software for LT billing is being upgraded for incorporation of adjustment of interest on security deposit amount.

The explanation of not adjusting interest amount of security deposit of LT consumers due to non-availability of proper data is not convincing. In this aspect the Commission has already instructed to consider the availability of security deposit of LT consumers on adhoc basis till the records are updated and start adjusting the interest on security deposit amount in their bills.

DISCOMs are once again directed to consider adhoc security deposit based on the rate of security deposit/KW, from time to time, from the date of release of supply and adjust the interest on security deposit of LT consumers. The Commission may initiate disciplinary action for not implementing its direction. The status report of such adjustment made month-wise shall be submitted in next review meeting.

12.2.8 Asset Register

The Commission has noted that the DISCOMs are not realising the importance of Asset Register and are not taking urgent action for preparation of Fixed Assets Register. Further, the Voltage-wise cost of supply is dependent on such fixed asset register. Unless the Asset Register with full details of item-wise asset is maintained the voltage wise cost of supply cannot be determined. Hence, Commission directs the DISCOMs to complete fixed asset register (Voltage-wise) positively by 31.03.2019 and submit its latest status quarterly. The Commission may not consider the consequential ARR components such as depreciation etc., in ARR determination in future.

12.2.9 Voltage wise cost of supply

The Commission has noted that DISCOMs are calculating the voltage-wise cost of supply based on some assumed technical losses for 33 KV, 11 KV and LT voltage level.

DISCOMs are directed to conduct study to asses technical losses of all 33 KV feeders & 11KV feeders based on energy audit of 33 kV & 11 kV feeders and selected LT lines under selected Distribution transformers and submit the progress achieved in the next review meeting. Voltage-wise cost of supply based on the technical losses arrived in the study shall be submitted in the next tariff petition.

12.2.10 Regulatory Accounting

The Commission has noted that the DISCOMs have been maintaining and reporting their financial account in Statutory Accounting formats which is distinct from the regulatory requirements. Such financial account in Statutory Accounting formats do not maintain the record of regulatory disapprovals. As such, substantial differences in opening balances, expenses during the year, closing balances, etc. at several places have been noticed between the Statutory Account and Regulatory Account.

The Commission, therefore, directs the DISCOMs to maintain and report their financial account duly audited by an auditor in Regulatory Accounting formats in next tariff petitions.

12.2.11 Outstanding Arrears

The Commission has noted that as per the audited accounts of FY 2016-17, there are outstanding arrears of 2796.72 Cr pertaining to NBPDCL and Rs. 3676.54 Crore pertaining to SBPDCL. These outstanding arrears include amounts to be received from the Government Department., Semi-government and local bodies. The Commission directs the DISCOM to contact the concerned heads of Government Departments/ Organisations for early payment of outstanding dues. Quarterly report on it is to be submitted to the Commission in **Format 15 (A)**.

Certificates cases be filed for recovery of long pending dues and progress of disposal of the certificate cases be closely monitored. Theft cases filed in the courts, should also be pursued rigorously and quarterly report on it is to be submitted to the Commission in **Format 15 (B).**

12.2.12 O & M Norms

Regulations 22 (a) of the BERC (Multi Year Distribution Tariff) Regulations 2015 specifies "*the Commission shall stipulate a separate trajectory of norms for each of the components of O&M expenses viz. Employee cost, Repairs and Maintenance (R&M) expenses and Administrative and General (A&G) expenses*".

Regulation 22 (b) specifies "*norms shall be defined in terms of combination of number of personnel per 1000 consumers and number of personnel per substation alongwith annual expenses per personnel for Employee expenses; combination of A&G expenses per personnel and A&G expenses per 1000 consumers for A&G expenses ....*"

The Commission directs the Discoms to ensure filing of the tariff petition for next MYT control period i.e. from FY 2019-20 to FY 2021-22 proposing the norms for O&M expenses in accordance with regulation 22 of BERC (Multi Year Distribution Tariff) Regulations 2015.

12.2.13 Renewable Power Purchase Obligation (RPO)

The Commission has been observing that the DISCOMs have been not meticulous in achieving the RPO target year-on-year. Now a days the rate of solar and wind power rates have drastically fallen and has become cheaper than the conventional power. In spite of it, the DISCOMs are not keen to buy solar and wind power to fulfil their RPO targets.

The DISCOMs are directed to prepare a advance action plan to meet the RPO target and explore purchasing solar and wind power from outside the state, in case they are not available within the state.

12.2.14 Constitution of Regulatory Cell

Commission has been observing that the regulatory compliance track of the DISCOMs are not upto the mark and the data/ information related to regulatory affairs are not being provided by the DISCOMs in time and in the prescribed formats. The Commission directs that a Regulatory Cell may be constituted either in BSPHCL office or in each DISCOMs to monitor the following works:-

1. To ensure Regulatory Compliance;
2. Maintain database in the form and manner required by BERC;
3. To file petition to claim FPPPA in time;
4. To defend effectively and properly during hearings in courts & Commission;
5. Monitor RPO compliance;
6. Suggest amendments/modifications in regulations in line with changing times;

The Commission directs the DISCOMs to submit the action taken report on the above before the next review meeting

12.2.15 Electricity Supply for rural Industries

Commission has received many representations from rural industrialists requesting for continuous supply of at least 8 hours in a day. Due to Unscheduled power cuts etc for long periods extending 2-4 hours the labour engaged could not be utilised for 8 hours even though wages have to be paid for 8 hours and also the industry could not be run atleast one shift of 8 hours causing lot of economical loss.

The Commission directs the DISCOMs to examine the possibility of extending of direct lines to predominantly industrial areas so that continuous 8 hours supply to industries in rural areas. The action taken may be reported to Commission in review meeting.

12.2.16 Safety measures for Hazardous Electric lines poles

During public hearings and feed back received from the consumers it is gathered that complaints regarding 1. Running electric lines and bamboos and wooden polls.

2. Deteriorated wires getting snapped frequently. 3. Low ground clearance at road crossings and in agricultural feilds causing danger to human and animal life's.

The Commission directs the DISCOMs to intimate such steps taken in this regard in the next quarterly review meeting.

12.2.17 Effective Consumer Grievance Redressal Mechanism

During public hearings and feed back received from the consumers no of complaints are regarding defective electricity bills, non replacement of defective meters, frequent failure of supply which are not promptly being redressed. Therefore, registration and redressal of such large number of complaints through manual system are proving to be in-adequate. It is giving rise to unrest among consumers. In order to address this issue it is suggested that a separate dedicated E-Enabled centralised Consumers Grievance Redressal and Monitoring System with features of uploading the relevant supporting documents by consumers needs to be created. Also keeping in view the consumer profile in Bihar it would be worthwhile to introduce Consumer Advocacy initiatives highlighting all options for consumer compliant redressal system as stated above.

The Commission directs the DISCOMs to intimate such steps taken in this regard in the next quarterly review meeting.

Name of the DISCOM: **Format – 1(A)**
Report for quarter ending:
Directive – 2: 100% consumer metering

Sl. No.	Category and sub-category	Number of Consumers	No. of meters installed at the beginning of the quarter	Meters installed during the quarter	Total Meters installed at the end of quarter	Percentage of Meters installed (%)

Name of the DISCOM: **Format – 1 (B)**
Report for quarter ending:
Directive – 2: 100% consumer billing

Sl. No.	Category and sub-category	Number of Metered Consumers	No. of meter Reading taken	No. of Bills generated	No. of Bills served to consumers	Percentage of bills served Vs Reading taken (%)

Name of the DISCOM: **Format – 2 (A)**
Report for quarter ending:
Directive – 3: Energy Accounting

Name of Circle	Number of 33 KV feeders		Meters in working condition		Meters to be provided or to be replaced	
	Urban	Rural	Urban	Rural	Urban	Rural

Note: Separate report for 11kV & LT Feeders to be furnished

Name of the DISCOM: **Format – 2(B)**
Report for quarter ending:
Directive – 3: Energy Accounting

Month	Name of 33/11 KV substation	Energy Input during the Month (MU)	Energy sent out during the Month (MU)	Losses (MU)	Percentage losses (%)

Name of the DISCOM: **Format – 2(C)**
Report for quarter ending:
Directive – 3: Energy Accounting

Month	Name of EHT sub-station	Name of 33 KV feeder	Units sent out during the Month	Units received during the Month at 33/11 KV substation	Losses	Percentage losses (%)

Name of the DISCOM: **Format – 3(A)**
Report for quarter ending:
Directive – 1: Performance of DISCOMs –Revenue Billing and collection efficiency
Name of Circle:

SI. No.	Category and sub-category	Number of consumers	Energy sold (MU)	Revenue Billed for sale of energy (Rs. Lakh)	Revenue Collected (Rs. Cr)	Percentage of Revenue collected (%)

Name of the DISCOM: **Format – 3(B)**
Report for quarter ending:
Directive – 1: Performance of DISCOMs – Revenue billing and collection efficiency
Name of Circle:

Month	Energy Input during the Month (MU)	Energy sold during the Month (MU)	Percentage of Billing efficiency (%)	Revenue billed during the Month (Rs. Lakh)	Revenue collected during the Month (including Govt subsidy if any; (Rs. Lakh)	Percentage of collection efficiency during the Month (%)

Name of the DISCOM: **Format – 4**
Report for quarter ending:
Directive – 4: Consumer Data/Base
Name of Circle:

Sl. No	Category of consumption	No of Consumers as on ___________	Connected Load in KW as on _________	Energy sales as on ________	Revenue Billed (in Rs. In Lakh) as on
A	**Domestic**				
1	Kutir Jyoti				
	KJ (Unmetered)				
	KJ (metered)				
	First 50 units				
	Above 50 Units				
	Subtotal				
2	DS-I				
	Unmetered				
	Metered -				
	First 50 Units				
	51 - 100 Units				
	Above 100 Units				
	Subtotal				
3	DS-II(Demand Based)				
	1-100 U/Month				
	101 - 200 U/Month				
	201 -300 U/Month				
	above 300 U/Month				
	Subtotal				
B	**NON-DOMESTIC SERVICES**				
1	NDS - I				

Sl. No	Category of consumption	No of Consumers as on __________	Connected Load in KW as on ________	Energy sales as on _______	Revenue Billed (in Rs. In Lakh) as on
	Metered				
	1-100 U/Month				
	101 - 200 U/Month				
	above 200 U/Month				
	Subtotal				
2	NDS - II – (Demand Based)				
	Upto 0.5 kW				
	All Units				
	Above 0.5kW				
	1-100U/m				
	101-200 U/m				
	above 200 U/m				
	Subtotal				
C	**Street Light Services**				
	SS-I Metered				
	SS-II (Un-metered)				
	Subtotal				
D	**IAS**				
	IAS-I Unmetered				
	IAS-I Metered				
	IAS-II Metered				
	Subtotal				
E	**PWW**				
F	**Low tension industrial**				
	LTIS-I (Demand based)				
	LTIS-II (Demand based)				
	Subtotal				
G	**High Tension Supply**				
	HTS - I				
	HTS - II				
	HTS - III				
	HTS - IV				
	HTSS				
	Subtotal				
H	**Railways**				
	RTS (132kV)				
	RTS (25kV)				
	Subtotal				
I	**DF (Sales)**				
J	**Nepal**				
K	**Other bilateral sales (Please specify)**				

Sl. No	Category of consumption	No of Consumers as on __________	Connected Load in KW as on ________	Energy sales as on _______	Revenue Billed (in Rs. In Lakh) as on
	Grand Total				

Name of the DISCOM: **Format – 5**
Report for quarter ending:
Directive – 1: Performance of DISCOMs- Timely delivery of Bills
Name of Circle:

Month	Category	Number of consumers	Bills generated during the Month	Percentage of bills generated during the Month (%)	Bills served to the consumers during the Month	Percentage of bills served to the consumers during the Month (%)

Name of the DISCOM: **Format –6**
Report for quarter ending:
Directive – 1: Performance of DISCOMs-Release of New Connections
Name of Circle:

S. No.	Details	Number
1	Number of Applications pending at the beginning of the quarter	
2	Number of Applications received during the quarter	
3	Total Number of applications received	
4	Number of connections released during the quarter	
5	Number of applications pending at the end of quarter	

Name of the DISCOM: **Format – 7**
Report for quarter ending:
Directive – 5: Reduction of AT&C losses
Name of Circle:

S. No.	circle	Name of Division	Energy Input (MU)	Units Sold (MU)	Losses	
					(MU)	(%)

Name of the DISCOM: **Format – 8**
Report for quarter ending:
Directive – 1: Performance of DISCOMs-Pilferage of Electricity
Name of Circle:

S. No.	Name of Division	Number of inspections conducted at beginning of the quarter	Number of services inspected during the quarter	Number of energy pilferage cases during the quarter	Number of FIRs during the quarter	Amount assessed during the quarter (Rs. Lakh)	Amount collected during the quarter (Rs. Lakh)

Name of the DISCOM: **Format – 9**
Report for quarter ending:
Directive – 1: Performance of DISCOMs – Consumers Grievance Redressal
Name of Circle:

Name of Division	No. of Complaints pending at the beginning of the quarter	No. of complaints received during the quarter	No. of complaints resolved during the quarter	No. of complaints pending at the end of the quarter

Name of the DISCOM: **Format – 10**
Report for quarter ending:
Directive – 1: Performance of DISCOMs – Installation of Prepaid Meters
Name of Circle:

<table>
<tr><th rowspan="2">Name of circle</th><th rowspan="2">Name of Division</th><th rowspan="2">Name of Section</th><th colspan="2">Meters installed at the beginning of quarter</th><th colspan="2">Meters installed during the quarter</th><th colspan="2">Meters installed at the end of quarter</th></tr>
<tr><th>Single Phase</th><th>3 Phase</th><th>Single Phase</th><th>3 Phase</th><th>Single Phase</th><th>3 Phase</th></tr>
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Name of the DISCOM: **Format – 11**
Report for quarter ending:
Directive – 1: Performance of DISCOMs – Separation of Agricultural feeders
Name of the Circle:

Name of Circle	No. of Rural Feeders existing	No. of feeders programmed for separation	No. of feeders separated during the Quarter	Cumulative total at the end of Quarter	Balance feeders to be segregated

Name of the DISCOM: **Format – 12**
Report for quarter ending:
Directive – 1: Performance of DISCOMs - Rural Electrification excluding DF area
Name of Circle:

Sl. No.	Description	Number
A	Total no. of villages as per 2011 Census	
B	Villages already electrified as on 31.03.2017	
C	Un-Electrified Villages as on 31.03.2017 (A – B)	
D	Villages Electrified during 2018-19 up to ________ i. Grid connected ii. Off grid Total i. Grid connected ii. Off grid	
E	Balance no. of villages to be electrified i. Grid connected ii. Off grid iii. Total	
F	Percentage of Rural electrification as a %	

Rural Electrification Status in DF area:

Sl. No.	Description	Number
A	Total Number of Villages falling under DF area (as per 2011 census)	

B	Villages already electrified by 31.03.2017	
C	Un-electrified villages as on 31.3.2017 i. Grid connected ii. Off Grid connected Total	
D	Villages electrified during FY 2018-19 i. Grid connected ii. Off Grid connected Total	
E	Balance no. of villages to be electrified i. Grid connected ii. Off Grid connected Total	
F	Percentage of Rural electrification as on	

Name of the DISCOM: **Format – 13**
Report for quarter ending:
Directive – 1: Performance of DISCOMs – Rooftop Solar PV Generation
Name of Circle:

Locations Identified	**Target**		**Present Status as on……………….**		**Balance to be provided**	
	Nos.	**Capacity KW**	**Nos.**	**Capacity KW**	**Nos.**	**Capacity KW**
Government						
Private						
Total						

Name of the DISCOM: **Format – 14**
Report for quarter ending:
Directive – 6: Performance of DF
Name of Circle:

S. No.	**Particulars**	**Unit**	**For the quarter ending ____________**
1	Energy Input	MU	
2	Sales	MU	
3	Losses	MU	
	Losses	%	
4	Revenue Billed	Rs. Lakh	
5	Revenue collected	Rs. Lakh	
6	Percentage of Collection	%	

Name of the DISCOM: **Format – 15 (A)**
Report for Quarter ending:
Directive – 11: Outstanding Arrears in Government/Public Sector Undertakings (PSU)/Local Bodies / Autonomous Institutions
Name of Circle:

(Rs. crore)

Sl. No.	Name of the Department / PSU / Local Bodies / Autonomous institutions	Outstanding arrears as on 31.3.2017	Arrears during the quarter	Total arrears	Arrears received during the quarter	Balance arrears

Format – 15 (B)

Name of the DISCOM:
Report for Quarter ending:
Directive – 11: Disposal of Certificate Cases
Name of Circle:

Sl. No.	Name of the Circle	Name of the Division	Certificate cases pending at the beginning of the year	New cases filed	Total cases at the end of the quarter	Certificate cases disposed off during the quarter	Amount realised (Rs. crore)

13. Renewable Purchase Obligation

13.1 Background

To reduce dependence on conventional energy sources, promotion of renewable energy sources is essential. Renewable energy is an important solution to reduce power shortage especially in states like Bihar where fossil fuel or hydro power potential is not available. Developing renewable energy will increase power availability in the State and help balanced regional development. Besides, it will reduce adverse impacts on the local environment and carbon density.

The Government of India had launched the Jawaharlal Nehru National Solar Mission (JNNSM) in January 2010 with the objective of achieving 20,000 MW of solar Power capacity by 2022. This was a major initiation to tap India's naturally available energy sources and contribute to lower carbon growth in the Country.

An ambitious target of 175 GW of installed renewable power by 2022 has been fixed by Government of India, which includes 100 GW of solar power, 60 GW wind, 10 GW from biomass and 5 GW from small hydro projects. The renewable energy capacity addition of Bihar is also in line with central government's plan.

13.2 Bihar Policy for promotion of Bihar new and Renewable Energy sources 2017

Government of Bihar has issued the "Bihar Policy for promotion of Bihar new and Renewable Energy sources 2017" dated 8th June 2017. It will remain in operation for a period of 5 years from the date of the notification or till the state Government notifies the new policy. Bihar Renewable Energy Development Agency (BREDA) will be Key agency for all Renewable Projects except small/micro/mini hydro projects, for which Bihar State Hydro Electric Power Corporation Limited (BSHPCL) shall be the Nodal agency:

Objectives mentioned in the Policy are as given below:

1. To Target installed capacity of 2969 MW solar, 244 MW Biomass & Bagasse cogeneration and 220 MW small hydro power by 2022 in the state with an objective to meet the growing demand for power in an environmentally sustainable manner.
2. To attract private sector participation including foreign players in solar energy sector by providing conducive environment for setting up grid connection as well as decentralised renewable energy projects.
3. To provide decentralized renewable energy for agriculture industry commercial land house hold sector particularly in rural areas thereby improving the quality of power.
4. To support R&D, demonstration and commercialization of new and emerging technologies/applications.
5. To promote local manufacturing to contribute economic growth in the state
6. To facilitate imparting necessary skills and capacity building in establishing operating and managing RE projects to generate indirect employment opportunities for local population.

Thrust areas in the Policy are as given below:

1. Aims to make Bihar self sufficient by adding 3433 MW of renewable energy in the grid by 2022.
2. Technology-specific target under policy are 2969 MW for solar, 244 MW for biomass and bagasse cogeneration and 220 MW for small hydro power by 2022
3. Dedicated rooftop solar target of 1000 MW with both net metering and gross metering and banking mechanisms
4. Key thrust to the mini-grid sector, with a target of 100 MW with specific subsidies and proposed rollout framework

Incentives provided in the Policy:

To enable renewable capacity in the state, the following incentives shall be provided for eligible developers for those projects setting up during the operative period.

1. **RE Incentives**
    a. Transmission & Distribution charges shall be exempted for wheeling of power generated from renewable power projects for only captive use/third party sale within the state.
    b. Transmission & Distribution losses shall be exempted for power projects

injecting at 33kV or below irrespective of voltage level of the delivery point within the Distribution Company.

c. The capital cost of the transmission system for evacuation of Renewable Energy Power to the nearest sub-station including all metering and protective instruments shall be borne by the state government, provided the power plant is located upto 10 km from the nearest substation.
d. Banking of 100% energy shall be permitted for all captive and Open Access/Scheduled consumers during each financial year. Banking charges shall be adjusted @2% of the energy delivered at the point of drawing. It shall be guided by the orders issued by the state commission (BERC).
e. Cross subsidy surcharge shall be exempted for third party sale for projects setup within the state for the entire policy period of this RE policy.
f. Generation, Transmission and Distribution of electricity from renewable energy projects shall be treated as an eligible industry under the schemes administered by the industries Department. The incentives available to industrial units under such schemes shall be available to the RE power producers.
g. All eligible beneficiaries can avail Central Financial Assistance from MNRE or any other central government body, as per the applicable scheme.

2. Incentives under Industrial investment promotion Policy

All New and Renewable Energy Projects shall be entitled to avail the facilities available under prevalent industrial promotion policy and such other policy of the Government of Bihar

13.3 Bihar Renewable Energy Development Agency (BREDA)

Bihar Renewable Energy Development Agency (BREDA) has been established to promote development of schemes on non-conventional energy sources. It has ALSO been nominated as nodal agency to carry out the remote village electrification programme through DDG (Decentralised Distribution Generation). The State Govt.

provides plan funds to BREDA to meet expenditure on subsidies for the schemes and also for the expenditures on establishment. BREDA is one of the premier organizations and has been working in the field of renewable energy development and energy conservation and is registered under society registration act in 1987. BREDA shoulders responsibility as a State Nodal Agency for the Ministry of New & Renewable Energy Sources. BREDA has also been appointed as a state Designated Agency for Bureau of Energy Efficiency (BEE).BREDA has been implementing program of non-conventional energy sources, the schemes are bio gas, biomass/bagasse development, SPV systems of Lanterns/Home lighting systems/street lighting systems, and wind mills. Under the Border Area Development Program, BREDA has implemented a scheme of solar street lighting system in 40 villages along the International Border. Besides working on Free Power Resources, BREDA has been instrumental in envisioning the policy architecture for implementation of Renewable Energy Policy and formulates innovative policies/schemes that transform challenges into opportunities and in turn in the success to overcome the barriers. Rural electrification in Bihar and the Off-Grid projects has one of the major focus areas for BREDA which provides sustainable growth opportunities to the rural youth of Bihar, providing the employment opportunities.

13.4 The Electricity Act, 2003:

Section 86(1)(e) of the Electricity Act,2003 mandates the State Commission to discharge following functions, namely “ Promote co-generation and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person, and also specify, for purchase of electricity in the area of a distribution licensee.”

Section 61 provides “ The Appropriate Commission shall subject to the provisions of this Act specify terms and conditions for the determination of tariff and in doing so shall be guided by the following namely 61(h):the promotion of cogeneration and generation of electricity from renewable sources of energy."

13.5 Revised Tariff Policy 2016:

Para 6.4(1) of the revised tariff policy dated 29.01.2016 states that the long term growth trajectory of renewable Purchase Obligation (RPO) will be prescribed by Ministry of Power in consultation with Ministry of New and Renewable Energy (MNRE) and within the percentage so made applicable, to start with, the SERCs shall also reserve a minimum percentage power purchase of solar energy from the date of notification of this policy which shall be such that it reaches 8% of total consumption of energy, excluding Hydro Power by March 2022 or as notified by the Central Government from time to time.

13.6 Renewable Purchase Obligation (RPO)

Renewable Purchase Obligations (RPOs) has been made to ensure that the distribution licensee and other obligated entities procure a certain minimum percentage of their total power requirement from renewable energy sources.

The Commission has notified BERC (Renewable Purchase Obligation, its Compliance and REC Framework Implementation) Regulations, 2010 (hereinafter referred as BERC RPO Regulations) on 16th November, 2010.

It is specified in the above regulation that if the licensees are not able to meet the renewable purchase obligation (including the RE capacity available in the State) from sources located within the State, they shall have the option to purchase the shortfall energy from outside the State.

The Clause 5.1 of the above regulations also facilitates the licensees purchase to certificates issued under the CERC (Terms and Conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation) Regulations 2010 as valid instrument for the discharge of the mandatory RE purchase obligation.

The Commission through its 1st amendment in BERC (Terms and Conditions for Tariff Determination from Solar Energy Sources) Regulations 2012 notification dated 7th September, 2012 has notified that "*out of the renewable purchase obligation, 0.25% of the consumption in the year 2012-13 shall be procured from generation based on solar energy sources and shall be increased by 0.25% every year thereafter till 2019-20 and by 0.50% in 2020-21 as well as in 2021-22*".

Based on the above regulations, it was made obligatory for erstwhile BSEB and now SBPDCL/NBPDCL to purchase certain percentage of their total energy consumption from Renewable Energy sources from FY 2010-11.

Percentage of Renewable Purchase Obligation (RPO)

From Renewable Sources	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Renewable Power Purchase obligation (RPO)	1.50%	2.50%	4.00%	4.50%	5.00%	5.50%
% share of solar power RPO of total RPO	0.25%	0.50%				
% share of solar power in RPO of total energy consumption			0.25%	0.50%	0.75%	1.00%
% share of non-solar power in RPO			3.75%	4.00%	4.25%	4.50%

Subsequently, keeping in view the revised tariff policy 2016, the Commission approved Renewable Purchase Obligation for the control period FY 2016-17 to FY 2018-19 in the Tariff Order for FY 2016-17 dated 21.03.2016, in the following manner:

Table 13.1 Percentage of Renewable Purchase Obligation (RPO) for the Control Period FY 2016-17 to FY 2018-19

From Renewable Sources	2016-17	2017-18	2018-19
Renewable Power Purchase obligation (RPO)	6.50%	7.75%	9.25%
% share of solar power in RPO of total energy consumption	1.50%	2.25%	3.25%
% share of non-solar power in RPO	5.00%	5.50%	6.00%

The clause 6.4(1) of revised tariff policy 2016 stipulates "*the appropriate Commission shall fix a minimum % of the total consumption of electricity in the area of distribution licensee for purchase of energy from renewable energy sources, taking in to account availability of such resources and its impact on retail tariffs. Cost of purchase of renewable energy shall be taken into account while determining tariff by SERCs. Long term growth trajectory of Renewable purchase obligation (RPO) will be prescribed by Ministry of Power in consultation with MNRE.*

i. Within the % so made applicable, to start with, the SERCs shall also reserve a minimum % for purchase of solar energy from the date of notification of this policy which shall be such that it reaches 80% of total consumption of energy, excluding hydro power by March 2022 or as notified by the Central Government from time to time.

Thereafter, the Ministry of Power, Government of India, in consultation with MNRE vide order dated 22.07.2016 issued a long term growth trajectory of the Renewable Purchase Obligations for Non-solar and Solar uniformly for all states/union Territories initially for three years from FY 2016-17 to FY 2018-19 to reach the total RPO percentage to 17% by 2018-19.

Keeping in view the revised tariff policy dated 28.2.2016 and guidelines for long term RPO dated 22.7.2016 by Ministry of Power, the Commission has notified the BERC (Renewable Purchase Obligation and REC framework Implementation) (2nd Amendment) Regulations, 2017, substituting the existing 1st proviso of the Regulation 4.1 as below:

"Every Obligated Entity shall at least purchase source wise energy from Renewable Sources as specified below:-

Table 13.2 Minimum quantum of electricity to be procured from Renewable Sources by Obligated Entity as percentage of total consumption

From Renewable Sources	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Renewable Power Purchase obligation (RPO)	6.50%	7.75%	9.25%	11.50%	14.25%	17.00%
% share of solar power in RPO of total energy consumption	1.50%	2.25%	3.25%	4.75%	6.75%	8.00%
% share of non-solar power in RPO	5.00%	5.50%	6.00%	6.75%	7.50%	9.00%

The Obligation will be on total consumption of electricity by an obligated entity, excluding consumption met from hydro sources of power from FY 2019-20 onwards.

Provided that Renewable Energy purchased through bundled power shall qualify for Renewable Purchase Obligation compliance to the extent of Renewable Energy content in the bundled power.

Provided further that Distribution Licensee shall compulsorily procure 100% power generated from waste to Energy plants in the state.”

13.7 BERC (Terms and Conditions for Tariff determination from Renewable Energy sources) Regulations 2017

Commission has notified BERC (terms and Conditions for Tariff determination from Renewable Energy sources) Regulations, 2017 on 24th October 2017 explaining the terms and conditions for determination of tariff for;

1. Bio mass power project with Rankine cycle technology
2. Non-fossil fuel cogeneration projects
3. Solar PV Project and Rooftop Solar PV projects
4. Solar Thermal project
5. Biomass Gasifier Power project
6. Municipal Solid Waste (MSW)/ and Refuse Derived Fuel (RDF) based power project

In the above mentioned Regulations the Commission has provided the parameters such as capital cost, Plant load factor, Aux Consumption (%), Station hear rate, calorific value, Fuel cost, Operation & Maintenance Expenses for each of the above Technology specific Renewable Energy Generation Projects.

Details of bagasse based cogeneration plants and biomass generating plants in the State are as follows:

Table 13.3: Co-generation & Biomass Plants in Bihar (MW)

S. No.	RE Projects Developers	Quantum in MW	CoD
Bagasse based Generation			
1	New Swadeshi Sugar Mills	05/08 season /of f-season	21.01.2017
2	Harinagar Sugar Mills	11.00	11.11.2011
3	Bharat Sugar Mills	10/13 season/of f-season	07.12.2008
4	HPCL (lauriya)	20.00	21.12.2011
5	HPCL (sugauli)	20.00	17.12.2011
6	Hasanpur	10.00	09.03.2014
7	Riga Sugar Mill	3.00	14.01.2016
8	Tirupati Suhgar	6.00	Expected in FY 2017-18
Biomass based Generation			
9	M/s Bihar distillers & Bottlers Pvt Ltd	3-6 MW	January, 2017
10	Siddhashram Rice Mill Cluster Pvt Ltd	1 MW	
MSW based Generation			
11	Patna Green energy Pvt Ltd	9.7 MW	Expected in FY 2018-19

13.8 Small Hydro Power Projects

Total installed capacity of small hydro power projects is about 55 MW. Bihar State Hydroelectric Power Corporation has identified 40 more projects of 275 MW aggregate capacities. Some of the projects are under progress. Details of the existing small Hydro projects in Bihar are below:

Table 13.4: Small Hydro Projects in Bihar

S. No.	Name of the Project	Location
1	East Gandan HEP	Valmikinagar
2	Triveni SHP	Valmikinagar

S. No.	Name of the Project	Location
3	Sone Eastern HEP	Barun
4	Sone western HEP	Dehri-on-sone
5	Agroor SHP	Agnoor
6	Delabagle SHP	Dhelabagh
7	Nasriganj SHP	Nasriganj
8	Jainagrah SHP	Jainagrah
9	Srikhinda SHP	Srikinda
10	Sebari SHP	Sebari
11	Arwal SHP	Arwal
12	Belsar SHP	Belsar

13.9 Solar Power:

Details of Solar PV projects Commissioned in the state are as given below:

Table 13.5: Solar PV Projects in Bihar

S. No.	RE Projects Developers	Quantum in MW	CoD
Solar PV Projects			
1	SECI	10	22.11.2015
2	M/s Avantika Contractors Ltd	05	31.01.2016
3	M/s Sunmark energy Projects :omitted	10	26.11.2016
4	M/s Response Renewable Energy Pvt Ltd	10	30.03.2017
5	M/s Glastt Solutions Pvt Ltd	03	28.02.2017
6	M/s Azure Power India Pvt Ltd	10	14.07.2016
7	M/s Welspun energy Jharkhand Pvt Ltd	15	17.07.2016
		10	
		15	
8	M/s Acme Solar Pvt Ltd	15	28.06.2016
		10	
9	M/s Udipta energy & Equipment Pvt Ltd	05	17.04.2017
10	M/s Alfa Infraprop Pvt Ltd	20	28.09.2017

Further, BSP(H)CL is in the process of more Renewable energy long term PPAs as below:

- BSP(H)CL has given consent to SECI for implementation of 300 MW state specific Solar PV Plant under Phase II, Batch- IV of NSM scheme.
- BSP(H)CL has given consent to SECI for implementation of 400 MW Wind Project under scheme of setting up 1000 MW ISTS connected Wind Power Projects and PSA (Power Sale Agreement) has been executed.

- Procurement of power from Non-Solar RE Sources under short term through DEEP Portal for FY 2017-18 have been successfully done for 969 MW. Flow of power has been started from 1st May 2017 to 31st Oct 2017.
- BSP(H)CL has sought consent of Energy Department, Government of Bihar for procurement of 250 MW solar power from Kadapa Plant (Andhra Pradesh) through PTC.

13.10 Rural Electrification through Non-Conventional Energy Sources:

Access to affordable and reliable electricity is essential for social and economic progress in the rural areas. Decentralised Renewable Energy Sources based power plants are required to be deployed to address the last mile access challenge in the rural areas. With reducing cost and increasing efficiencies of solar PV ,Mini grid /Off grid RE power generation and supply system has to play a major role in electrification of rural areas of the State.

The clause 8.0 of the revised Tariff Policy, 2016 provides the following:-

"One of the risks of investment is grid reaching the area before the completion of the project life and thereby making power from micro grids costly and unviable. In order to mitigate such risk and incentivize investment, there is a need to put in place an appropriate regulatory framework to mandate compulsory purchase of power into the grid at a tariff to be determined under section62 of the Act considering depreciated cost of investments and keeping in view industry benchmark and with a cap if necessary. Appropriate Commission shall notify necessary regulations in this regard within six months."

As per BREDA , 3300 nos. of 2Hp/3Hp solar water pumps and 3.134 MW of off grid solar plants have been installed. 6000 Nos of 1 KWp Roof top solar power plants in Off grid mode are being implemented.

13.11 Decentralised Distribution Generation (DDG) Scheme

There are certain localities within the licensed area of SBPDCL where traditional way of electrifications is neither possible nor commercially viable. For such areas SBPDCL has choosen SOLAR Power based Stand Alone System under Decentralized Distribution Generation (DDG) Scheme of DDUGJY recommended by M/s Rural Electrification Corporation Limited, New Delhi (REC) as per their guidelines.

SBPDCL has engaged *M/s Larsen & Toubro Ltd, Chennai* through open competitive bidding vide NIT No. 01/PR/SBPDCL/2017 Dated 11/01/2017 to electrify, operate, maintain and collect revenue in 7 revenue districts of South Bihar i.e Kaimur, Bhagalpur, Banka, Jamui, Munger, Nawada & Rohtas and 5 revenue districts of North Bihar i.e., West champaran, Supaul, Katihar, Madhubani and Gopalgunj. A formal contract agreement has been signed between the Petitioner & L&T on 19th August 2017 vide no. 123/2017-18-CE(P1) and 124/2017-18-CE(P1).

As per the contract agreement; M/s Larsen & Toubro Ltd (the agency) has the following responsibilities:

1) Survey & identification of the locality targeted to be electrified under DDG Scheme of DDUGJY.
2) Detail Engineering, planning & designing of Solar Power Plant and its associated network lines to electrify villages and extend power supply to BPL & APL Consumers in these list of villages,
3) Procurement of all the material required for the project area.
4) Commissioning of Solar Power plant as per the approved design & specification approved by SBPDCL
5) Laying LT Network and other infrastructure for extending power supply to BPL & APL consumers identified in this scheme
6) Providing connection to BPL & APL Households without meters as per the Technical specification with 3 LED Light points and 2 Power sockets.
7) Operation & Maintenance of the system for next 5 years from actual date of commissioning.

As per the aforesaid Contract Agreement the agency needs to provide electricity supply to rural households at least 75 days in a quarter as per the schedule defined in the contract agreement as follows;

In summer period (March to October):
Morning: 5 AM to 10 AM (1 to 3 hours)
Evening: 6 PM to 11 PM (5 hours)
In Winter Period (November to February):
Morning: 5 AM to 10 AM (1 to 3 hours)
Evening: 5 PM to 10 PM (5 hours)

Simultaneously as per the contract agreement, the implementing agency need to collect fixed revenue from rural households as per the tariff plan finalized in the contract agreement as tabulated below;

Table 13.6: Revenue collection under DDG scheme

Habitation / Non-habitation	Category	Revenue (INR/ month)
House Holds	BPL	Rs 30 Per Month
	APL	Rs 60 Per Month
Non Households	Street Light Per Point of 20 Watts	Rs 20 Per Month
	Community Building of 100 Watts	Rs 55 Per Month
	Atta Chakki (5 HP)	Rs 1500 per Month
	Water Pumping per HP	Rs 267 per HP/ Month

13.12 Municipal Solid Waste Power project

Patna Green Energy Pvt. Ltd. (PGEL) is setting up a “Municipal Solid waste” based power project at Ramchak Bairia village in Patna district with a capacity of 600 tonnes per day municipal solid waste which is capable of producing 9.7 MW of electricity. The proposed project is ‘non-fossil fuel’ based processing plant and is a “Green Energy” initiative generating plant. Since the process uses municipal solid waste as source of power, it is Renewable Energy as per MNRE guidelines. This project is expected commissioning in FY 2018-19.

Sd/-	Sd/-	Sd/-
(R.K.Choudhary)	**(Rajeev Amit)**	**(S.K.Negi)**
Member	Member	Chairman

Annexure – I

Bihar Electricity Regulatory Commission (BERC)

Vidyut Bhawan-II, J. L. Nehru Marg, Patna 800 021

Time: 11:00 A.M. Dated: 06^{th} February, 2018

Minutes of the meeting of the State Advisory Committee (SAC) constituted under section 87 of the Electricity Act 2003 held on 06.02.2018 in the Conference Room of the Commission to discuss on the Tariff petition of NBPDCL, SBPDCL, BSPGCL, BSPTCL , SLDC and BGCL for FY 2018-19.

1. The meeting of the State Advisory Committee (SAC) was held on 06.02.2017 under the chairmanship of Sri S. K. Negi, IAS (Retd.), Chairman, BERC and SAC. The list of participants present in the meeting is enclosed with the minutes.
2. The Chairman welcomed all the members and participants of the meeting and explained that the State Advisory Committee has been constituted under Section 87 of the Electricity Act 2003. He also stated that the objectives of this committee is to advise the Commission on measures, questions of policy relating to electricity supply, matters related to quality, continuity and extent of services provided by the licensees, protection of consumers interest, overall standard of performance by utilities etc. He said that ideally this meeting should be convened more frequently, which could not be done. It shall be the endeavor of the Commission to conduct more meetings in future. Chairman, BERC shown his concern about the designated members not attending the meeting and once again urged all the members to attend to such meeting personally. He explained that although the agenda of this meeting as circulated is related to the tariff petition for FY 2018-19 submitted by BSPGCL, BSPTCL, SLDC, BGCL, NBPDCL and SBPDCL, the members are free to put up any policy matters for discussion which comes under the purview of the State Advisory Committee.
3. The minutes of last State Advisory Committee meeting was approved by the members.
4. It was stated by the Hon'ble Chairman that the NBPDCL and SBPDCL have sought significant hike in demand /fixed charges for retail sale of electricity during FY 2018-19.

The Chairman also informed the SAC that the Commission have conducted public hearings at Sherghati, Sasaram & Rajgir, and will conduct Begusarai, Kathihar, Madhubani, Supaul, Siwan, Mothihari and Patna. Objections/suggestions on the petitions shall be considered before finalizing the tariff. It was further stated that the suggestions of SAC shall also be considered in finalization of the tariff for FY 2018-19.

5. The chairman directed the Petitioners to present their petitions before the SAC.
6. The meeting started as per agenda
    1. Confirmation of the Minutes of State Advisory Committee meeting held on 16.02.2017
    2. Follow up action on the Minutes of Meeting
    3. Comments / Suggestion on the Tariff petition filed by Generation, Transmission and Distribution of the State
    4. Renewable Purchase Obligation (RPO)
    5. Tariff Rationalization and Reduction of Cross Subsidy
    6. Effect Utilization of Tariff Subsidy on targeted categories of consumers and introduction of Non-telescopic tariff rates
    7. Proposed BERC Regulations for Compensation to victims of Electrical accidents
    8. Consumer Awareness & Advocacy
    9. Involvement of Self Help Groups (SHGs) for Reduction in T&D Loss and improvement of collection efficiency
    10. Defining a framework (including setting a threshold timing) for developing intrastate transmission project of competitive basis.
7. Presentation by NBPDCL and SBPDCL:
    a. After the presentation, members of Bihar Chamber of Commerce (BCC) and Bihar Industrial Association (BIA) raised that the DISCOMs have not achieved the target norms of Distribution loss trajectory approved for FY 2016-17. Similarly they pointed out that norms related to working capital and return on equity have not been followed in the true up chapter of the petition as per Regulations of Commission.

DISCOMs however, submitted that distribution loss, Interest on working capital, return on equity and interest on security deposit are shown as per Regulations and Norms only

b. Shri. Rajesh K. Mediratta of IEX has enquired about compliance of DISCOMs in respect of RPO for FY 2017-18 and FY 2018-19 . DISCOMs said that they are purchasing RE power to meet RPO Obligations.
c. During the discussions it was suggested that DISCOMs are generating bills and they get government subsidy irrespective of the receipt of non subsidized portion of the bill from the consumers. It was observed that it promotes inefficiency in billing& collection system of the organization. Therefore, it is opined that in the interest of billing and collection efficiency, the government subsidy should be reimbursed to the DISCOM only when the consumers pay their respective portion of the bill to DISCOM.

8. Presentation by Bihar State Power Transmission Co. Ltd.

After the presentation BCC representative raised their concern regarding huge Infrastructure development and though the infrastructure is being developed but not being utilized by DISCOMs resulting into increase of retail tariff of the consumer.

In the light of steep increase in Capex of transmission company which will result in increase in retail tariff of the Transco, the Chairman BERC advised that no idle/redundant capacity beyond the approved norms be created. Director BSPTCL has explained that the infrastructure associated with transmission is being developed as per guidelines and norms only.

Director (P) SBPDCL, also explained that network is improving and improvement of infrastructure is required for future purpose.

(i) **Renewable Purchase Obligation**

Chairman and Members, BERC mentioned that instead of buying certificates they should purchase RE power and plan to put solar plants and other RE plants in the state although CUF in Bihar is less than the other states. Chief Engineer, SBPDCL explained that they are buying solar power to meet RPO. Further, Member, BERC Shri. Rajeev Amit suggested that DISCOMs should verify month-wise sales & corresponding RPO and if they find any shortfall in meeting the RPO they should immediately buy the RE Certificates on monthly basis to meet their RPO and to avoid likely penal action.

(ii) **Purchase of Power as per Merit Order**

Members of Bihar Chamber of Commerce has raised that the DISCOMs should follow merit order dispatch principle for purchase of power. Members, BERC mentioned that as per last tariff order merit order dispatch principle has been mandated for purchase of power for FY 2017-18 but till FY 2016-17 it was not mandated in the tariff order, however the Act and Policy envisaged. Director, SBPDCL submitted that they are following Merit Order Dispatch principle while purchasing power.

(iii) **Tariff Schedule**

Members of Bihar Chamber of Commerce and Bihar Industry Association has suggested that the Fixed charges should be removed and only Energy charges should be charged. Members, BERC mentioned that two part tariff is applicable all over India.

The members also raised their concern over differential tariff rates for rural and urban domestic consumers in the scenario of 24x7hrs electricity supply in rural and urban areas.

Director, SBPDCL requested to continue the differential tariff for urban and rural.

Member of BCC suggested that HT Tariff should be single part tariff.

(iv) **Threshold Limit for Tariff based Competitive Bidding (TBC)**

BSPTCL opined that TBC route for transmission loss is not pragmatic. It assured that they would furnish detailed reason for it.

(v) **Consumer Awareness and Advocacy**

Shri. Rajesh K. Mediratta suggested launching publicity campaign for consumers. Member of BCC and BIA also supported it and added that time limit of complaint redressal should be reduced. Member, BERC Shri. R. K. Choudhary mentioned about that the feedback received from the consumers with respect to installation of meter, non- billing, overbillings, transformer overloading, fragile network, theft, safety concern etc. Such types of complaints have increased many times in view of large number of connections given in recent past therefore registration and addressal of such large number of complaints through manual system, toll free number (1912), e-complaint registration through Discom's website are proving to be inadequate. It is giving rise to unrest among consumers. In order to address this issue, it was suggested that an additional and separate **dedicated E-enabled centralized consumer grievances redressal and monitoring system** with features of uploading the relevant supporting documents needs to be created. It will facilitate the timely resolution of the complaints by Discoms. Also keeping in view the consumer profile in Bihar, it would be worthwhile to introduce consumer advocacy initiative highlighting all the options for complaint redressal system as stated above.

Member Sri Rajeev Amit pointed out that during hearings at District levels, it was complained by consumers that in case of default of payment, their service lines are not physically disconnected but it is shown disconnected in the ledger and FIR being lodged giving reason of theft of electricity. He suggested to intimate the consumers through SMS as and when their service line is reported disconnection to handle such situation. In case of any false reporting of disconnection, the concerned consumer will automatically lodge a complaint. The Committee also dwelt on other issues like further reduction of consumer categories/slabs, targeted subsidy to eligible and deserving categories, feasibility of transfer of subsidy through DBT route promoting Open Access in the State, proper and accurate energy forecasting and planning measures to reduce T&D losses through community involvement like SHGs etc.

Due to paucity of time, discussion on proposed BERC Regulations for Compensation to Victims of Electrical Accidents could not be held and the same was postponed for next meeting.

Finally, the Chairman thanked all the Members and officials present in the meeting for attending the meeting and giving valuable suggestions. It was further stated that the Commission would consider these suggestions while passing the tariff orders of the Generation, Transmission, SLDC and Distribution companies.

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List of participants of the meeting of the STATE ADVISORY COMMITTEE (SAC) held on 06/02/2018 at 11.00 AM.

Sl. No.	Name	Designation	Organisation
Member of the Committee			
1.	Shri S.K. Negi	Chairman	BERC
2.	Shri Rajeev Amit	Member	BERC
3.	Shri R.K. Choudhary	Member	BERC
4.	Shri Rajesh Kr. Mediratta	Member	Indian Energy Exc. Delhi
5.	Shri Sanjay Bhartiya	Member	B.C.C.I.
6.	Shri K.P.S Keshri	Member	BIA
7.	Shri Sanjay Kanodia	Member	BIAESC
8.	Shri Abhinav Jindal	Member	KBUNL
9.	Shri Surendra Kumar	Member	EC Rly, Hajipur
10.	Shri Umesh Kr. Singh	Member	Industry Dept.
11.	Miss Kusum	Member	BREDA
Officer of the Utilities			
12.	Shri S.K.P. Singh	Director (Project)	NBPDCL
13.	Shri BhaskarSharma	Director (Project)	BSPTCL
14.	Shri Arvind Kumar	G.M. (Fin.)	BSPGCL
15.	Shri Vijay Kumar	G.M. (Rev.)	NBPDCL
16.	Shri PradipMajhi	G.M. (P&A)	SBPDCL
17.	Shri PramodTiwari	G.M.	BSPTCL
18.	Shri H. R. Pandey	Chief Engineer (S.O)	BSPTCL/ BSPHCL
19.	Shri Narendra Kumar	Chief Engineer (Com.)	SBPDCL
20.	Shri S. K. Srivastava	Chief Engineer (Com.)	NBPDCL
21.	Shri C.C. Prasad	Addl. G.M.	BGCL
22.	Shri Ravi Prakash	AO, BSPTCL	BSPTCL
23.	Shri Anup Kumar	Sr. Manager	SBPDCL
24.	Shri Ritesh Kumar	EEE/Comm.	NBPDCL
25.	Shri Purushottam Pd.	EEE/Comm.	SBPDCL
26.	Miss Sudhanshu	AEE	BSPTCL/ BSPHCL
27.	Shri Binod Kumar	AEE/Comm.	SBPDCL
28.	Shri Mukesh Kumar	AEE/Tel+Interstate cell	BSPTCL
29.	Shri Anurag Hingle	Consultant	SBPDCL
30.	Oisik Mishra	RM (ER)	Indian Energy Exc. Ltd.
Officer of the BERC			
31.	Shri Parmanand Singh	Secretary	BERC
32.	Shri Nadeem Ahmad	Dy. Dir.(Dist. Tariff)	BERC
33.	Shri Avinash Kr.	Dy. Dir.(Gen.)	BERC
34.	Shri Pawan Kr.	Dy. Dir.(Com.)	BERC
35.	Shri G. Abhinav Reddy	Consultant, ASCI	BERC

Annexure – II

List of participants who attended the public hearing at Begusarai on 07.02.2018

Case No. 40 of 2017

Appearance on behalf NBPDCL

1.	Shri Sunil Kr. Srivastava	Chief Engineer (Commercial), NBPDCL, Patna
2.	Shri Suresh Pd. Singh	ESE/ESC/Samastipur,NBPDCL
3.	Shri Ritesh Kumar	EEE, (Commercial), NBPDCL, Patna
4.	Shri Prashant Kumar	EEE/ESD/ Begusarai, NBPDCL
5.	Shri Sanet Kumar	EEE/ESD/ Begusarai, NBPDCL
6.	Shri Aunj Kumar	R.O/ESD/Begusarai, NBPDCL
7.	Shri Sunil Kumar	AEE/ESD/Begusarai, NBPDCL
8.	Shri Shailu Tiwari	AEE/ESC/Samastipur, NBPDCL

Appearance on behalf of Stakeholders

1.	Shri Hare Ram Singh	Vill+PO- Safapur, Nayagaon, Begusarai
2.	Shri Ravi Kumar	Consumer, Rajapur, Sikarhula, Begusarai
3.	Shri Ramchandra Singh	Consumer, Sisba, Begusarai
4.	Shri Mukund Kumar	Consumer, AT+PO- Bihat, Barauni, Begusarai
5.	Shri Pushkar Kumar	Consumer, Vill- Keshowe, Begusarai
6.	Shri Krishna Mohan Jha	Consumer, Kaali Asthan, Begusarai
7.	Shri Amit Kumar	Consumer, Kacheri Chowk, Begusarai
8.	Shri Hemant Raj	President, Begusarai Industries Association, Begusarai
9.	Shyam Kishore Sinha	Consumer, Vill- Jinaidpur, Rajora, Muffasil, Begusarai
10.	Smt. Sudha Kumari	Vill+PO- Ramdiri, Begusarai
11.	Shri Devendra Prasad	Consumer, Sahjanand Nagar, Ward No. 40, Begusarai
12.	Shri Suresh Sah	Consumer, Vill- Balha,PO- Katarmal, Dandari, Begusarai
13.	Shri Niraj Kumar	Managing Director, M/s Sony Air Gases Pvt. Ltd., Tilak Nagar, Ward No. 30, Begusarai
14.	Shri Sheetal Kr. Sharma	Consumer, Ratanpur, Begusarai
15.	Shri Dinesh Tiberawal	Director, Shri Satya Sheet Grih Pvt. Ltd., Lakho Begusarai
16.	Shri Ranjan Kumar	Consumer, Vishunpur, Begusarai
17.	Shri Shashi Bhusan Prasad	Consumer, Manjhol, Begusarai
18.	Shri Zafeer Ahmad Khan	Consumer, AT+PO- Parna, Begusarai
19.	Shri Chandan Kumar	Consumer, N.H-31, Keshawe, Begusarai
20.	Shri Chandradeep Kr.	Om Food Product Pvt. Ltd., Industrial Area, Begusarai
21.	Shri Mrinal K	Consumer, Ullaw Road, New Machata, Begusarai
22.	Shri Nazir	Consumer, AT+PO- Ullaw, Ward No. 3, PS- Singhaul,

		Begusarai
23.	Shri Krishna Mishra	Reporter, Dainik Jagran, Begusarai
24.	Md. Rahmat	Consumer, Vill- Saankh Tairaiya, Begusarai
25.	Shri Khusdil Kumar	Consumer, Bishnupur, Mirzapur, Begusarai
26.	Shri Ganesh Pd. Singh	Consumer, Kesawe, Begusarai
27.	Shri Abhishek Jaiswal	Consumer, Power House Road, Begusarai

List of participants who attended the public hearing at Siwan on 15.02.2018

Case No. 40 of 2017

Appearance on behalf NBPDCL

1.	Shri Ritesh Kumar	EEE, (Commercial), NBPDCL, Patna
2.	Shri Binod Kumar	EEE/MRT/Chapra,NBPDCL
3.	Shri Sourabh Kumar	EEE/S/Gopalganj, NBPDCL
4.	Shri Shravan Kumar	AEE/ESD/ Siwan (U), NBPDCL
5.	Shri Veer Chhatarashal	Revenue Officer, Siwan, NBPDCL
6.	Shri Chandan Kumar Sinha	AEE/MRT/Chapra,NBPDCL
7.	Shri Umashankar Kumar	AEE/ESD/Siwan, NBPDCL
8.	Shri Ranjit Kr. Deo	JEE/S/ESC/Panchrula, NBPDCL
9.	Shri S. Kumar	Consultant, NBPDCL Patna

Appearance on behalf of Stakeholders

1.	Shri P. K. Agrawal	Secretary, North Western Bihar Chamber of Commerce & Industries Chapra
2.	Shri Sushil Kumar	Prop., Krishna Diagnostic Centre, Chapra
3.	Shri Munna Prasad	Siwan Foundary Industries, Goushala Road, Siwan
4.	Shri Ramchandra Prasad	Secretary, Chamber of Commerce, Chapra
5.	Shri Sanjeev Kumar	Raj Paper Plate Udyog, Siwan
6.	Shri Awadh Bihari	Consumer, Vill- Siswa Kala, M. H. Nagar, Siwan
7.	Shri Abhay Kr. Mahto	Consumer, Vill- Supauli, Panchrukhi, Siwan
8.	Shri Akash Kumar Chauhan	Consumer, Piprakhash, Mirganj, Gopalganj
9.	Shri Nepali Prasad	Consumer, Electric Colony, Tarwara More, Siwan
10.	Shri Anurag Kumar	Director, Drishti Foods and Beverages Pvt. Ltd., Panchrukhi Siwan
11.	Shri Akhtar Ansari	Consumer, Vill- Mustafabad, Siwan
12.	Shri P. N. Singh	Manager, Bhagwan Cold Storage, Siwan
13.	Shri Baleshwar Prasad	Consumer, Tarawara More, Siwan
14.	Shri Guli Mohammad Khan	Consumer, Lauhan Badhria Siwan
15.	Shri Dhurup Kumar	Consumer, Kagaji Muhalla, Maleshwari Chowk, Siwan
16.	Shri Madan Yadav	Consumer, Vill+PO- Balia, Siwan
17.	Shri Jitendra Kr.Verma	Consumer, Siswan Dala Lakshmipur, Siwan
18.	Shri Manoj Kumar	Consumer, Nai Basti, Siwan
19.	Shri Anwesh Kr. Singh	Consumer, Hariharpur, Lalgarh, G. B. Nagar, Siwan
20.	Shri Wasim Ahmad Siddique	Consumer, Rohra Kalan, Kaligarh, Barharia, Siwan
21.	Shri Suresh Kumar	Businessman, Archana Developers, Sonar Toli, Siwan
22.	Shri Shailendra Kumar	Consumer, Vijayhata, Mahadeva, Siwan
23.	Shri Deepak Kumar	Consumer, Pakri Bengali, Goushala Road, Siwan
24.	Shri Munna Kr. Singh	Consumer, Vill- Hakam, Panchrukhi, Siwan

25.	Shri Rashid Khan	Consumer, Ismail Sheed Road, Siswan Railway Crossing, Siwan
26.	Shri Rajeev Kumar	Zonal Manager, Feedback Infra, NBPDCL, Siwan
27.	Shri Subhash Singh	Consumer, Vill- Nouranga, Tarwara, Siwan
28.	Shri Subhash Pandey	Consumer, Vill+PO- Panchrukhi, Siwan
29.	Tahseen Kibriya	Consumer, Shaikh Mohalla, Siwan
30.	Shri Ram Sharan Ray	Manager, Gopalpur Paes Mini Rice Mill Gopalpur, Siwan
31.	Shri Dhupendra Kr. Singh	Prop. Prabhu Agrotech Industries Pvt. Ltd. Siwan
32.	Shri Anil Kumar Singh	Director. Dev Rice Mills Pvt. Ltd. Siswa Kala, Siwan
33.	Shri Gurusharan Kr. Prasad	Secretary, Mahuori Pakes Rice Mill, Siwan
34.	Shri Deepak Kr. Singh	Pawar Atta and Flour Mill Hasanpurwa, Rampur Tola, Siwan
35.	Shri Rajesh Kumar	Prop., M/s Shubham Enterprises, Siwan
36.	Shri Shankar Prasad	Consumer, Purani Bayari, Siwan
37.	Shri Shyam Sundar Somani	Prashant Traders, Hospital Road, Siwan
38.	Shri Vikash Kr. Pandey	Consumer, Shankar Sadan, Nirala Nagar, Siwan
39.	Shri Manoj Kr. Singh	Consumer, Nirala Nagar, Siwan
40.	MD. Manir	Consumer, SKG Sugar Mill Road, Siwan
41.	Shri Himanshu Kr. Rajesh	Consumer, Chandrayan, Anand Nagar, Siwan
42.	Shri Rama Shankar Pd.	Consumer, Vill+PO- Dhanauti, Siwan
43.	Shri Ravindra Pathak	Consumer, Vill+Po- Machkana, Siwan
44.	Shri Mokish Ahmad Khan	Consumer, Siwan
45.	Shri Rameshwar Nath Tiwari	Consumer, Adarsh Nagar, Tarwara More Siwan
46.	Shri Manoj Kr. Singh	Consumer, Adarsh Nagar, Tarwara More Siwan

List of participants who attended the public hearing at Katihar on 08.02.2018

Case No. 40 of 2017

Appearance on behalf NBPDCL

1.	Shri Deepak Kr. Jha	ESE , ESC/Purnea, NBPDCL
2.	Shri B. Shankar	EEE/Project/Katihar, NBPDCL
3.	Shri Gyan Prakash	AEE/Project/Katihar, NBPDCL
4.	Shri Ritesh Kumar	EEE (Com), NBPDCL, Patna
5.	Shri Subrat Kr. S	Consultant, NBPDCL, Patna

Appearance on behalf of Stakeholders

1.	Shri Anil Kumar Yaduka	Secretary, North Bihar Eastern Chamber of Commerce & Industries, Katihar
2.	Shri Bimal Singh Bengani	President, North Bihar Eastern Chamber of Commerce & Industries, Katihar
3.	Shri Arun Kr. Azar	Ward Counsellor, Nagar Nigam Katihar
4.	Smt. Anita Sharma	Ward Counsellor, Ward No. 1 Nagar Nigam Katihar
5.	Mrs. Shama Praveen	Ward Counsellor, Ward No. 24 Nagar Nigam Katihar
6.	Shri Kamal Kr. Das	Ward Counsellor, Ward No. 32 Nagar Nigam Katihar
7.	Shri Manzoor Khan	Dy. Mayor, Nagar Nigam Katihar
8.	Shri Raj Kumar Sah	Ward Counsellor, Ward No. 18 Nagar Nigam Katihar
9.	Shri Bhola Sahani	Ward Counsellor, Ward No. 40 Nagar Nigam Katihar
10.	Shri Abdul Khalil	Consumer, Hawai Adda, Ward No. 41, Katihar
11.	Md. Zahid	Dist Chairman, Lok Jan Shakti Party, Katihar
12	Shri S. Alam	Consumer, Gorakahi, Katihar
13.	Shri Pappu Kr. Paswan	Ward Counsellor, Ward No. 8 Nagar Nigam Katihar
14.	Shri Anil Chabaria	President, North Eastern Bihar Association, Katihar
15.	Shri Chandrashekhar Yadav	Consumer, Barmasiya Ward No. 12, Katihar
16.	Smt. Babita Devi	Ward Counsellor, Ward No. 43 Nagar Nigam Katihar
17.	Shri Krishna Mohan Mandal	Daheria Mangal Tola, Ward No. 43, Katihar
18.	Smt. Anju Devi	Ward Counsellor, Ward No. 14 Nagar Nigam Katihar
19.	Shri Shankar Singh	Consumer, FCI Chowk, Katihar
20.	Shri Sanjeev Paswan	Consumer, Makne Colony, Katihar
21.	Shri Mukesh Kumar Sinha	Consumer, Ward No. 36, Katihar
22.	Shri Shiv Raj Paswan	Ward Counsellor, Ward No. 16 Nagar Nigam Katihar
23.	Smt. Manju Devi	Ward Counsellor, Nagar Nigam Katihar
24.	Shri Krishna Singh	Ward Counsellor, Nagar Nigam Katihar
25.	Shri Arun Kr. Choudhary	Advocate, Officer colony, Mirchaibag, Katihar
26.	Shri Chandrashekhar Singh	Farmer, Vill- Jaiprakash Nagar, Baltar Katihar
27.	MD. Firoz	Consumer, Ward No. 45, Katihar

List of participants who attended the public hearing at Supaul on 13.02.2018

Case No. 40 of 2017

Appearance on behalf NBPDCL

1.	Shri Vijay Kumar	G.M (Rev.), NBPDCL, Patna
2.	Shri Ajay Kumar	ESE/ESC, Saharsa
3.	Shri Ritesh Kumar	EEE (Commercial), NBPDCL, Patna
4.	Shri Prasant Kr. Mantu	EEE/ESD/Supaul, NBPDCL
5.	Shri Chiranjeev Kr. Thakur	Accounts Officer/ESD/ NBPDCL, Supaul
6.	Shri Deepak Kumar	Rev. Officer/ESD/Supaul, NBPDCL
7.	Shri Shyam Kishore	AEE/S/Supaul, NBPDCL
8.	Shri C. Thejeswar Reddy	Consultant/PWC SBPDCL Patna
9.	Shri Yadavesh Ranjan	Consultant/NBPDCL, Patna

Appearance on behalf of Stakeholders

1.	Md. Raja Husain	Ward Counsellor, Ward No. 23 Supaul
2.	Shri Riyajuddin (Raju)	Zila Karyakari Adhyach, Manwadhikar Sanrakshan Pratishtaan, Supaul
3.	Shri Yugal Kishore Agrawal	Secretary, R.S.M Krishna Cottage, Thakurwari Road, Supaul
4.	Shri Nagendra Narayan Thakur	Advocate, Ward No. 10, Supaul
5.	Shri Manish Kr. Choudhary	Chairman, Flour Mill, Thurbila Kishanpur, Supaul
6.	Shri Kanchan Kr. Jayaswal	Prakhand Adhyach, Vyabsayik Prakost, JDU Supaul
7.	Shri Dharma Dev Choudhary	Consumer, Vill- Sonak, Karnpur, Supaul
8.	Shri Lal Thakur	Consumer, Ward No. 21, Supaul
9.	Shri Pawan Kr. Jayaswal	Member, Vyapaar Sangh, Supaul
10.	Shri Amar Kr. Choudhary	Chairman, Vyapaar Sangh, Ward No. 22, Supaul
11.	Shri Satyendra Prasad	Consumer, Kishanpur, Supaul
12.	Shri Dinbandhu Yadav	Consumer, AT+PO- Basaha, Supaul
13.	Shri Ramesh Pd. Choudhary	Farmer, AT+PO- Basaha, Supaul
14.	Shri Syamanand Yadav	Syam Subhadra Cold Storage, Shyamnagar, Tribeniganj, Supaul

List of participants who attended the public hearing at Mothihari on 16.02.2018

Case No. 40 of 2017

Appearance on behalf NBPDCL

1.	Shri Pranav Kumar	ESE/Motihari/NBPDCL
2.	Shri Ritesh Kumar	EEE (Commercial), NBPDCL, Patna
3.	Shri Ajay Kr. Mishra	EEE/ESD/Motihari
4.	Shri Rakesh Roshan	EEE (Proj) Motihari, NBPDCL
5.	Shri Diwakar Lall	EEE/ESD/Bettiah
6.	Shri Shekhar Kumar	EEE (Proj) Motihari, NBPDCL
7.	Shri K. V. Chandra	EEE/S/ Motihari, NBPDCL
8.	Shri Sunil Ranjan Kr.	AEE/S/Motihari
9.	Shri Ravindra Kumar	AEE/Rev/MTI/Motihari
10.	Shri Lawkesh Gupta	JEE/Rev./ESD/Motihari
11.	Shri S. K. Saran	Consultant/NBPDCL/Patna

Appearance on behalf of Stakeholders

1.	Shri Jitendra Kr. Jewellers	President, Motihari Chamber of Commerce, Main Road, Motihari
2.	Shri Birendra Kr. Jalan	Founder President, Motihari Chamber of Commerce, Main Road, Motihari
3.	Shri Sandip Kumar	Consumer, AT+PO- Chandrahiya, Muffasil Motihari, E. Champaran
4.	Shri Shambhu Nath Sikaria	M.D, Radha Fions Mills Pvt. Ltd., Rudra Nagar, Motihari
5.	Shri Raj Kishore Chaurasia	Consumer, Amnabrit, Nauwadih, Paharpur, E. Champaran
6.	Shri Sunil Kumar	Consumer, Prof. colony Road, Motihari
7.	Shri Subhash Chandra Gupta	Managing Director, Satyakam Cold Storage Pvt. Ltd.

List of participants who attended the public hearing at Madhubani on 12.02.2018

Case No. 40 of 2017

Appearance on behalf NBPDCL

1.	Shri Vijay Kumar	General Manager (Rev), NBPDCL, Patna
2.	Shri Sunil Kumar Das	ESE/Darbhanga/NBPDCL
3.	ShriRitesh Kumar	EEE, (Commercial), NBPDCL, Patna
4.	Md. SajidHussain	EEE, (Project), NBPDCL, Madhubani
5.	Shri Naveen Mandal	EEE/ESD/ Madhubani, NBPDCL
6.	ShriRanjeet Kumar	EEE (Project)/ESD/ Darbhanga, NBPDCL
7.	ShriPrashant Kr. Pandit	EEE/ESD/Darbhanga (Rural), NBPDCL
8.	Md. Amjad Ali	JEE/ESD/Madhubani, NBPDCL
9.	Miss NegarAnjum	JEE (Rev.)/ESD/Madhubani, NBPDCL
10.	ShriGaurav Kumar	AEE/ ESD/Madhubani, NBPDCL
11.	Shri Rajeev Kr. Singh	JEE/S/Pandaul/Madhubani
12.	Smt. PritiPriya	JEE/S/ESD Pandaul/Madhubani
13.	Shri C. Thejeswar Reddy	Consultant, NBPDCL
14.	ShriYadvesh	Consultant, NBPDCL
15.	Md. Shakeel Ahmad	Head Clerk, ESD/Madhubani, NBPDCL

Appearance on behalf of Stakeholders

1.	Shri Vijay Kr. Pradhan	MD, Maha Shakti Cement Industries Pvt. Ltd., Madhubani
2.	Shri Uma Shankar Mehata	Consumer, Adarsh Nagar Colony, Ward No. 11, Rajnagar, Madhubani
3.	Shri Anil Kumar Jha	Consumer, Bhawanipur, PandaulMadhubani
4.	ShriBinod Kumar Singh	Consumer, Chitragupta Colony, Ward No. 20, Madhubani
5.	ShriNavin Kumar	President, Mithilanchal Chamber of Commerce, Madhubani
6.	ShriAmanullah Khan	Consumer cum Secretary, Bihar Congress Committee,Patna
7.	Shri Ram PratapSah	SanghathanSachiv, Mithilanchal Chamber of Commerce, Madhubani
8.	Shri Harsh Kumar	Manager, Pandoul Flour Mills Pvt. Ltd. Industrial Area PandoulMadhubani
9.	ShriMukesh Kumar	Pandoul Flour Mills Pvt. Ltd. Industrial Area PandoulMadhubani
10.	ShriHariBhusanRawat	Mahaschiv, Mithilanchal Chamber of Commerce, Madhubani
11.	ShriSurendra Narayan Choudhary	Consumer, Mohan Bhaliyan, Narpati Nagar, Madhubani

12.	ShriPrahalad Kumar	Patrons, Mithilanchal Chamber of Commerce, Madhubani
13.	ShriPavanYadav	Secretary, Jayanagar Chamber of Commerce, Jayanagar
14.	ShriGhulam Mohammad	Congress Member, MominToli Ward No. 9 Madhubani
15.	Shri Shiv Shankar Paswan	Consumer, Vill+PO- Simri, Rajnagar, Madhubani
16.	Shri Ashok Paswan	Consumer, Vill+PO-Rahika, Madhubani
17.	Shri Raj Kumar Gupta	Consumer, Madhubani
18.	ShriMahadevSahani	Member, District Board, Madhubani
19.	ShriRambrikshaSah	Consumer, KishanBhawan Road, Jayanagar
20.	ShriJanak Kr. Choudhary	Consumer, Vill- Duray, Rohika, Madhubani
21.	Shri Ajay Kr. Prasad	Consumer, Sugouna, RohikaMadhubani

List of participants who attended the public hearing at Patna on 20.02.2018

Case No. 40 of 2017

Appearance on behalf SBPDCL

1.	Shri S. K. P. Singh	Director (Projects), NBPDCL, Patna
2.	Shri Sunil Kr. Srivastava	Chief Engineer (Comml.), NBPDCL, Patna
3.	Shri Anurag	DGM, (F&A), NBPDCL, Patna
4.	Shri Ritesh Kumar	EEE, NBPDCL, Patna
5.	Shri Sujeet Pal	A.O, Compilation, NBPDCL, Patna

Appearance on behalf of Stakeholders

1.	Prof. Pramod Kumar Sharma	Chairman, Vaishali Vidyut Upbhokta Sangh, Bidupur Bazar, Vaishali
2.	Shri Suraj Samdarshi	Advocate, Bihar Industries Association, Patna
3.	Shri Sanjay Bhartiya	Director, Dina Iron & Steel Ltd. Didarganj, Patna city Patna
4.	Shri Ram Saran Singh	Convenor, Nav Chetna Manch, Mokama, Patna
5.	Shri Ashok Jiwarajka	President, Bhagalpur Zila Nagrik Sangh, Sultanganj, Bhagalpur
6.	Shri Arjun Lal	Advocate, Kalyanpur Cement Ltd. & Bihar Chamber of Commerce and Industries, Patna
7.	Shri Raju Gupta	Chairman, Bihar State Rice Mills Association, Anisabad, Patna
8.	Shri Raghunath Adig	Chairman, Jan Seva sah Vidyut Upbhogta Forum, Muzaffarpur
9.	Shri Jitendra Kumar Singh	Chairman, JDU Bidupur Sevadal, Bidupur, Vaishali
10.	Shri Randhir Kumar	Consumer, Naubatpur, Taraith,Patna
11.	Shri Amod Dutta	Sanghrakshak, Rajiv Nagar Vyabsayik Nyas, Rajiv Nagar, Patna
12.	Shri R. C. Singh	Nagrik Vikash Manch, Patna
13.	Shri Ashok Kumar	Digha Krishi Awash Bachao Samiti, Rajiv Nagar, Patna
14.	Shri Birenda Kumar	Secretary, Mazdoor Vikash Manch, Patna, Rajiv Nagar Patna
15.	Shri Subhash Kr. Patwari	Convenor, Bihar Chamber of Commerce & Industries, Patna

Annexure – III

दिनांक 26.02.2018 को कृषि विभाग एवं उद्योग विभाग, बिहार सरकार के पदाधिकारियों के साथ कोल्ड स्टोर एवं राइस मिल के संबंध में आयोजित बैठक की कार्यवाही :–

उपस्थिति :– संलग्न।

सर्वप्रथम आयोग के अध्यक्ष द्वारा इस बैठक में उपस्थित सभी लोगों को आयोग के मुख्य कार्यो के बारे में बताया। उन्होंने कहा कि अन्य कार्यो के अलावा, खुदरा बिजली के दरों का निर्धारण करना आयोग का मुख्य कार्य है। बिजली दर निर्धारण करने की प्रक्रिया में जिला स्तर पर जन–सुनवाई की जाती है जिसमें कि उपस्थित हितधारकों से सुझाव/आपत्ति/मंतव्य प्राप्त किया जाता है।

2. नार्थ एवं साउथ बिहार पावर डिस्ट्रीब्यूशन कम्पनी लिमिटेड द्वारा वित्तीय वर्ष 2018–19 के लिए टैरिफ निर्धारण हेतु दायर याचिका पर आम जनता एवं हितधारकों का सुझाव/आपत्ति/मंतव्य प्राप्त करने के उद्देश्य से आयोग द्वारा राज्य के विभिन्न जिलों में जन–सुनवाई की गयी। इस जन–सुनवाई में कोल्ड स्टोरेज एवं राइस मिल के मालिकों द्वारा अपनी समस्याओं को आयोग के समक्ष प्रस्तुत किया गया एवं मांग किया गया कि यदि उनकी आर्थिक क्षति पर विचार नही किया गया तो अगले कुछ वर्षो में कोल्ड स्टोर एवं राइस मिल्स बन्द हो जायेगें जिसका विस्तृत विवरण निम्नलिखित है :–

3. **कोल्ड स्टोर की समस्या एवं सुझावः–** बिहार के कोल्ड स्टोरेज मालिकों द्वारा उठायी गयी दो समस्याओं के संबंध में उपस्थित पदाधिकारियों से विमर्श किया गया। कोल्ड स्टोर मालिकों की समस्या है कि मार्च से अक्टूबर तक कोल्ड स्टोर चलाते है। उस समय उन्हें नियमित लाईन नही मिलती है जिसके कारण वैकल्पिक व्यवस्था स्वरूप जेनरेटर चलाकर कोल्ड स्टोर के तापक्रम को बनाये रखते है जिस पर काफी खर्च होता है। इसके अतिरिक्त फिक्सड चार्ज के रूप में एक बडी राशि उस समय के लिए भी देना पड़ता है जब कोल्ड स्टोर चालू नही रहता है। उक्त दोनों कारणों से कोल्ड स्टोर में रखें जाने वाले आलू का मूल्य कभी–कभी इतना ज्यादा हो जाता है कि किसान अपना आलू कोल्ड स्टोर में ही छोड़ देते है क्योंकि उनके आलू के मूल्य से सस्ता आलू बाजार में दूसरे राज्य से आ जाता है। इसलिए कोल्ड स्टोरेज के मालिक चाहते है कि उनका विद्युत टैरिफ औद्योगिक श्रेणी का न

रख कर कृषक श्रेणी में रखा जाय ताकि टैरिफ कम हो। दूसरा मांग यह है कि उन्हें सरकार से अनुदान अधिक मिले ताकि किसानों से वे कम दर वसूल सके।

कृषि निदेशक ने बताया कि राज्य में कुल 392 कोल्ड स्टोर स्थापित किये गये थे जिनमें घाटा होने के कारण 171 बन्द है। सरकार ने दिनांक 01.07.2016 से "औद्योगिक प्रोत्साहन नीति 2011" के अंतर्गत मिलने वाला लाभ बन्द कर दिया। कृषि निदेशक ने बताया कि वे कोल्ड स्टोर को कृषक श्रेणी में रखने एवं अधिक अनुदान देकर क्षतिपूर्त्ति करने के संबंध में उच्च पदाधिकारियों को अवगत करायेगें, परन्तु फिक्सड चार्ज के संबंध में कैसे उनको मदद होगी इस पर आयोग ही विचार कर सकता है।

4. बैठक में उपस्थित पदाधिकारी को राइस मिल्स मालिकों के संघ द्वारा उठायी गयी समस्या से अवगत कराया गया। उनकी भी दो समस्या है। उनको 500–600 केभी का कनेक्शन चाहिए अपने मिल को चलाने के लिए। यह कनेक्शन वे 11 केभी लाइन से ले सकते है परंतु इसमें क्वालिटी पावर नही मिल पाता है। जिसके कारण वे 33 केभीए लाइन से कनेक्शन लेते है। अब 33 केभीए लाइन से कनेक्शन लेने के लिए सप्लाई कोड में यह प्रावधान है कि कम से कम 1000 केभीए का कनेक्शन चाहिए। फलस्वरूप वे 1000 केभीए का कनेक्शन लेते है जबकि कन्ट्रेक्ट डिमाण्ड 500–600 केभीए का होता है। फलस्वरूप फिक्सड इनर्जी चार्ज के रूप में अधिक भुगतान करना पड़ता है। दूसरी समस्या है कि उनका चावल मिल साल में मात्र 6 माह ही चलता है एवं 6 माह बन्द रहता है। बन्द रहने की अवधि में भी फिक्सड चार्ज देना पड़ता है। फलस्वरूप प्रायः सभी मिल आर्थिक तंगी से गुजर रहे है। कुछ बन्द हो गये एवं कुछ बन्द होने के कगार पर है। उन्हें कैसे कार्यरत रखा जाय इस पर विचार किया गया।

5. उपर्युक्त समस्याओं पर विमर्श के क्रम में उद्योग विभाग के पदाधिकारियों द्वारा समस्या से अवगत होने की सूचना दी गई परंतु उनके द्वारा बताया गया कि "औद्योगिक प्रोत्साहन नीति 2011" के अंतर्गत मिलने वाला सहायता बन्द हो गया है एवं नई औद्योगिक नीति दिनांक 01.07.2016 के प्रभाव से लागू है, जिससे राइसमिलरों एवं कोल्ड स्टोरेज के समक्ष यह समस्या उत्पन्न हुई है।

उद्योग विभाग द्वारा यह भी अवगत कराया गया कि नए औद्योगिक नीति, 2016 के अंतर्गत कोल्ड स्टोरेज में इस्तेमाल होने वाली बिजली (ए.एम.जी / फिक्स

चार्ज) तथा इलेक्ट्रीसिटी डियूटी में पूर्व से मिलने वाला अनुदान (Incentives) समाप्त कर उद्यमियों को ऋण के ब्याज में छूट (Interest subvention) का प्रावधान किया है। यह स्पष्ट किया गया कि कोल्ड स्टोरेज को कृषि श्रेणी में रखने पर उन्हें विद्युत आपूर्ति की जाने वाली अवधि सीमा लागू होने से कोल्ड स्टोरेज को अधिक नुकसान होने की संभावना है। विमर्श के दौरान यह भी पाया गया कि कोल्ड स्टोरेज को फिक्स चार्ज में रियात देने में बहुत अधिक वित्तीय बोझ नही पड़ेगी, परंतु बिहार के कृषि विकास के दृष्टि से इस प्रक्षेत्र को रियायत देने से कोल्ड स्टोरेज को प्रोत्साहन मिलेगा।

उद्योग एवं कृषि विभाग के पदाधिकारियों ने यह भी बताया कि वे इस समस्या से अपने उच्च पदाधिकारियों को अवगत करायेगें परन्तु टैरिफ निर्धारण में यदि कोई रियायत हो सके तो आयोग उस पर विचार करे।

6. विद्युत विनियामक आयोग द्वारा स्पष्ट किया गया कि आयोग का दायित्व विद्युत कम्पनियों को लागत आधारित दर (Cost reflective Tariff) पारित करना है। इस दृष्टि से कोल्ड स्टोरेज को फिक्स चार्ज में राहत देने पर अन्य उपभोक्ताओं पर शुल्क का भार पड़ेगा। बिहार में बड़े उपभोक्ताओं एवं उद्योगों की कमी के कारण क्रॉस सब्सिडी (Cross subsidy) का भी गुजाईश नगन्य है। अतः प्रस्तुत समस्याएँ जायज (Genuine) होते हुए भी आयोग के पास इसके निदान का विकल्प सिमित है। सरकार के संबंधित विभाग कृषि क्षेत्र के विकास के हित में एग्रो इन्डस्ट्रीज को प्रोत्साहित करने के लिए विद्युत भार पर राहत देने पर सम्यक विचारोपरांत उचित निर्णय ले सकती है। आयोग द्वारा निर्धारित विद्युत दरों पर अनुदान देने का निर्णय सरकार को लेना है।

जहाँतक चावल मिलों के समस्या के प्रश्न है आयोग Supply Code में विद्यमान प्रावधानों पर विवेचन करने के बाद अग्रेत्तर आवश्यक कार्रवाई करेगी।

आर0 के0 चौधरी सदस्य	राजीव अमित सदस्य	एस0 के0 नेगी अध्यक्ष

List of participants of Meeting with Agricultural Department and Industry Department, Govt. of Bihar held on 26.02.2018 at 3.30P.M.

1.	Shri S.K. Negi	Chairman	BERC
2.	Shri Rajeev Amit	Member	BERC
3.	Shri R.K. Choudhary	Member	BERC
4.	ShriArvinder Singh	Dist. Horticulture	Agriculture Deptt
5.	Shri O. P. Srivastava	Asst. Director	Agriculture Deptt
6.	Shri Karun Kr. Sinha	Dy. Director (Spl.)	Agriculture Deptt
7.	ShriArun Kumar	Joint Director (Statics)	Agriculture Deptt
8.	ShriVibhuVidyarthi	Dy. Director Horticulture (A&E)	Agriculture Deptt
9.	ShriPankaj Kr. Singh	Director	Industries Deptt
10.	ShriParmanand Singh	Secretary	BERC
11.	ShriShriNadeem Ahmad	Dy. Dir.(Dist. Tariff)	BERC
12.	ShriNarendra Kumar	Chief Engineer (Com.)	SBPDCL
13.	ShriPurushottam Prasad	EEE/Comm.	SBPDCL
14.	ShriRitesh Kumar	EEE/Comm.	NBPDCL

Annexure – IV

Revenue from sale of power at existing tariff considered for FY 2017-18

Category	Consumers	Connected Load (KW)	Units Consumed (MU)	Existing Tariff			Revenue from Fixed Charges(in Cr)	Revenue from Energy Charges(in Cr)	Total Revenue(in Cr)	ABR (Rs/kWh)
				Fixed charge	Unit	Energy Charges				
KJ										
Unmetered	13950	3488	8.37	350.00	/connection/month		5.86	0.00	5.86	7.00
Metered (0-50)	2804286	701071	1,262.63	10.00	/connection/month	5.75	33.65	726.01	759.66	6.02
Total	**2,818,236**	**704,559**	**1,271.00**				**39.51**	**726.01**	**765.52**	**6.02**
DSI (Rural)										
Unmetered	544506	590571	443.62	500.00	/connection/month		326.70	0.00	326.70	7.36
Metered							**46.95**	**709.95**	**756.90**	
First 50 Units	1518018	1646442	689.41	20.00	per kW Per month	5.75	39.51	396.41	435.93	6.32
51 - 100 Units	183417	198934	113.61	20.00	per kW Per month	6.00	4.77	65.42	70.19	6.18
Above 100 Units	102259	110910	404.35	20.00	per kW Per month	6.25	2.66	248.12	250.78	6.20
Total	**2,348,201**	**2,546,858**	**1,651.00**				**373.65**	**709.95**	**1083.60**	**6.56**
DSII										
1-100 U/Month	1023380	1282097	529.99	40.00	per kW Per month	5.75	61.54	304.74	366.28	6.91
101 - 200 U/Month	164381	205937	406.54	40.00	per kW Per month	6.50	9.88	249.46	259.34	6.38
201 -300 U/Month	75399	94460	315.75	40.00	per kW Per month	7.25	4.53	208.56	213.10	6.75
above 300 U/Month	78100	99142	314.29	40.00	per kW Per month	8.00	4.76	209.26	214.02	6.81
Total	**1,341,259**	**1,681,635**	**1,566.57**				**80.72**	**972.02**	**1052.74**	**6.72**
NDS-I (Rural)										
Unmetered	3070	1833	1.19	550.00	/connection/month		2.03	0.00	2.03	16.97
Metered							3.63	46.62	50.25	#DIV/0!
1-100 U/Month	71006	78143	38.65	30.00	per kW Per month	6.00	2.81	23.19	26.00	6.73
101 - 200 U/Month	7978	10093	19.83	30.00	per kW Per month	6.50	0.36	12.41	12.77	6.44
above 200 U/Month	10073	12716	18.33	30.00	per kW Per month	7.00	0.46	11.02	11.48	6.26
Total	**92,127**	**102,785**	**78.00**				**5.66**	**46.62**	**52.28**	**6.70**
NDS-II										
upto 0.5 kW	8579	11928	11.64	100.00	per kW Per month	6.00	1.43	6.99	8.42	7.23
Above 0.5 kW							141.87	470.68	612.55	#DIV/0!
1-100U/m	198440	508411	376.97	180.00	per kW Per month	6.00	109.82	226.18	336.00	8.91

Category	Consumers	Connected Load (KW)	Units Consumed (MU)	Existing Tariff			Revenue from Fixed Charges(in Cr)	Revenue from Energy Charges(in Cr)	Total Revenue(in Cr)	ABR (Rs/kWh)
				Fixed charge	Unit	Energy Charges				
101-200 U/m	22297	65666	193.40	180.00	per kW Per month	6.50	14.18	124.38	138.56	7.16
above 200 U/m	28152	82730	178.84	180.00	per kW Per month	7.00	17.87	120.12	137.99	7.72
Total	**257,468**	**668,735**	**760.86**				**143.30**	**477.67**	**620.97**	**8.16**
IAS_I										
Unmetered	8841	29174	36.96	800.00	per HP Per month	0.00	37.56	0.00	37.56	10.16
metered	23806	78559	41.04	30.00	per HP Per month	5.25	3.79	21.55	25.34	6.17
Total	**32,647**	**107,733**	**78.00**				**41.35**	**21.55**	**62.90**	**8.06**
IAS_II										
Unmetered	2830	34771	99.04	2100.00	per HP Per month	0.00	117.50	0.00	117.50	11.86
metered	3183	29573	84.24	200.00	per HP Per month	6.20	9.52	52.23	61.74	7.33
Total	**6,013**	**64,344**	**183.28**				**127.02**	**52.23**	**179.25**	**9.78**
PWW	749	14313	34.00	350.00	Per kW per month	7.50	6.01	31.48	37.49	11.03
Total	**749**	**14,313**	**34.00**				**6.01**	**31.48**	**37.49**	**11.03**
SS										
Metered	149	1014	7.00	50.00	Per kW per month	7.00	0.06	5.44	5.51	7.86
Unmetered	119	2454	7.36	3750.00	Per kW per month		11.04	0.00	11.04	15.00
Total	**268**	**3,468**	**14.36**				**11.10**	**5.44**	**16.55**	**11.52**
LTIS-I	13353	94068	257.59	160.00	Per kW per month	6.05	18.06	173.16	191.22	7.42
LTIS - II	653	35067	24.00	200.00	Per kW per month	6.05	8.42	16.13	24.55	10.23
Total	**14,006**	**129,135**	**281.59**				**26.48**	**189.29**	**215.77**	**7.66**
HTS-I	694	148069	290.92	300.00	Per kVA per month	6.20	59.23	200.41	259.64	8.92
HTS-II	25	41678	93.13	300.00	Per kVA per month	6.15	16.67	63.64	80.31	8.62
HTS-III	2	34170	66.00	300.00	Per kVA per month	6.10	13.67	44.73	58.40	8.85
HTS-IV	0	0	-	300.00	Per kVA per month	6.05	0.00	0.00	0.00	#DIV/0!
HTSS	5	10737	66.00	700.00	Per kVA per month	3.70	10.02	27.13	37.15	5.63
Total	**726**	**234,654**	**516.05**				**99.59**	**335.92**	**435.51**	**8.44**
RTS	7	54900	63.00	280.00	Per kVA per month	6.35	20.50	44.45	64.95	10.31
Sale to Nepal	0	0	1,188.89			6.15	0.00	731.17	731.17	6.15
Total	**7**	**54,900**	**1,251.89**				**20.50**	**775.62**	**796.11**	**6.36**
DF	0	0	1,007.62			4.39	0.00	442.35	442.35	4.39
Grand Total	**6,911,707**	**6,313,119**	**8,694.22**				**974.89**	**4786.13**	**5761.02**	**6.63**

Annexure – V

DF Muzaffarpur

State of Billing and Payment for FY 2016-17

Sl. No.	Energy Month	Collection/ billing month	Energy Inputs (MU)	Input Energy rate	TA/unit	Billed Amount (Rs.)	Additional TA in the form of withdrawal from escrow account (Rs.)	Net B illed amount after Rs. 4.00 Crore addl. TA	corrections (Rs.)	Net Billed amount after corrections (Rs.)
1	Apr-16	May-16	62549192	3.749	0.22	220736098.57	40000000.00	180736098.57		180736099
2	May-16	Jun-16	62839861	3.749	0.22	221761869.47	40000000.00	181761869.47		181761869
3	Jun-16	Jul-16	73931717	3.749	0.22	260905029.29	40000000.00	220905029.29		220905029
4	Jul-16	Aug-16	70603161	3.749	0.22	249158555.17	40000000.00	209158555.17	(7446013.55)	201712542
5	Aug-16	Sep-16	72949323	3.749	0.22	257438160.87	40000000.00	217438160.87		217438161
6	Sep-16	Oct-16	67201048	3.749	0.22	237152498.39	40000000.00	197152498.39		197152498
7	Oct-16	Nov-16	68147784	3.749	0.22	240493529.74	40000000.00	200493529.74		200493530
8	Nov-16	Dec-16	55385914	4.297	0.22	225808371.38	40000000.00	185808371.38	(692926.92)	185115444
9	Dec-16	Jan-17	54552633	4.297	0.22	222411084.74	40000000.00	182411084.74		182411085
10	Jan-17	Feb-17	56430539	4.297	0.22	230067307.50	40000000.00	190067307.50		190067308
11	Feb-17	Mar-17	49105158	4.297	0.22	200201729.17	40000000.00	160201729.17		160201729
12	Mar-17	Apr-17	56171622	4.297	0.22	229011702.89	40000000.00	189011702.89		189011703
	Total		**749867952**			**2795145937.18**	**480000000.00**	**2315145937.18**	**(8138940.47)**	**2307006997**
Provision made for Balance TA considering total TA @ 1.23 per unit on the basis of average TA finalized for Nov'13 to Nov'15										**275063922**
Net Amount receivable from DF Muzaffarpur for FY 2016-17 against energy input										**2031943074**