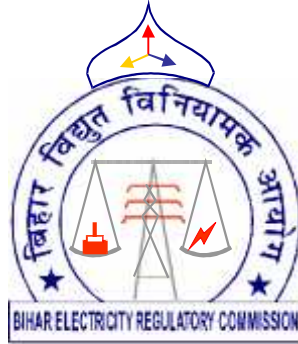


**BIHAR ELECTRICITY REGULATORY COMMISSION**



**Case No. 41 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

**SOUTH BIHAR POWER DISTRIBUTION COMPANY LIMITED  
(SBPDCL)**

**Issued on 21<sup>st</sup> March, 2018  
(with effect from 1<sup>st</sup> 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
BSHPCCL	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

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RLDC	Regional Load Despatch Centre
RGVY	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. 41 of 2017****In the matter of:**

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

And

South Bihar Power Distribution Company Limited (SBPDCL) ----- Petitioner

**Present:**

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

**ORDER****(Passed on 21<sup>st</sup> March, 2018)****Background**

The South 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 South Bihar Power Distribution Company to its consumers.

The SBPDCL 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. Commission admitted the petition on 18.01.2018 after seeking rectification of the petition and additional information from the SBPDCL.

#### **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 SBPDCL 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 SBPDCL 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 SBPDCL. 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 Sherghati in (Gaya) on 01.02.2018, Sasaram (Rohtas) on 02.02.2018, Rajgir (Nalanda) on 03.02.2018 and Commission office at Patna on 20.02.2018

The proposals of SBPDCL 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 SBPDCL during the meeting of the Committee.

The Commission, after taking into consideration the facts presented by the SBPDCL 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 SBPDCL 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 SBPDCL jurisdiction.

#### **True up for FY 2016-17**

The SBPDCL has claimed ARR of Rs. 6554.33 Crore and net revenue gap of Rs. 683.37 Crore for FY 2016-17, considering revenue from sale of power and resource gap grant from State Government. The Commission based on prudence check has approved net ARR of Rs. 4971.88 crore and net revenue surplus of Rs. 0.14 crore in the truing up process after considering the revenue from sale of power and resource gap grant from 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 SBPDCL has projected revised APR of Rs. 8689.80 crore and the net ARR gap of Rs. 1724.42 Crore of FY 2017-18. The Commission based on prudence check has approved revised ARR of Rs. 7537.90 crore and net revenue gap of Rs. 801.25 crore which includes Rs. 585.07 Crore pertaining to trued up revenue gap 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 gap of Rs. 801.25 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**

SBPDCL has projected net revenue requirement of Rs. 9603.53 crores for FY 2018-19 and after considering the revenue at the existing tariff rate has projected Net gap of Rs. 2765.55 Crore. While computing the ARR of 2018-19, the SBPDCL 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. 9201.38 crore for FY 2018-19 (including trued up revenue surplus of FY 2016-17 with carrying cost) for SBPDCL and after considering the revenue (Rs. 8898.39 crore) from sale of power at the existing tariff, approved by Commission the net gap is arrived at Rs. 302.99 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  $\pm 20\%$  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 and Rural Non-domestic consumers 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 पत्रांक:-प्र02/बोर्ड विविध-21/2010(खंड-1) 981 /पटना, दिनांक:- 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.

#### **Open access charges**

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 NBPDC 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 :**

<b>Name of DISCOM</b>	<b>FY 2016-17</b>	<b>FY 2017-18</b>	<b>FY 2018-19</b>
SBPDCL	19.25%	30%	22%
NBPDC	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 28<sup>th</sup> 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 fulfil 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 1<sup>st</sup> April 2018 and shall remain in force till 31<sup>st</sup> 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, NBPDC, 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 21<sup>st</sup> March, 2018.

**Sd/-**  
**(R.K.Choudhary)**  
Member

**Sd/-**  
**(Rajeev Amit)**  
Member

**Sd/-**  
**(S.K.Negi)**  
Chairman

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## 1. Introduction

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### 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 15<sup>th</sup> 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 South Bihar Power Distribution Company Limited (SBPDCL)**

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 1<sup>st</sup> 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 (NBPDCCL)

#### 5) South Bihar Power Distribution Company Limited (SBPDCL)

The Government of Bihar vide notification dated 30<sup>th</sup> October 2012, notified the provisional opening assets and liabilities of the transferee companies based on the audited account of erstwhile BSEB as on 1<sup>st</sup> 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 SBPDCL

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

SBPDCL is providing power to 17 districts of the state. For the ease of operation SBPDCL has 9 No's Electric Supply Circles and 35 No's Electric Supply Divisions and 106 sub divisions. The Table below provides some details about the current status of the power sector in SBPDCL area of operations.

S. No.	Particulars	Unit	As on 30.03.2017
1	No. of electrified villages	No	18,333
2	No. of consumers	No	3,996,931
3	No. of capacity of 33/11 kV Substations	No./MVA	381/5502MVA
4	No. of capacity of 11/0.4 kV 3 phase Transformers	No./MVA	53,368/6258 MVA
5	Length of 33 kV line	CKM	4935
6	Length of 11 kV line	CKM	37260
7	Length of LT line	CKM	78570

### **1.5 Commission's Orders issued earlier to SBPDCL**

SBPDCL 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 of True 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 issued the MYT Tariff Order on 21<sup>st</sup> March, 2016 approving Business Plan for FY 2016-17 to FY 2018-19, True-up for FY 2014-15, APR for FY 2015-16 and ARR for the period FY 2016-17 to FY 2018-19.

Subsequently, SBPDCL has filed the petition on 6<sup>th</sup> 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 24<sup>th</sup> 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**

SBPDCL has filed the current petition on 5<sup>th</sup> December 2017 for Truing-up for FY 2016-17, Annual Performance Review 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 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.41/2017. 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.41/2017-83 dated 18.01.2018 directed SBPDCL 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.

SBPDCL 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:

SI. No	Name of the News Paper	Language	Date of Publication
1	Hindustan	English	26.1.2018
2	Times of India	English	26.1.2018
3	Dainik Jagran	Hindi	30.1.2018
4	Dainik Bhaskar	Hindi	1.2.2018
5	Dainik Jagran	Hindi	1.2.2018
6	Quami Tanzim	Hindi	1.2.2018
7	Times of India	English	1.2.2018

The tariff petition along with additional submissions of data etc., was also placed on the website of SBPDCL for inviting objections and suggestions on the petition and copies of the petition along with Annexures were also made available for sale in the office of the Chief Engineer (Commercial), SBPDCL. 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 submitted on its website.

The Commission has received 22 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 SBPDCL submitted replies and response vide letter no and dated are also mentioned below.

BERC Letter No	Date	No. of objections/ suggestions received from the objectors and sent to SBPDCL	Letter No. and Date of submission of reply by SBPDCL
BERC-Case no.41/2017-189	17.02.2018	4	167 / 28.02.2018
BERC-Case no.41/2017-191	19.02.2018	4	167 / 28.02.2018
BERC-Case no.41/2017-204	21.02.2018	14	167 / 01.03.2018

The proposal of SBPDCL 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 SBPDCL 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	Sherghati (Gaya)	01.02.2018
2	Sasaram	02.02.2018
3	Rajgir (Nalanda)	03.02.2018
4	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/comments 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 SBPDCL 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 ARR and Tariff for retail supply of electricity for ensuing year i.e., FY 2018-19.

SBPDCL 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.41/2017-1457 dated 22.12.2017.
2. Letter No. BERC-Case No.41/2017-139 dated 01.02.2018.
3. Letter No. BERC-Case No.41/2017-149 dated 02.02.2018.
4. Letter No. BERC-Case No.41/2017-151 dated 02.02.2018.
5. Letter No. BERC-Case No.41/2017-210 dated 22.02.2018.
6. Letter No. BERC-Case No.41/2017-229 dated 24.02.2018.

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

1. Letter No. 14 dated 05.01.2015
2. Letter no.18 dated 08.01.2018
3. Letter No. 35 date 17.01.2018
4. Letter No. 40 dated 18.01.2018
5. Letter No. 47 dated 20.01.2018
6. Email dated 31.01.2018
7. Letter no.155 dated 27.02.2018
8. Letter no.156 dated 27.02.2018
9. Letter no.164 dated 28.02.2018
10. Letter no.165 dated 28.02.2018
11. Letter no.166 dated 28.02.2018
12. Letter no.173 dated 05.03.2018
13. Letter no.174 dated 06.03.2018
14. Letter no.178 dated 06.03.2018
15. Letter no.183 dated 07.03.2018
16. Letter no.207 dated 14.03.2018

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 validation of information and data. Accordingly, validation session was held on 16.01.2018 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 Creation of Regulatory Asset

SBPDCL has submitted that it has filed an Appeal before Hon'ble APTEL against the order of BERC dated 8<sup>th</sup> March, 2017 vide Appeal No. 154/2017 and 155/2017 of FY 2016-17 on 24<sup>th</sup> 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. SBPDCL 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.

SBPDCL 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 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 SBPDCL, 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 **Six Chapter** deals with the Annual Revenue Requirement for FY 2018-19.
7. The **Seventh Chapter** deals with the Government grant/subsidy.
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 2017-18.
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 **Twelveth Chapter** deals with the Compliance of Directives.
13. The **Thirteenth Chapter** deals with the Renewable Power Purchasing 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**

(Rs. Crore)				
S. No.	Particulars	Approved in MYT Order dated 21.03.2016	Approved in Review in Tariff Order dated 24.03.2017	Actuals projected for FY 2016-17
1	Purchase of power	5,836.29	4,668.72	5,156.64
2	PGCIL & Other transmission charges	450.47	419.44	504.71
3	BSPTCL transmission charges	161.15	163.32	161.35
4	Discom to Discoms purchases		-118.88	-
5	O & M Expenses (a+b+c+d)	412.22	417.28	421.05
	a. Employee expenses	258.08	288.19	288.21
	b. R&M expenses	99.69	74.13	70.77
	c. A&G expenses	47.93	46.63	56.62
	d. Holding company expenses allocated	6.52	8.33	5.44
6	Depreciation	--	89.8	49.46
7	Interest on loans	58.17	124.94	196.96
8	Other finance charges	51.93	65.04	123.70
9	Return on equity	20.49	149.9	252.44
10	Interest on SD	27.99	25.75	30.11
11	Deposit for RPO obligation	52.48	94.58	170.48
12	Contingency Reserve	25.84	--	--
13	Prior Period Expenses/( Income)	--	--	(27.67)
14	Interest on working capital	10.65	--	79.44
15	Less: IDC	-28.13	-73.02	--
16	Total Revenue requirement	7,079.54	6,026.87	7,118.66
17	Less:: Non-tariff income	269.5	179.56	149.40
18	Less: Expenditure disallowed due to excess T&D losses	1,442.73	798.97	414.43
<b>19</b>	<b>Net Revenue requirement</b>	<b>5,367.31</b>	<b>5,048.34</b>	<b>6,554.33</b>

S. No.	Particulars	Approved in MYT Order dated 21.03.2016	Approved in Review in Tariff Order dated 24.03.2017	Actuals projected for FY 2016-17
20	Revenue from Existing tariff	4,221.12	3,654.46	3,965.06
<b>21</b>	<b>Gap / (Surplus) before subsidy</b>	<b>1,146.2</b>	<b>1,393.88</b>	<b>2,589.27</b>
22	Subsidy from State Government	2,416.23	2416	2,320.34
23	Subsidy used for disallowed power	1,442.73	798.97	414.43
24	Subsidy available for revenue gap	973.5	1,617.03	1,905.91
<b>25</b>	<b>Net Gap / (Surplus) after subsidy</b>	<b>172.7</b>	<b>-223.15</b>	<b>683.37</b>

Table 2.2: Unrecovered Gap for FY 2016-17

(Rs. Crore)

True up FY 2016-17	
Revenue gap in True up for FY 2016-17	683.37
Interest for FY 2016-17 (SBI Adv R @ 14.75%) for 6 months	50.40
Interest for FY 2017-18 (SBI Adv R @ 14.75%) for 12 months	100.80
<b>Total unrecovered gap for FY 2016-17</b>	<b>834.56</b>

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	6212.24
2	PGCIL & other transmission charges	415.24
3	State Transmission charges & BGCL	435.97
4	O&M Expenses	
i)	Employee Cost	352.79
ii)	R&M expenses	96.69
iii)	A&G expenses	67.94
5	Share of Holding Company expenses	5.99
6	Depreciation	139.43
7	Interest and Finance charges	643.04
8	Interest on working capital	117.23
9	Return on equity	306.91
10	Income Tax	0.00
11	Interest on security deposit	34.72
12	Bad debts (if any)	0
13	Contingency reserves (if any)	0
<b>14</b>	<b>Total Revenue Requirement</b>	<b>8,828.18</b>
15	Less: Non-tariff income	138.37
<b>16</b>	<b>Aggregate Revenue Requirement</b>	<b>8,689.80</b>
<b>17</b>	<b>Add : Recovery of revenue gap / (Surplus) of past period, if any (FY 2016-17) with interest</b>	<b>834.56</b>
<b>18</b>	<b>Total ARR</b>	<b>9524.37</b>

S. No.	Particulars	Current Year FY 2017-18
19	Less : Revenue from Existing Tariff	6013.40
20	Total grant from State Govt.	1786.55
21	<b>Net Gap/(Surplus) at existing tariff (18-19-20)</b>	<b>1724.42</b>

**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	1724.42
Interest for FY 2017-18 (SBI Adv R @ 14.75%) for 6 months	127.18
Interest for FY 2018-19 (SBI Adv R @ 14.75%) for 12 months	254.35
Total unrecovered gap for FY 2017-18	2105.95

**Table 2.5: Annual Revenue Requirement projected for FY 2018-19****(Rs. Crore)**

S. No.	Particulars	Ensuing Year FY 2018-19
1	Power purchase cost	6,567.57
2	PGCIL & other transmission charges	415.24
3	State Transmission charges & BGCL	435.97
4	O&M Expenses	
i)	Employee Cost	413.20
ii)	R&M expenses	151.45
iii)	A&G expenses	81.53
5	Share of Holding Company expenses	6.59
6	Depreciation	278.80
7	Interest and Finance charges	792.37
8	Interest on working capital	121.43
9	Return on equity	452.27
10	Income Tax	0.00
11	Interest on security deposit	39.33
12	Bad debts (if any)	0
13	Contingency reserves (if any)	0
14	<b>Total Revenue Requirement</b>	<b>9,755.74</b>
15	Less: Non-tariff income	152.21
16	<b>Aggregate Revenue Requirement</b>	<b>9,603.53</b>

**Table 2.6: Revenue Gap projected for FY 2018-19 at existing tariff****(Rs. Crore)**

S. No.	Particulars	Amount
1	Aggregate Revenue Requirement (ARR)	9755.74
2	Less : Non-Tariff Income	152.21
3	Add : Recovery of revenue gap / (Surplus) of past period, if any	0.00

S. No.	Particulars	Amount
4	<b>Net ARR</b>	<b>9603.53</b>
5	Less : Revenue from Existing Tariff	6837.98
6	Less : Revenue from sale of power to other Agency	0.00
7	<b>Revenue Gap (4-5-6)</b>	<b>2765.55</b>
8	Total grant from State Govt. (Same per Unit Subsidy)	0.00
9	Net Gap/(Surplus) at existing tariff (8-11)	2765.55

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

SBPDCL 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 2018-19 under Bihar Electricity Regulatory Commission (Multi Year Distribution Tariff) Regulations, 2015.
- d) Pass suitable orders with respect to the True up for FY 2016-17, APR for FY 2017-18 and ARR for FY 2018-19;
- e) Approve 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 1<sup>st</sup> April 2018.
- f) Pass separate order for the Petitioner against the present petition;
- g) Permit to propose suitable changes to the respective ARR, prior to the final

approval by the Commission. SBPDCL 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 SBPDCL 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**

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#### **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 01.02.2018, 02.02.2018, 03.02.2018 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 one (101) 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 (NBPDC) 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 submitted 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 NBPDC. 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 NBPDC. 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 NBPDC.

**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 trueing 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 7<sup>th</sup> 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.

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## 4. Truing-up for FY 2016-17

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### 4.1. Background

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

SBPDCL has now submitted the present tariff petition on 5<sup>th</sup> 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.

SBPDCL 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**

SBPDCL, 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, 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, SBPDCL submitted the sub category-wise actual number of consumers vide official email dated 31.01.2018 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) (BPL)	618,817	746,215	54343
2	KJY (Metered) (BPL)			777589
3	DS I (Unmetered)	2,805,525	1,476,339	274442
4	DS I (Metered)			1002082
5	DSII	1,131,827	1,161,920	1077407
6	DS III	17	40	9
7	NDS I (Unmetered)	45,785	31,136	5131
8	NDS I (Metered)			34607
9	NDS II Commercial	184,222	200,889	222527
10	NDS III Commercial	149	219	138
11	NDS IV	0	9	17
12	SS I	229	203	378
13	SS II	202	292	322
14	IAS I (Unmetered)	50,749	61,824	112787
15	IAS I (Metered)			28501
16	IAS II (Unmetered)	2,288	2,249	2070
17	IAS II (Metered)			1596
18	PWW	715	1,015	1391
19	LTIS I	11,919	13,411	26179
20	LTIS II	1,504	2,514	2649
21	HTS I	1,178	1,194	1250
22	HTS II	98	100	94
23	HTS III	5	3	3
24	HTSS	14	15	13
25	RT	17	15	15
26	Sale to Nepal	0	0	0
27	UI	0	0	0
28	DF	0	0	371391
29	<b>Total</b>	<b>4,855,260</b>	<b>3,699,602</b>	<b>3,996,931</b>

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

S. No.	Category	Gaya	Bhagalpur
		FY 2016-17	FY 2016-17
1	Kutir Jyoti- BPL Consumers	47,065	37,067
2	Domestic - I	22,266	56,038
3	Domestic - II	86,247	75,959
4	Domestic - III	4	16
5	Non-Domestic - I	1,293	1,785
6	Non-Domestic - II	18,810	13,890
7	Non-Domestic - III	53	53
8	Street Light - I	184	28
9	Street Light - II	40	56

S. No.	Category	Gaya	Bhagalpur
		FY 2016-17	FY 2016-17
10	IAS – I	4,836	2,112
11	IAS – II	15	90
12	PWW	117	103
13	LTIS - I	2,179	3,100
14	LTIS - II	68	52
15	HTS - I	79	57
16	HTS - II	2	2
17	HTS - III	-	-
18	HTSS	-	-
19	Railway	-	-
	<b>Grand Total</b>	<b>183,258</b>	<b>190,408</b>

SBPDCL has submitted that the consumers residing in Gaya and Bhagalpur 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. 39.96 lakh for FY 2016-17 which also includes 3.71 lakh consumers of the DF area.

#### **Commission's analysis**

On a query from the Commission that the number of consumers shown in DF area in Table 4.2 above as 373666 (183258+190408) are not matching with those shown in Table 4.1 above, the Petitioner through its letter no 18 dated 08.01.2018 has revised the number of consumers in DF area as 373666 and the total number of consumers including DF as 3999206. SBPDCL has requested to include the 373666 number of consumers under DF areas in the number of consumers of SBPDCL area.

The Commission, in the view of fact that SBPDCL has engaged Distribution Franchisees at Bhagalpur and Gaya 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 SBPDCL 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 SBPDCL in view of the common T&D losses and tariff applicability for both areas.

The Commission, accordingly approves the number of consumers for SBPDCL 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 for FY 2016-17
1	KJY (Unmetered) (BPL)	618,817	746,215	54343	54343
2	KJY (Metered) (BPL)			777589	777589
3	DS I (Unmetered)	2,805,525	1,476,339	274442	274442
4	DS I (Metered)			1002082	1002082
5	DSII	1,131,827	1,161,920	1077407	1077407
6	DS III	17	40	9	9
7	NDS I (Unmetered)	45,785	31,136	5131	5131
8	NDS I (Metered)			34607	34607
9	NDS II Commercial	184,222	200,889	222527	222527
10	NDS III Commercial	149	219	138	138
11	NDS IV	0	9	17	17
12	SS I	229	203	378	378
13	SS II	202	292	322	322
14	IAS I (Unmetered)	50,749	61,824	112787	112787
15	IAS I (Metered)			28501	28501
16	IAS II (Unmetered)	2,288	2,249	2070	2070
17	IAS II (Metered)			1596	1596
18	PWW	715	1,015	1391	1391
19	LTIS I	11,919	13,411	26179	26179
20	LTIS II	1,504	2,514	2649	2649
21	HTS I	1,178	1,194	1250	1250
22	HTS II	98	100	94	94
23	HTS III	5	3	3	3
24	HTSS	14	15	13	13
25	RT	17	15	15	15
26	DF	0	0	373666	-
<b>27</b>	<b>Total</b>	<b>4,855,260</b>	<b>3,699,602</b>	<b>3,999,206</b>	<b>3,625,540</b>



### 4.3.2 Connected Load

#### Petitioner's submission

Subsequent to the filing of the petition, SBPDCL submitted the sub category-wise actual connected load vide official email dated 31.01.2018 for FY 2016-17 as given in the Table below:

**Table 4.4: Connected Load (kW) 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)	61,882	87,624	5734
2	KJY (Metered) (BPL)			63408
3	DS I (Unmetered)	3,464,959	1,729,129	2,80,424
4	DS I (Metered)			10,34,509
5	DSII	1,410,551	2,324,586	2,163,226.65
6	DS III	287	124	38.00
7	NDS I (Unmetered)	21,397	45,806	5,467
8	NDS I (Metered)			38,856
9	NDS II Commercial	239,334	856,770	834,710.36
10	NDS III Commercial	676	980	3,905.49
11	NDS IV	0	18	55.00
12	SS I	1,306	3,243	2,050.50
13	SS II	2,209	2,976	2,238.92
14	IAS I (Unmetered)	148,074	107,999	2,50,463
15	IAS I (Metered)			66,892
16	IAS II (Unmetered)	33,889	26,172	21,856
17	IAS II (Metered)			18,191
18	PWW	10,057	21,032	19,542.84
19	LTIS I	49,944	123,437	271,394.13
20	LTIS II	35,965	253,697	137,414.43
21	HTS I	230,580	291,801	263,980.80
22	HTS II	117,104	151,096	141,850.21
23	HTS III	38,279	30,392	32,850.00
24	HTSS	185,939	96,513	98,345.70
25	RT	179,718	151,200	153,180.00
26	Sale to Nepal	0.00	0.00	0.00
27	UI	0.00	0.00	0.00
28	DF	0.00	0.00	605,665
<b>29</b>	<b>Total</b>	<b>6,232,150</b>	<b>6,304,595</b>	<b>6,516,249</b>

**Table 4.5: category wise connected load projected in DF area**

S. No.	Category	FY 2016-17	
		Bhagalpur	Gaya
1	Kutir Jyoti- BPL Consumers	37,077	46,978
2	Domestic - I	56,349	22,793
3	Domestic - II	107,225	151,604
4	Domestic - III	188	543
5	Non-Domestic - I	1,904	1,410
6	Non-Domestic - II	35,606	42,898
7	Non-Domestic - III	211	623
8	Street Light - I	175	569
9	Street Light - II	981	245
10	IAS - I	3,941	9,780
11	IAS - II	1,213	84
12	PWW	653	789
13	LTIS – I	14,549	11,578
14	LTIS - II	2,438	2,704
15	HTS – I	13,807	14,532
16	HTS – II	20,100	2,115
17	HTS – III	-	-
18	HTSS	-	-
19	Railway	-	-
	<b>Grand Total</b>	<b>296,418</b>	<b>309,246</b>

SBPDCL 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 605,665 kW of the consumers of DF area.

#### **Commission's analysis**

On a query from the Commission that the connected load per consumer shown for KJ category in DF area is more than the stipulated norm, the Petitioner through its letter dated 08.01.2018 has revised the connected load of KJ category for Bhagalpur as 9267 KW and for Gaya as 11766 KW.

The Commission, in view of the fact that SBPDCL has engaged Distribution Franchisee at Bhagalpur and Gaya 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 areas is not included in the SBPDCL area following the consistent approach.

The Commission, accordingly approves the total connected load for SBPDCL 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**

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)	61,882	87,624	5734	5734
2	KJY (Metered) (BPL)			63408	63408
3	DS I (Unmetered)	3,464,959	1,729,129	2,80,424	2,80,424
4	DS I (Metered)			10,34,509	10,34,509
5	DSII	1,410,551	2,324,586	2,163,226.65	2,163,226.65
6	DS III	287	124	38.00	38.00
7	NDS I (Unmetered)	21,397	45,806	5,467	5,467
8	NDS I (Metered)			38,856	38,856
9	NDS II Commercial	239,334	856,770	834,710.36	834,710.36
10	NDS III Commercial	676	980	3,905.49	3,905.49
11	NDS IV	0	18	55.00	55.00
12	SS I	1,306	3,243	2,050.50	2,050.50
13	SS II	2,209	2,976	2,238.92	2,238.92
14	IAS I (Unmetered)	148,074	107,999	2,50,463	2,50,463
15	IAS I (Metered)			66,892	66,892
16	IAS II (Unmetered)	33,889	26,172	21,856	21,856
17	IAS II (Metered)			18,191	18,191
18	PWW	10,057	21,032	19,542.84	19,542.84
19	LTIS I	49,944	123,437	271,394.13	271,394.13
20	LTIS II	35,965	253,697	137,414.43	137,414.43
21	HTS I	230,580	291,801	263,980.80	263,980.80
22	HTS II	117,104	151,096	141,850.21	141,850.21
23	HTS III	38,279	30,392	32,850.00	32,850.00
24	HTSS	185,939	96,513	98,345.70	98,345.70
25	RT	179,718	151,200	153,180.00	153,180.00
26	DF	0.00	0.00	605,665	-
<b>27</b>	<b>Total</b>	<b>6,232,150</b>	<b>6,304,595</b>	<b>6,516,249</b>	<b>5,910,584</b>

### 4.3.3 Energy Sales

#### Petitioner's submission

Subsequent to the filing of the petition, SBPDCL submitted the sub category-wise

actual Energy sales vide official email dated 31.01.2018 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)	222.77	272.37	13.53
2	KJY (Metered) (BPL)			311.51
3	DS I (Unmetered)	1,945.63	1,032.84	185.78
4	DS I (Metered)			796.39
5	DSII	2,478.7	2,038.61	2,249.21
6	DS III	0.16	0.27	0.14
7	NDS I (Unmetered)	15.97	23.46	3.23
8	NDS I (Metered)			26.48
9	NDS II Commercial	646.58	763.4	881.94
10	NDS III Commercial	0.76	1.37	1.92
11	NDS IV		0.01	0.13
12	SS I	4.76	8.03	5.77
13	SS II	8.06	13.04	10.07
14	IAS I (Unmetered)	226.09	160.38	111.05
15	IAS I (Metered)			57.33
16	IAS II (Unmetered)	124.24	92.68	39.12
17	IAS II (Metered)			26.27
18	PWW	44.05	51.43	49.63
19	LTIS I	115.24	125.3	180.63
20	LTIS II	104.66	143.78	138.03
21	HTS I	504.97	561.2	507.28
22	HTS II	241.07	316.69	285.74
23	HTS III	83.83	135.19	129.23
24	HTSS	570.09	613.77	658.44
25	RT	627.37	637.97	563.61
26	Sale to Nepal	0	0	0.00
27	UI	0	0	113.39
28	DF	1,203.54	1,405.84	1,315.60
29	<b>Total</b>	<b>9,168.54</b>	<b>8,397.63</b>	<b>8,661.46</b>

**Table 4.8 : Category wise energy sales projected in DF area**

Sl.No	Category	Sales for FY 2016-17	
		Gaya	Bhagalpur
1	Kutir Jyoti- BPL Consumers	18.11	22.58
2	Domestic – I	14.15	56.80
3	Domestic – II	126.33	165.09
4	Domestic – III	0.79	0.17

Sl.No	Category	Sales for FY 2016-17	
		Gaya	Bhagalpur
5	Non-Domestic – I	1.01	1.64
6	Non-Domestic – II	53.38	59.90
7	Non-Domestic – III	0.97	0.31
8	Street Light – I	3.09	1.37
9	Street Light – II	8.75	14.25
10	IAS – I	17.53	4.87
11	IAS – II	0.36	4.66
12	PWW	3.22	2.86
13	LTIS – I	22.74	24.27
14	LTIS – II	6.07	7.03
15	HTS – I	35.79	42.81
16	HTS – II	8.87	-
17	HTS – III	-	-
18	HTSS	-	-
19	Railway	-	-
	<b>Grand Total</b>	<b>321.17</b>	<b>386.02</b>

SBPDCL has submitted that 707.20 MUs of energy is sold by the DFs to the consumers in its operational area and 1,315.60 MUs of energy is sold by the Petitioner to Distribution Franchisee (DF).

SBPDCL 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.

SBPDCL has requested to approve energy sales as per actuals at 8548.07 MU excluding UI sales for FY 2016-17.

#### **Commission's analysis**

On a query from the Commission that the summation of sales of Bhagalpur DF has been erroneously shown as 386.02 MU, the Petitioner through its letter dated 08.01.2018 has revised the sales in Bhagalpur DF as 408.61 MU.

The Commission, in view of the fact that SBPDCL has engaged Distribution franchisees at Bhagalpur and Gaya on input based, had considered DF as a single entity in the Tariff Order for FY 2016-17 dated 21<sup>st</sup> March 2016 and accordingly had considered input energy of the DF in the total sales of SBPDCL. Accordingly the Commission had approved energy sales at 9168.54 MU for FY 2016-17. The

Petitioner has now submitted that the actual energy sale during FY 2016-17 is 8548.07 MU which is in line with the audited annual accounts for FY 2016-17.

SBPDCL has shown the actual total sales for Kutir Jyoti (unmetered) for FY 2016-17 as 13.53 MU, which on an average works out to 20.74 units/month/ connection.

In the Tariff Order dated 21<sup>st</sup> 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 NBPDC. As the actual sales of Unmetered KJ connection is within the norms, the Commission has considered sales of KJY category at 325.04 MU for FY 2016-17 as projected by the petitioner.

SBPDCL has shown the actual sales for IAS-I category (unmetered) for FY 2016-17 at 111.05 MU which works out to 443.38 Units/kW/annum, against the approved norm of 1485 Units/kW/annum. Therefore, the Commission has considered sales of IAS-I (unmetered) at 111.05 MU for FY 2016-17 as projected by the Petitioner.

For DS-I (Unmetered) and NDS-I (Unmetered) category consumers, SBPDCL has shown the actual consumption at 185.78 MU and 3.23 MU respectively which works out to 56.41 Units/ Month/ Connection for DS-I and 52.46 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 1315.60 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 1315.60 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 113.39 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)	222.77	272.37	13.53	13.53
2	KJY (Metered) (BPL)			311.51	311.51
3	DS I (Unmetered)	1,945.63	1,032.84	185.78	185.78
4	DS I (Metered)			796.39	796.39
5	DSII	2,478.7	2,038.61	2,249.21	2,249.21
6	DS III	0.16	0.27	0.14	0.14
7	NDS I (Unmetered)	15.97	23.46	3.23	3.23
8	NDS I (Metered)			26.48	26.48
9	NDS II Commercial	646.58	763.4	881.94	881.94
10	NDS III Commercial	0.76	1.37	1.92	1.92
11	NDS IV		0.01	0.13	0.13
12	SS I	4.76	8.03	5.77	5.77
13	SS II	8.06	13.04	10.07	10.07
14	IAS I (Unmetered)	226.09	160.38	111.05	111.05
15	IAS I (Metered)			57.33	57.33
16	IAS II (Unmetered)	124.24	92.68	39.12	39.12
17	IAS II (Metered)			26.27	26.27
18	PWW	44.05	51.43	49.63	49.63
19	LTIS I	115.24	125.3	180.63	180.63
20	LTIS II	104.66	143.78	138.03	138.03
21	HTS I	504.97	561.2	507.28	507.28
22	HTS II	241.07	316.69	285.74	285.74
23	HTS III	83.83	135.19	129.23	129.23
24	HTSS	570.09	613.77	658.44	658.44
25	RT	627.37	637.97	563.61	563.61
26	DF	1,203.54	1,405.84	1,315.60	1,315.60
<b>27</b>	<b>Total</b>	<b>9,168.54</b>	<b>8,397.63</b>	<b>8548.07</b>	<b>8,548.06</b>

**The Commission approves the category wise energy sales for FY 2016-17 at 8548.06 MU in Truing-up.**

#### **4.4. Distribution Loss**

##### **Petitioner's submission**

SBPDCL has submitted that in the Tariff Order dated 24<sup>th</sup> 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 SBPDCL (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 39.48% and adopt the loss target as agreed in the UDAY MoU i.e. 34%.

SBPDCL 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**

Sl. No	Particulars	Approved in MYT Order dated 21.03.2016	Approved in Review in T.O dated 24.03.2017	Actuals for FY 2016-17
1	Distribution loss	19.25%	19.25%	39.48 %

SBPDCL has requested to consider the actual the distribution loss at 39.48% and adopt the loss target agreed in UDAY i.e., 34% 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:

**Table 4.11: Distribution Loss approved for FY 2016-17 in order dated 21.03.2016**

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, SBPDCL had preferred an Appeal (Appeal no 141/2016) 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 SBPDCL 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 SBPDCL, 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 SBPDCL has been mandated with specific distribution Losses as given below:*

<b>FY</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-2019</b>	<b>2019-20</b>
<i>T&amp;D Loss</i>	<i>34.00 %</i>	<i>30.00%</i>	<i>22.00%</i>	<i>15.00%</i>

*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, SBPDCL 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 SBPDCL as under:

**Table 4.12: Approved Revise T&D Loss of SBPDCL**

<b>FY</b>	<b>2017-18</b>	<b>2018-19</b>
T&D Loss	30.00 %	22.00 %

**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 24<sup>th</sup> 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 21<sup>st</sup> 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 SBPDCL and the loss level approved by the Commission in truing up for FY 2016-17 is summarized in the Table below:

**Table 4.13: 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%	39.48%	19.25%

#### **4.5. State Transmission Loss**

##### **Petitioner's submission**

SBPDCL 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**

SBPDCL has submitted that the Petitioner has taken central transmission loss as per actual i.e., 2.52% 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 2.52%, SBPDCL 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:**

SBPDCL 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, NBPDC and SBPDCL, in the proportion as determined by the board resolution based on the demand growth requirement and consequent power supply requirement.

##### **Long term power purchase**

SBPDCL 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**

SBPDCL 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**

SBPDCL has submitted that it has purchased 144.31 MU of Renewable energy i.e 52.64 MU of solar and 91.67 MU of non-solar during FY 2016-17.

SBPDCL has submitted the details of actual energy purchased from various sources in

FY 2016-17 as shown in the Table below:

**Table 4.14: Power Purchase as per actuals shown by the Petitioner for FY 2016-17**

S. No.	Power Purchase Sources	Share allocation (MW)	Energy(MU)
<b>1</b>	<b>Central Sector Stations</b>	<b>1,839.62</b>	<b>10,835.79</b>
2	Talcher – I ( 2 x 500 MW)	249.90	1,689.74
3	Farakka – I & II (1600 MW)	305.28	1,935.22
4	Farakka – III (500 MW)	64.56	615.04
5	Kahalgaon – I (840 MW)	212.94	1,415.73
6	Kahalgaon – II (1500 MW)	44.82	320.48
7	Barh-II	635.40	3,459.65
8	Korba	45.00	151.58
9	Rangit – HEP	12.60	66.61
10	Teesta – HEP	65.06	332.58
11	Chukha	48.00	355.59
12	Tala	156.06	493.57
13	Barh Stage-I (3 X 660 MW)	-	-
<b>14</b>	<b>State Generating Stations</b>	<b>198.00</b>	<b>474.17</b>
15	KBUNL 1	132.00	392.82
16	KBUNL 2	-	-
17	Small Hydro (BSPCL)	-	7.34
18	Barauni Stage I	66.00	74.01
19	Barauni Stage II	-	-
<b>20</b>	<b>IPP</b>	<b>276.00</b>	<b>1,133.78</b>
21	GMR Kamalanga Energy	156.00	1,123.11
22	Adani Enterprises Limited	120.00	10.67
<b>23</b>	<b>JV projects</b>	<b>-</b>	<b>-</b>
24	Nabinagar Railway (4 X 250 MW)	-	-
25	Nabinagar Stage-I (3 X 660 MW) MW)	-	-
26	Nabinagar JV (3 X 660 MW) Stage-II	-	-
<b>27</b>	<b>Renewable</b>	<b>116.40</b>	<b>136.98</b>
28	SECI	6.00	12.10
29	ACME Magadh	6.00	6.06
30	ACME Nalanda	9.00	7.99
31	Sunmark Energy Projects	6.00	2.76
32	Avantika	3.00	3.12
33	AZURE Power	6.00	4.71
34	Udipta Energy & Equipment Pvt Ltd	3.00	0.18
35	Glatt Solution Private Limited	1.80	0.02
36	Welspun 2	9.00	6.41
37	Welspun 1	6.00	3.41
38	Alpha Infrapop Private Limited	-	-
39	Welspun 3	9.00	5.90
40	Response Renewable Energy	-	-
41	New Swadeshi Sugar Mill, Narkatiaganj	4.20	6.39
42	Harinagar Sugar Mills, Harinagar	6.60	28.77

S. No.	Power Purchase Sources	Share allocation (MW)	Energy(MU)
43	Bharat Sugar Mills, Sidhiwalia, Gopalganj	6.60	17.38
44	Lauriya Sugar Mill	12.00	14.51
45	Sugauli Sugar Mill	12.00	8.71
46	Hasanpur Sugar Mills, Samastipur	6.00	4.62
47	Riga Sugar Company Ltd, Sitamarhi	1.80	1.08
48	Siddhashram Rice Mill Cluster Pvt Ltd	0.60	1.39
49	Bihar Distillers and Bottlers Pvt Ltd	1.80	1.49
<b>50</b>	<b>Open Market Purchase</b>	-	<b>1,829.72</b>
51	IEX/PXIL	-	1,133.18
52	DB Power	-	114.21
53	JAYPEE NIGRIE	-	136.89
54	JPL	-	15.08
55	GMR ETL	-	130.15
56	TATA ETL	-	117.32
57	Manikaran Power	-	-
58	NEA	-	0.06
59	NVVNL	-	36.58
60	PVVNL	-	0.82
61	Adani Short Term	-	-
62	UI	-	32.05
<b>63</b>	<b>Net Total Power Purchase</b>	<b>2,430.02</b>	<b>14,297.05</b>

SBPDCL has also submitted that in the FY 2016-17, sales under UI are 113.39 MU and revenue incurred from sale of power under UI is Rs. 6.15 Crores and the Petitioner has also made a purchase of 145.43 MU with regard to UI at a cost of Rs. 58.68 Crore. Thus, the net Power purchase made through adjustment of UI is 32.04 MUs at a cost of Rs. 52.53 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 14297.06 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 Petitioner has erroneously shown the Power Purchase from open market as

1829.72 MU instead of 1716.34 MU.

The Commission has noted that the petitioner has shown power purchase as 14297.05 MU. The same is shown as 14410.44 MU in Table -20 of the petition and as 14411.97 MU in A-27 Annexure whereas Audited Accounts shows 14409.88 MU. On a query from the Commission to furnish the reasons for showing different figures at different places and the correct quantum of energy purchase during FY 2016-17, the petitioner has replied as below:

*“In the FY 2016-17, SBPDCL sold 113.39 MU under UI and earned revenue of Rs. 6.15 Crore by selling the same. The Petitioner has also made a purchase of 145.43 MUs with regard to UI at a cost of Rs. 58.68 Crore. Thus, the net Power purchase made through adjustment of UI is 32.04 MUs at a cost of Rs. 52.53 Crore. The Petitioner considering the Commission’s directions in the previous Tariff Order has considered the entire power purchase and sale under UI as a single adjustment with the power purchase quantum and cost.*

*Further, if we deduct the net UI of 32.04 MUs from 14297.05 MU and add 145.43 MUs of power purchase as per the audited accounts we shall get 14410.44 MU which tallies with the audited account. The difference between 14409.88 as per audited accounts and 14410.44 MU as per submission made by the Petitioner is because of rounding off.”*

The Commission recognizes the sources of power purchase as outlined by SBPDCL which is based on 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 NBPDC and SBPDCL. The Commission has accordingly apportioned this UI over drawal between NBPDC 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 SBPDCL at 33.13 MU (58.11% 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 4.15: Source wise Power Purchase quantum approved for FY 2016-17 (MU)

S. No.	Power Purchase Sources	Share allocation (MW)	Projected by SBPDCL	Approved by the Commission
<b>1</b>	<b>Central Sector Stations</b>	<b>1,839.62</b>	<b>10,835.79</b>	<b>10,835.79</b>
2	Talcher – I ( 2 x 500 MW)	249.90	1,689.74	1,689.74
3	Farakka – I & II (1600 MW)	305.28	1,935.22	1,935.22
4	Farakka – III (500 MW)	64.56	615.04	615.04
5	Kahalgaon – I (840 MW)	212.94	1,415.73	1,415.73
6	Kahalgaon – II (1500 MW)	44.82	320.48	320.48
7	Barh-II	635.40	3,459.65	3,459.65
8	Korba	45.00	151.58	151.58
9	Rangit – HEP	12.60	66.61	66.61
10	Teesta - HEP	65.06	332.58	332.58
11	Chukha	48.00	355.59	355.59
12	Tala	156.06	493.57	493.57
13	Barh Stage-I (3 X 660 MW)	-	-	-
<b>14</b>	<b>State Generating Stations</b>	<b>198.00</b>	<b>474.17</b>	<b>474.17</b>
15	KBUNL 1	132.00	392.82	392.82
16	KBUNL 2	-	-	-
17	Small Hydro (BSHPCL)	-	7.34	7.34
18	Barauni Stage I	66.00	74.01	74.01
19	Barauni Stage II	-	-	-
<b>20</b>	<b>IPP</b>	<b>276.00</b>	<b>1,133.78</b>	<b>1,133.78</b>
21	GMR Kamalanga Energy	156.00	1,123.11	1,123.11
22	Adani Enterprises Limited	120.00	10.67	10.67
<b>23</b>	<b>JV projects</b>	-	-	-
24	Nabinagar Railway (4 X 250 MW)	-	-	-
25	Nabinagar Stage-I (3 X 660 MW)	-	-	-
26	Nabinagar JV (3 X 660 MW) Stage-II	-	-	-
<b>27</b>	<b>Renewable</b>	<b>116.40</b>	<b>136.98</b>	<b>136.98</b>
28	SECI	6.00	12.10	12.10
29	ACME Magadh	6.00	6.06	6.06
30	ACME Nalanda	9.00	7.99	7.99
31	Sunmark Energy Projects	6.00	2.76	2.76
32	Avantika	3.00	3.12	3.12
33	AZURE Power	6.00	4.71	4.71
34	Udipta Energy & Equipment Pvt Ltd	3.00	0.18	0.18
35	Glatt Solution Private Limited	1.80	0.02	0.02
36	Welspun 2	9.00	6.41	6.41
37	Welspun 1	6.00	3.41	3.41
38	Alpha Infrapop Private Limited	-	-	-
39	Welspun 3	9.00	5.90	5.90
40	Response Renewable Energy	-	-	-
41	New Swadeshi Sugar Mill, Narkatiaganj	4.20	6.39	6.39
42	Harinagar Sugar Mills, Harinagar	6.60	28.77	28.77

S. No.	Power Purchase Sources	Share allocation (MW)	Projected by SBPDCL	Approved by the Commission
43	Bharat Sugar Mills, Sidhiwalia,	6.60	17.38	17.38
44	Lauriya Sugar Mill	12.00	14.51	14.51
45	Sugauli Sugar Mill	12.00	8.71	8.71
46	Hasanpur Sugar Mills, Samastipur	6.00	4.62	4.62
47	Riga Sugar Company Ltd, Sitamarhi	1.80	1.08	1.08
48	Siddhashram Rice Mill Cluster PLtd	0.60	1.39	1.39
49	Bihar Distillers and Bottlers Pvt Ltd	1.80	1.49	1.49
<b>50</b>	<b>Open Market Purchase</b>	-	<b>1716.34</b>	<b>1,717.42</b>
51	IEX/PXIL	-	1,133.18	1,133.18
52	DB Power	-	114.21	114.21
53	JAYPEE NIGRIE	-	136.89	136.89
54	JPL	-	15.08	15.08
55	GMR ETL	-	130.15	130.15
56	TATA ETL	-	117.32	117.32
57	Manikaran Power	-	-	-
58	NEA	-	0.06	0.06
59	NVVNL	-	36.58	36.58
60	PVVNL	-	0.82	0.82
61	Adani Short Term	-	-	-
62	UI	-	32.05	33.13
<b>63</b>	<b>Net Total Power Purchase</b>	<b>2,430.02</b>	<b>14,297.05</b>	<b>14,298.16</b>

The Commission approves the total quantum of power purchase of 14,298.16 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

SBPDCL 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 4.16: 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	9,168.54	8,397.63	8,661.46
2	Less: Energy supplied to DF area	MU	1,203.54	1,405.84	1,315.60
3	Less: Sales to Nepal	MU	0	0	-
4	Less: UI	MU			113.39
5	Energy sale excluding DF area and Nepal	MU	7,965.00	6,991.79	7,232.47
6	Distribution loss	%	19%	19.25%	39.48%
7	Distribution loss	MU	1,898.74	1,666.77	4,718.67
8	Energy required (5+7)	MU	9,863.78	8,658.56	11,951.14
9	Add: Energy to DF area including loss for DF area	MU	1,203.54	1,405.84	1,315.60
10	Energy required at Distribution periphery (8+9)	MU	11,067.32	10,064.4	13,266.74
11	Add: Sales to Nepal	MU	0	0	-
12	Total energy required (10+11)	MU	11,067.32	10,064.4	13,266.74
13	State Transmission loss	%	3.92%	3.92%	4.75%
14	State Transmission loss	MU	451.54	410.62	666.79
15	Add: UI sales	MU			113.39
16	Energy required at State Transmission periphery	MU	11,518.86	10,475.02	14,046.93
17	Power Purchase from CGS, SGS and others	MU	17,084.32	14,931.97	14,410.44
18	Power Purchase from CGS	MU			10,835.79
19	Losses in Regional Transmission System (excluding state generating stations)	%	2.26%	2.26%	2.52%
20	Losses in Regional Transmission system (MU)	MU	332.8	327.8	363.51
21	Power Purchase from SGS	MU			3,574.65
22	Energy available at State Transmission Periphery	MU	16,751.53	14,604.17	14,046.93
23	Surplus energy (22-21)	MU	5,232.67	4,129.15	-
24	Energy transferred to NBPDC	MU	0	306.4	-
25	Surplus Energy at state transmission periphery (23-24)	MU	5,232.67	3,822.75	--

**Commission's analysis**

The Commission has arrived at the CTU loss at 347.73 MU (i.e at 58.11% 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 [ $2.432\% = (347.73/14298.16)*100$ ] 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 10957.80 MU with regional transmission loss of 266.49 MU as shown in the Table 4.17 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 4.17: Energy Balance Approved in Truing up for FY 2016-17 (MU)**

Sl. No.	Particulars	Projected by Petitioner for FY 2016-17	Approved by the Commission for FY 2016-17
1	Energy sales	8661.46	8548.06
2	Less: Energy supplied to DF area	1315.60	1315.60
3	Less: UI sale	113.39	-
4	Less: Sale to Nepal	-	-
5	Net energy sale	7233.47	7232.46
6	Distribution Loss (%)	39.48%	19.25%
7	Distribution Loss (MU)	4718.14	1724.15
8	Energy required (5+7)	11951.14	8956.61
9	Add: Energy supplied to DF area	1215.60	1315.60
10	Total energy required at Distribution periphery (8+9)	13266.74	10272.21
11	Add: Sales to Nepal	-	-
12	Total energy required (10+11)	13266.74	10272.21
13	Transmission Loss (%)	4.75%	3.92%
14	Transmission Loss (MU)	666.79	419.10
15	Energy required at Transmission Periphery (12+14)	13933.53	10691.31

Sl. No.	Particulars	Projected by Petitioner for FY 2016-17	Approved by the Commission for FY 2016-17
16	Add: UI sales	113.39	-
<b>17</b>	<b>Total Energy requirement at transmission periphery (15+16)</b>	<b>14046.93</b>	<b>10691.31</b>
18	Losses in Regional Transmission system (%)	2.52%	2.432%
19	Losses in Regional Transmission system (MU)	363.51	266.49
20	Total Energy requirement at Regional Transmission periphery (17+19)	14410.44	10957.80
21	<b>Total energy available (power purchase)</b>	14410.44	14298.16
<b>22</b>	<b>Surplus energy purchased due to excess losses (21-20)</b>	<b>0.00</b>	<b>3340.36</b>

#### 4.9. Power Purchase Cost

##### Petitioner's submission

SBPDCL 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. SBPDCL has projected Rs. 5156.64 Crore towards the power purchase cost from all sources for purchase of 14297.05 MU.

SBPDCL has projected Rs. 504.71 Crore towards PGCIL charges (including POSOCO and ERLDC charges) for use of transmission facilities enabling power drawal from Eastern Region. SBPDCL has also projected Rs. 161.35 Crore towards transmission charges payable to the BSPTCL.

SBPDCL has projected the total power purchase cost at Rs. 5822.70 Crore including intra-state and PGCIL transmission charges for FY 2016-17 as given in the Table below:

**Table 4.18: Power Purchase cost claimed by the Petitioner for FY 2016-17**

S. No.	Power Purchase Sources	Share allocation (MW)	Energy (MU)	Total Charges (INR Cr)	Avg. Tariff Rate (INR/kWh)
<b>1</b>	<b>Central Sector Stations</b>	<b>1,839.62</b>	<b>10,835.79</b>	<b>3,890.43<sup>#</sup></b>	<b>3.59</b>
2	Talcher – I ( 2 x 500 MW)	249.90	1,689.74	436.43	2.58
3	Farakka – I & II (1600 MW)	305.28	1,935.22	660.25	3.41
4	Farakka – III (500 MW)	64.56	615.04	238.22	3.87
5	Kahalgaon – I (840 MW)	212.94	1,415.73	478.20	3.38
6	Kahalgaon – II (1500 MW)	44.82	320.48	105.14	3.28
7	Barh-II	635.40	3,459.65	1,640.42	4.74
8	Korba	45.00	151.58	43.46	2.87
9	Rangit – HEP	12.60	66.61	25.88	3.89
10	Teesta – HEP	65.06	332.58	88.14	2.65
11	Chukha	48.00	355.59	74.32	2.09
12	Tala	156.06	493.57	99.98	2.03
13	Barh Stage-I (3 X 660 MW)	-	-	-	-
<b>14</b>	<b>State Generating Stations</b>	<b>198.00</b>	<b>474.17</b>	<b>228.51</b>	<b>4.82</b>
15	KBUNL 1	132.00	392.82	197.30	5.02
16	KBUNL 2	-	-	-	-
17	Small Hydro (BSHPCL)	-	7.34	1.83	2.49
18	Barauni Stage I	66.00	74.01	29.38	3.97
19	Barauni Stage II	-	-	-	-
<b>20</b>	<b>IPP</b>	<b>276.00</b>	<b>1,133.78</b>	<b>423.99<sup>#</sup></b>	<b>3.74</b>
21	GMR Kamalanga Energy	156.00	1,123.11	391.52	3.49
22	Adani Enterprises Limited	120.00	10.67	32.46	30.44
<b>23</b>	<b>JV projects</b>	-	-	-	-
24	Nabinagar Railway (4X250MW)	-	-	-	-
25	Nabinagar Stage-I (3 X 660 MW)	-	-	-	-
26	Nabinagar JV (3 X 660 MW) Stage-II	-	-	-	-
<b>27</b>	<b>Renewable</b>	<b>116.40</b>	<b>136.98<sup>*</sup></b>	<b>86.65<sup>#</sup></b>	<b>6.33</b>
28	SECI	6.00	12.10	7.19	5.94
29	ACME Magadh	6.00	6.06	5.29	8.73
30	ACME Nalanda	9.00	7.99	6.97	8.73
31	Sunmark	6.00	2.76	1.94	7.02
32	Avantika	3.00	3.12	2.40	7.69
33	AZURE	6.00	4.71	3.95	8.39
34	Udipta Energy & Equipment Pvt ltd	3.00	0.18	0.14	7.98
35	Glatt	1.80	0.02	0.01	7.02
36	Welspun 2	9.00	6.41	5.54	8.64
37	Welspun 1	6.00	3.41	2.96	8.70
38	Welspun 3	9.00	5.90	5.05	8.56
39	Response Renewabe Energy	-	-	-	-
40	New Swadeshi Sugar	4.20	6.39	3.22	5.04

S. No.	Power Purchase Sources	Share allocation (MW)	Energy (MU)	Total Charges (INR Cr)	Avg. Tariff Rate (INR/kWh)
	Mill,Narkatiaganj				
41	Harinagar Sugar Mills,Harinagar	6.60	28.77	15.40	5.35
42	Bharat Sugar Mills,Sidhiwalia, Gopalganj	6.60	17.38	8.84	5.09
43	Lauriya Sugar Mill	12.00	14.51	7.83	5.40
44	Sugauli Sugar Mill	12.00	8.71	4.70	5.40
45	Hasanpur Sugar Mills, Samastipur	6.00	4.62	2.68	5.80
46	Riga Sugar Company Ltd, Sitamarhi	1.80	1.08	0.63	5.84
47	Siddhashram Rice Mill Cluster Pvt Ltd	0.60	1.39	1.03	7.41
48	BDBPL	1.80	1.49	0.86	5.78
<b>49</b>	<b>Open Market Purchase</b>	-	<b>1,829.72*</b>	<b>533.22<sup>#</sup></b>	<b>2.91</b>
50	IEX/PXIL	-	1,133.18	321.44	2.84
51	DB Power	-	114.21	30.87	2.70
52	JAYPEE NIGRIE	-	136.89	37.62	2.75
53	JPL	-	15.08	4.33	2.87
54	GMR ETL	-	130.15	36.43	2.80
55	TATA ETL	-	117.32	33.40	2.85
56	Manikaran Power	-	-	-	-
57	NEA	-	0.06	0.03	5.62
58	NVVNL	-	36.58	9.85	2.69
59	PVVNL	-	0.82	0.57	6.96
60	Adani Short Term	-	-	-	-
61	UI (Net)	-	32.04	52.53	16.40
<b>62</b>	<b>Sub Total Power Purchase</b>	<b>2,430.02</b>	<b>14,297.05*</b>	<b>5,156.64<sup>#</sup></b>	<b>3.61</b>
63	PGCIL charges	-	-	500.92	-
64	POSOCO & SLDC Charges	-	-	3.79	-
65	BSPTCL charges	-	-	161.35	-
66	BGCL Charges	-	-	-	-
<b>67</b>	<b>Total Power Purchase</b>	<b>2,430.02</b>	<b>14,297.05</b>	<b>5,822.70</b>	<b>4.07</b>

\* Correct figures are 137.00, 1716.34 & 14297.07

# Correct figures are 3890.44, 423.98, 86.63, 527.07, 5156.63 & 5822.69

### Commission analysis

The Commission has approved the power purchase cost of Rs. 5968.99 Crore for purchase of 14945.52 MU for FY 2016-17 in Review in the Tariff Order dated 24<sup>th</sup> 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, SBPDCL has incurred power purchase cost of Rs.5122.79 Crore, BSPTCL transmission charges of Rs.161.35 Crore and PGCIL and POSOCO charges of Rs. 514.40 Crore totalling Rs.5798.54 Crore for purchase of 14409.88 MU. Further, it is observed that the power purchase cost is shown after adjustment of prior period amount of Rs.(-)30.32 Crore and the net power purchase cost is shown at Rs.5798.54 Crore in the audited accounts for FY 2016-17. However, the petitioner has computed the power purchase cost in the petition without adjustment of prior period power purchase cost of Rs. 30.32 Crore and has claimed the prior period power purchase adjustment of Rs. (-) 30.32 Crore separately under prior period expenses/income in Table 39 of Petition.

The Commission has considered prior period power purchase cost of Rs.(-)30.32 crore under prior period expenses/income.

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

**Table 4.19: As per Power Purchase bills of Adani for FY 2016-17**

Month	Energy (MU)	Fixed charges (Rs. Crore)	Energy charges (Rs. Crore)	Other charges (Rs. Crore)	Total charges (Rs. Crore)
April 2016	7.87	8.60	2.91	1.55	13.05
May 2016	2.80	9.01	1.03	0.46	10.50
June 2016	0.00	8.60	0.00	0.31	8.91
<b>Total</b>	<b>10.67</b>	<b>26.21</b>	<b>3.94</b>	<b>2.32</b>	<b>32.46</b>

On a query from the Commission regarding high power purchase cost per unit i.e. for purchase of 10.67 MU from Adani (M/s AEL) an amount of Rs. 32.46 Crore (fixed charges of Rs. 26.21 Crore, Energy charges of Rs. 3.94 Crore and other charges of Rs. 2.32 Crore) from M/s AEL, the Petitioner has replied vide letter no 18 dated 08.01.2018 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. 30.42 per unit which is entirely due to negligence of the DISCOM. Had there 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. 4.71 Crore only (i.e.  $10.67 \text{ MU} \times 4.41/10$ ).

Further, on query from the Commission, to clarify why the figures furnished in the Table-21 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, SBPDCL vide their letter dated 08.01.2018 has submitted that the difference of Rs. 6.15 Crore is due to difference of UI purchase of Rs. 58.68 Crore and Net UI of Rs. 52.53 Crore ( $58.68 - 52.53 = 6.15$  Crore).

The Commission observes that SBPDCL has considered Rs.52.53 Crore against power purchase cost for 32.04 MU of Net UI over drawal in the petition whereas as discussed above it has stated that the cost towards UI purchase is Rs. 58.68 Crore.

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:

**Table 4.20: UI Settlement bill for FY 2016-17**

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 SBPDCL and NBPDCCL in the ratio of 58.11% and 41.89%, the Commission arrives at Rs.40.80 Crore (58.11% of Rs.70.21 Crore) for net over drawl of 33.13 MU (58.11% of 57.01 MU) by SBPDCL.

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 admitted 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 21.03.2016. Accordingly, the BSPTCL charges for SBPDCL will be Rs. 138.04 Crore based on its energy handled which at Rs. 58.11% 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 4.21: Approved Power Purchase cost for FY 2016-17

Sl. No.	Power Purchase Sources	Approved for FY 2016-17								
		Share allocation (MW)	Energy(MU)	Fixed Charge rate (INR/MU)	Fixed charge (INR Cr)	Energy Rate (INR/kW h)	Energy charge (INR Cr)	Other charges (pl. specify (INR Cr)	Total Charges (INR Cr)	Avg. Tariff Rate (INR/kWh)
<b>1</b>	<b>Central Sector Stations</b>	<b>1,839.62</b>	<b>10,835.79</b>	<b>1.29</b>	<b>1,397.77</b>	<b>2.24</b>	<b>2,425.69</b>	<b>66.97</b>	<b>3,890.44</b>	<b>3.59</b>
2	Talcher - I (2x500MW)	249.9	1,689.74	0.85	143.13	1.65	277.98	15.32	436.43	2.58
3	Farakka – I & II (1600 MW)	305.28	1,935.22	0.86	166.5	2.53	489.25	4.49	660.25	3.41
4	Farakka – III (500 MW)	64.56	615.04	1.40	86.41	2.49	153.36	-1.55	238.22	3.87
5	Kahalgaon – I (840 MW)	212.94	1,415.73	0.97	136.84	2.39	338.37	2.99	478.2	3.38
6	Kahalgaon – II (1500 MW)	44.82	320.48	1.01	32.42	2.27	72.59	0.13	105.14	3.28
7	Barh-II	635.4	3,459.65	2.19	759.26	2.45	847.81	33.35	1,640.42	4.74
8	Korba	45	151.58	1.24	18.76	1.50	22.69	2.01	43.46	2.87
9	Rangit – HEP	12.6	66.61	1.98	13.21	1.75	11.67	1	25.88	3.89
10	Teesta – HEP	65.06	332.58	1.24	41.24	1.13	37.67	9.23	88.14	2.65
11	Chukha	48	355.59	0.00	0	2.09	74.32	-	74.32	2.09
12	Tala	156.06	493.57	0.00	0	2.03	99.98	-	99.98	2.03
13	Barh Stage-I	-	-	-	0	-	-	-	-	-
<b>14</b>	<b>State Generating Stations</b>	<b>198</b>	<b>474.17</b>	<b>0.94</b>	<b>44.46</b>	<b>3.88</b>	<b>184.06</b>	<b>0</b>	<b>228.51</b>	<b>4.82</b>
15	KBUNL 1	132	392.82	1.13	44.46	3.89	152.85	-	197.3	5.02
16	KBUNL 2	-	-	-	-	-	-	-	-	-
17	Small Hydro (BSHPCL)	-	7.34	-	-	2.49	1.83	-	1.83	2.49
18	Barauni Stage I	66	74.01	-	-	3.97	29.38	-	29.38	3.97
19	Barauni Stage II	-	-	-	-	-	-	-	-	-
<b>20</b>	<b>IPP</b>	<b>276</b>	<b>1,133.78</b>	<b>1.89</b>	<b>213.87</b>	<b>1.05</b>	<b>119.58</b>	<b>62.78</b>	<b>396.23</b>	<b>3.49</b>
21	GMR Kamalanga Energy	156	1,123.11	1.90	213.87	1.02	114.87	62.78	391.52	3.49
22	Adani Enterprises Limited	120	10.67	-	-	4.41	4.71	-	4.71	4.41
<b>23</b>	<b>JV projects</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
24	Nabinagar Railway (4 X	-	-	-	-	-	-	-	-	-

Sl. No.	Power Purchase Sources	Approved for FY 2016-17								
		Share allocation (MW)	Energy(MU)	Fixed Charge rate (INR/MU)	Fixed charge (INR Cr)	Energy Rate (INR/kW h)	Energy charge (INR Cr)	Other charges (pl. specify (INR Cr)	Total Charges (INR Cr)	Avg. Tariff Rate (INR/ kWh)
	250 MW)									
25	Nabinagar Stage-I (3 X 660 MW)	-	-	-	-	-	-	-	-	-
26	Nabinagar JV (3 X 660 MW) Stage-II	-	-	-	-	-	-	-	-	-
<b>27</b>	<b>Renewable</b>	<b>116.4</b>	<b>137</b>	<b>-</b>	<b>0</b>	<b>6.28</b>	<b>86.09</b>	<b>0.54</b>	<b>86.63</b>	<b>6.32</b>
28	SECI	6	12.1	-	-	5.50	6.65	0.54	7.19	5.94
29	ACME Magadh	6	6.06	-	-	8.73	5.29	-	5.29	8.73
30	ACME Nalanda	9	7.99	-	-	8.72	6.97	-	6.97	8.72
31	Sunmark	6	2.76	-	-	7.03	1.94	-	1.94	7.03
32	Avantika	3	3.12	-	-	7.69	2.4	-	2.4	7.69
33	AZURE	6	4.71	-	-	8.39	3.95	-	3.95	8.39
34	Udipta Energy & Equipment Pvt ltd	3	0.18	-	-	7.78	0.14	-	0.14	7.78
35	Glatt	1.8	0.02	-	-	5.00	0.01	-	0.01	5.00
36	Welspun 2	9	6.41	-	-	8.64	5.54	-	5.54	8.64
37	Welspun 1	6	3.41	-	-	8.68	2.96	-	2.96	8.68
38	Welspun 3	9	5.9	-	-	8.56	5.05	-	5.05	8.56
39	Response Renewabe Energy	-	-	-	-	-	-	-	-	-
40	New Swadeshi Sugar Mill,Narkatiaganj	4.2	6.39	-	-	5.04	3.22	-	3.22	5.04
41	Harinagar Sugar Mills,Harinagar	6.6	28.77	-	-	5.35	15.4	-	15.4	5.35
42	Bharat SugarMills, Sidhiwalia, Gopalganj	6.6	17.38	-	-	5.09	8.84	-	8.84	5.09
43	Lauriya Sugar Mill	12	14.51	-	-	5.40	7.83	-	7.83	5.40
44	Sugauli Sugar Mill	12	8.71	-	-	5.40	4.7	-	4.7	5.40

Sl. No.	Power Purchase Sources	Approved for FY 2016-17								
		Share allocation (MW)	Energy(MU)	Fixed Charge rate (INR/MU)	Fixed charge (INR Cr)	Energy Rate (INR/kW h)	Energy charge (INR Cr)	Other charges (pl. specify (INR Cr)	Total Charges (INR Cr)	Avg. Tariff Rate (INR/kWh)
45	Hasanpur Sugar Mills,Samastipur	6	4.62	-	-	5.80	2.68	-	2.68	5.80
46	Riga Sugar Company Ltd,Sitamarhi	1.8	1.08	-	-	5.83	0.63	-	0.63	5.83
47	Siddhashram Rice Mill Cluster Pvt Ltd	0.6	1.39	-	-	7.41	1.03	-	1.03	7.41
48	BDBPL	1.8	1.49	-	-	5.77	0.86	0	0.86	5.77
<b>49</b>	<b>Open Market Purchase</b>	-	<b>1,717.42</b>	-	<b>0.00</b>	<b>3.00</b>	<b>515.34</b>	<b>0</b>	<b>515.34</b>	<b>3.00</b>
50	IEX/PXIL	-	1,133.18	-	-	2.84	321.44	-	321.44	2.84
51	DB Power	-	114.21	-	-	2.70	30.87	-	30.87	2.70
52	JAYPEE NIGRIE	-	136.89	-	-	2.75	37.62	-	37.62	2.75
53	JPL	-	15.08	-	-	2.87	4.33	-	4.33	2.87
54	GMR ETL	-	130.15	-	-	2.80	36.43	-	36.43	2.80
55	TATA ETL	-	117.32	-	-	2.85	33.4	-	33.4	2.85
56	Manikaran Power	-	-	-	-	-	-	-	-	-
57	NEA	-	0.06	-	-	5.00	0.03	-	0.03	5.00
58	NVVNL	-	36.58	-	-	2.69	9.85	-	9.85	2.69
59	PVVNL	-	0.82	-	-	6.95	0.57	-	0.57	6.95
60	Adani Short Term	-	-	-	-	-	-	-	-	-
61	UI (Net)	-	33.13	-	-	-	40.8	-	40.8	-
<b>62</b>	<b>Sub Total Power Purchase</b>	<b>2,430.02</b>	<b>14,298.16</b>	<b>1.158</b>	<b>1,656.10</b>	<b>2.330</b>	<b>3,330.76</b>	<b>130.29</b>	<b>5,117.15</b>	<b>3.579</b>
63	PGCIL	-	-	-	-	-	-	-	500.92	-
64	POSO & SLDC Charges	-	-	-	-	-	-	-	3.79	-
65	BSPTCL charges	-	-	-	-	-	-	-	138.04	-
66	BGCL	-	-	-	-	-	-	-	-	-
<b>67</b>	<b>Total Power Purchase</b>	<b>2,430.02</b>	<b>14,298.16</b>	<b>1.158</b>	<b>1,656.10</b>	<b>2.330</b>	<b>3,330.76</b>	<b>130.29</b>	<b>5,759.90</b>	<b>4.028</b>

The Commission approves the power purchase cost of Rs. 5759.90 Crore including transmission charges for purchase of 14298.16 MU for FY 2016-17 in truing-up out of which Rs. 1313.39 Crore is disallowed for 3340.36 MU excess power purchase as discussed in the subsequent para.. Hence, the Commission approves net power purchase cost of Rs. 4446.51 Crore for approved requirement of 10957.80 MU Power purchase.

#### 4.10. Disallowance of Power Purchase cost due to excess Distribution Loss

##### Petitioner's submission

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

SBPDCL has submitted the additional Power Purchase Cost incurred due to higher distribution losses of the utility when compared to the distribution loss of 34% approved under UDAY MoU trajectory is as given in the Table below:

**Table 4.22: 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	Actuals for FY 2016-17
1	Proposed resource gap assistance from State Government	2,416.23	2,416.23	2,320.34
2	Less: Disallowed power purchase funded through State Govt. grant	1,442.73	798.97	414.43
3	Available balance resource gap assistance	973.5	1,617.03	1,905.91

##### 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 petitioner has calculated the disallowed power purchase cost based on the actual losses of 39.48% and requested trajectory of 34% and claimed Rs. 414.43 crore as disallowed power purchase cost.

The Commission, while computing the Energy Balance has noticed that 3340.36 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 POSOCO charges is computed at Rs. 3.93/kWh as below:

Power Purchase Cost	= Rs. 5117.15 Crore
PGCIL Charges (incl. POSOCO)	= Rs. 504.71 Crore
<b>Power Purchase Cost incl. PGCIL charges</b>	<b>= Rs. 5621.86 Crore</b>
Power Purchased	= 14298.16 MU
Avg. Power Purchase Cost (incl. PGCIL+POSOCO Charges)	= Rs.3.93/kWh

Accordingly, the Commission has computed the disincentive for non-achievement of distribution loss reduction target at Rs. 1313.39 Crore for FY 2016-17, considering average power purchase rate including PGCIL and POSOCO charges at Rs. 3.93 per kWh as shown in the Table below:

**Table 4.23: 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	-	3340.36
2	Average Power Purchase cost	Rs/kWh	-	3.931
3	Cost of Power Purchase disallowed (1*2)	Rs. Crore	414.43	1313.39

#### 4.11. Renewable Power Purchase Obligation (RPO)

##### Petitioner's submission

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



**Table 4.24: Renewable energy purchase in FY 2016-17**

S. No.	Particulars	Unit	FY 2016-17
1	Energy consumption excluding Nepal	MU	8,548.06
2	% of RPO Obligation	%	6.50%
	Solar	%	1.50%
	Non-Solar	%	5.00%
3	MUs required as per RPO for the year	MU	555.62
	Solar	MU	128.22
	Non-Solar	MU	427.40
4	Solar Energy procured during the year	MU	52.64
5	Non-Solar Energy procured during the year	MU	91.67
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 4.25: 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%

The Commission has considered captive consumption of 32.01 MU of energy from non-solar sources during FY 2016-17 as per the report of BREDA vide letter No.297 dated 22.02.2018. The Commission considers the same as part of non solar RPO during FY 2016-17 for SBPDCL.

The Commission has noted that SBPDCL has not fully met the RPO during FY 2016-17. The purchase of Renewable Energy from BSHPC, solar and Co-generation plants by SBPDCL 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 4.26: RE Certificate Cost for FY 2016-17**

Sl. No	Particulars	Quantity Purchased (MU)
1	Solar purchase	52.66
2	Non-solar purchase	
	<i>a.co-generation</i>	84.34
	<i>b. Small Hydro (BSHPC)</i>	7.34
3	Total purchase from non solar (a+b)	91.68
4	Total purchase (Solar +Non-solar)	144.34
5	Total energy purchase	14,298.16
6	Losses	2,409.74
7	Disallowed power	3,340.36
8	Energy consumption (5-6-7)	8,548.06
9	Total RPO requirement (6.50%)	555.62
10	Solar RPO requirement (1.50%)	128.22
11	Non-solar RPO requirement (5.00%)	427.40
12	Captive consumption of RE generators (Non-solar)	32.01
13	Non-solar RECs purchased	--
14	Shortfall in solar RPO (10-1)	75.56
15	Shortfall in non-solar RPO (11-3-12-13)	303.71
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)	43.83
19	Cost of non-solar REC (Rs. Crore)	100.22
<b>20</b>	<b>Total cost of certificate (Rs. Crore)</b>	<b>144.05</b>

#### 4.12. Solar RPO

The above table indicates that SBPDCL has not met the Solar RPO during FY 2016-17 as per truing-up. 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 30<sup>th</sup> December, 2014. SBPDCL has not purchased the solar RE Certificates to fulfill the RPO in respect of solar energy shortfall of 75.56 MU. Therefore, as per the mandate of the Regulation, SBPDCL has to deposit into a separate account an equivalent amount at forbearance price of solar REC which comes to Rs. 43.83 Crore.

The Commission directs SBPDCL to deposit an amount of Rs. 43.83 Crore into a separate fund with a bank as per BEREC RPO Regulations.

The Commission has noted from the Petitioners letter no 35 dated 17.01.2018 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 SBPDCL has not met the non-solar RPO fully during FY 2016-17 as per truing-up. The non- solar RPO compliance has been worked out based on the power purchased from BSHPC, Sugar Mills and Biomass based power plants. Additionally, the captive consumption by the Sugar Mills furnished by the BREDA has also been taken into account.

As per the regulations, either non-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.3.30/kWh as per CERC order dated 30<sup>th</sup> December 2014. SBPDCL has not purchased the non-solar RE certificates to fulfil the RPO in respect of non-solar energy shortfall of 303.71 MU. Therefore, as per mandate of the regulations, SBPDCL has to deposit into a separate account an equivalent amount at forbearance price of non-solar RE Certificates which comes to Rs.100.22 crore.

The Commission directs SBPDCL to deposit an amount of Rs.100.22 crore into a separate fund with a bank as per BERC RPO Regulations.

The Commission has noted from the Petitioners letter no 35 dated 17.01.2018 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.

#### 4.14. Capital Expenditure

##### Petitioner's submission

SBPDCL has submitted the details of opening CWIP, investment and capitalisation during the year and funding of capex for FY 2016-17. The details of funding of capitalisation are also 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 4.27: 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	2355.41	3189.58	3189.58
2	Add: New Investment	3979.39	3603.21	1708.56
3	Less: Capitalisation (a+b)	<b>3167.39</b>	<b>3780.91</b>	<b>2009.89</b>
a	Opening CWIP capitalisation	1177.70	3024.73	1607.91
b	New Investment capitalisation	1989.69	756.18	401.98
4	<b>Closing CWIP (1+2-3)</b>	<b>3167.41</b>	<b>3011.88</b>	<b>2888.25</b>
5	<b>Funding of Capitalisation</b>			
a	<b>CWIP capitalisation</b>	<b>1177.70</b>	<b>3024.73</b>	<b>1607.91</b>
i	Grant	1107.04	999.06	762.83
ii	Equity		1127.01	759.43
iii	Loans	70.66	898.66	85.64
b	<b>New Investment capitalisation</b>	<b>1989.71</b>	<b>756.17</b>	<b>401.98</b>
i	Grant	1220.78	249.76	190.71
ii	Equity	406.86	281.75	189.86
iii	Loans	362.07	224.66	21.41
6	<b>Total Grants</b>	<b>2327.82</b>	<b>1248.83</b>	<b>953.54</b>
7	<b>Total Equity</b>	<b>406.86</b>	<b>1408.76</b>	<b>107.05</b>
8	<b>Total Loans</b>	<b>432.73</b>	<b>1123.31</b>	<b>949.29</b>

##### 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.1708.56 crore, capitalisation is at Rs.2009.89 Crore, grants are at Rs.954.04 crore

and Consumer contribution at Rs.16.34 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.1708.56 crore and capitalisation is at Rs.2009.89 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/SBPDCL-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 NBPDC 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 capital investment at Rs.1708.56 crore and capitalisation at Rs.2009.89 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 Commission has considered the funding of capitalisation as given hereunder:

Sl. No.	Planned Scheme	Funding of Capitalisation considered for FY 2016-17			
		Grant	Equity	Loan	Total
1	BRGF Phase-I		182.35		182.35
2	BRGF Phase-II		71.51		71.51
3	BRGF Phase-II Part C		0.52		0.52
4	BRGF RE Portion		225.30		225.30
5	NABARD Phase VIII	2.68			2.68
6	NABARD Phase XI	1.39			1.39
7	MP/CM LAD	3.29			3.29
8	Deposit schemes	1.11			1.11
9	RGVY XI plan	634.87		70.54	705.41
10	RGVY XII plan	310.21		34.47	344.68
11	RAPDRP Part B			1.65	1.65

Sl. No.	Planned Scheme	Funding of Capitalisation considered for FY 2016-17			
		Grant	Equity	Loan	Total
12	APDRP			0.39	0.39
13	ACA State Plan		86.11		86.11
14	State Plan		345.52		345.52
15	State Plan-Burnt meters		24.09		24.09
16	Own sources		13.89		13.89
	<b>Total</b>	<b>953.55</b>	<b>949.29</b>	<b>107.05</b>	<b>2009.89</b>

The Commission has considered opening CWIP at Rs.3189.58 crore for FY 2016-17 based on the closing CWIP approved for FY 2015-16 in truing up in Tariff Order dated 24.03.2017.

The Petitioner has wrongly depicted the total funding through equity at Rs.107.05 crore instead of Rs.949.29 crore and loan at Rs.949.29 crore instead of Rs.107.05 crore in its computation in the Table 4.27 above. The Commission has corrected these values and depicted correct equity and loan in the Table 4.28 given below.

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

**Table 4.28: 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	2355.41	3189.58	3189.58	3189.58
2	Add: New Investment	3979.39	3603.21	1708.56	1708.56
3	Less: Capitalisation (a+b)	<b>3167.39</b>	<b>3780.91</b>	<b>2009.89</b>	<b>2009.89</b>
a	Opening CWIP capitalisation	1177.70	3024.73	1607.91	1607.91
b	New Investment capitalisation	1989.69	756.18	401.98	401.98
4	<b>Closing CWIP (1+2-3)</b>	<b>3167.41</b>	<b>3011.88</b>	<b>2888.25</b>	<b>2888.25</b>
5	<b>Funding of Capitalisation</b>				
a	<b>CWIP capitalisation</b>	<b>1177.70</b>	<b>3024.73</b>	<b>1607.91</b>	<b>1607.90</b>
i	Grant	1107.04	999.06	762.83	762.83
li	Equity		1127.01	759.43	759.43

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
iii	Loans	70.66	898.66	85.64	85.64
<b>b</b>	<b>New Investment capitalisation</b>	<b>1989.71</b>	<b>756.17</b>	<b>401.98</b>	<b>401.99</b>
i	Grant	1220.78	249.76	190.71	190.72
ii	Equity	406.86	281.75	189.86	189.86
iii	Loans	362.07	224.66	21.41	21.41
<b>6</b>	<b>Total Grants [5a(i)+ 5b(i)]</b>	<b>2327.82</b>	<b>1248.83</b>	<b>953.54</b>	<b>953.55</b>
<b>7</b>	<b>Total Equity [5a(ii)+ 5b(ii)]</b>	<b>406.86</b>	<b>1408.76</b>	<b>949.29</b>	<b>949.29</b>
<b>8</b>	<b>Total Loans [5a(iii)+ 5b(iii)]</b>	<b>432.73</b>	<b>1123.31</b>	<b>107.05</b>	<b>107.05</b>

#### 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 31<sup>st</sup> 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 4.29: 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	6646.21	4845.02	4845.02
2	Additions during the year	3167.39	3780.91	2009.89
3	Add : IDC	28.13	73.02	--
4	Add: Expenses capitalised	13.58	--	--
<b>5</b>	<b>Closing GFA (1+2+3+4)</b>	<b>9855.31</b>	<b>8698.95</b>	<b>6854.91</b>

##### Commission's analysis:

The Commission has considered opening GFA at Rs.4845.02 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 Rs.4845.02 crore for FY 2016-17. The addition to GFA during FY 2016-17 is considered at Rs.2009.89 crore as approved in Table 4.28 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 4.30: 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	6646.21	4845.02	4845.02	4845.02
2	Additions during the year	3167.39	3780.91	2009.89	2009.89
3	Add : IDC	28.13	73.02	--	--
4	Add: Expenses capitalised	13.58	--	--	--
5	<b>Closing GFA (1+2+3+4)</b>	9855.31	8698.95	6854.91	<b>6854.91</b>

#### 4.16 Depreciation

##### Petitioner's submission:

SBPDCL 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 4.31: 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	6646.21	--	4845.02
2	Less: Value of Land	1517.37	--	1520.61
3	Net Opening GFA (1-2)	5128.85	3324.41	3324.42
4	Net Additions during the year (excl. land value)	3167.39	3767.55	2001.95
5	IDC	28.13	73.02	--
6	Expenses capitalised	13.58	--	--
7	<b>Closing GFA (3+4+5+6)</b>	8337.95	7164.98	5326.37
8	Average GFA $\{(3+7)/2\}$	6733.40	5244.69	4325.39
9	Weighted average rate of depreciation	4.63%	4.68%	4.41%
10	Depreciation (8*9)	311.76	245.20	180.84
11	Opening Grants	6317.50	2701.72	1693.59
12	Grants during the year	2327.82	1244.41	953.54



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
13	Total Grants (11+12)	8645.32	3946.13	2647.13
14	Average Grants $\{(11+13)/2\}$	7481.41	3323.93	2170.36
15	Weighted average rate of depreciation	4.63%	4.68%	6.05%
16	Depreciation on assets created out of grants (14*15)	346.39	155.40	131.38
17	<b>Net Depreciation (10-16)</b>	--	89.80	49.46

#### 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.180.84 Crore (Note 11) and amortisation of Grants is at Rs.131.38 crore (Note 21) for the year 2016-17. The Petitioner has claimed net depreciation of Rs.49.46 crore (180.84 – 131.38) 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.4845.02 crore includes value of land of Rs.1520.61 crore. Further the addition to GFA during FY 2016-17 of Rs.2009.89 crore also include land value of Rs.7.94 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 4.18% 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	4845.02
2	Less: Opening land value (as per audited accounts)	1520.61
3	Opening GFA (Opening depreciable assets) (1-2)	3324.41
4	Additions during the year	2009.89
5	Less: Value of land added during the year	7.94
6	Closing GFA (Closing depreciable assets) (3+4-5)	5326.36
7	Average GFA (3+6)/2	4325.39
8	Net Depreciation as per accounts	180.84

Sl. No.	Particulars	Amount (Rs. Crore)
9	<b>Weighted average rate of Depreciation (8/7)*100</b>	<b>4.18%</b>

The Commission has considered the opening GFA, additions to assets and closing GFA as detailed in Table 4.30. 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) (i) of the BERCL (Terms and Conditions for Determination of Tariff) Regulations 2007, specifies that ***“the value base for the purpose of depreciation shall be the historical cost of the asset”***. The Regulation 73 (2) (a) (ii) 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.1528.55 Crore (Rs.1520.61 Crore opening land value + Rs.7.94 Crore addition during the year) as per the audited annual accounts of SBPDCL for FY 2016-17.

The Commission has approved the closing grants at Rs.2701.72 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.953.55 crore) during FY 2016-17 is considered based on the capitalisation considered in Table 4.28. Further, The Petitioner vide letter no.18 dated 08.01.2018 has intimated that the State Government has granted Rs.1369.89 crore towards grant under UDAY scheme for repayment of loans under FRP. The grant is utilised for repayment of loans of Rs.1170.88 crore (along with interest) obtained for liquidation of power purchase liability and balance Rs.199.01 crore was utilised for repayment of project loan from REC (Principal Rs.193.10 crore and interest Rs.5.91 crore). The Commission accordingly has considered Rs.193.10 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.1146.65 crore (Rs.953.55 crore + Rs.193.10 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 4.32: 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	6646.21	--	4845.02	4845.02
2	Less: Value of Land	1517.37	--	1520.61	1520.61
3	Net Opening GFA (1-2)	5128.85	3324.41	3324.42	3324.41
4	Net Additions during the year (excl. land value of Rs.7.94 crore)	3167.39	3767.55	2001.95	2001.95
5	IDC	28.13	73.02	--	--
6	Expenses capitalised	13.58	--	--	--
7	<b>Closing GFA (3+4+5+6)</b>	8337.95	7164.98	5326.37	5326.36
8	Average GFA $\{(3+7)/2\}$	6733.40	5244.69	4325.39	4325.39
9	Weighted average rate of depreciation	4.63%	4.68%	4.41%	4.18%
10	Depreciation (8*9)	311.76	245.20	180.84	180.84
11	Opening Grants	6317.50	2701.72	1693.59	2701.72
12	Grants during the year	2327.82	1244.41	953.54	1146.65
13	Total Grants (11+12)	8645.32	3946.13	2647.13	3848.37
14	Average Grants $\{(11+13)/2\}$	7481.41	3323.93	2170.36	3275.05
15	Weighted average rate of depreciation	4.63%	4.68%	6.05%	4.18%
16	Depreciation on assets created out of grants (14*15)	346.39	155.40	131.38	136.93
17	<b>Net Depreciation (10-16)</b>	--	89.80	49.46	43.91

**The Commission, accordingly, approves depreciation at Rs.43.91 crore in truing up for FY 2016-17.**

#### 4.17 A. Interest on Loans

**Petitioner's submission:**

SBPDCL 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.1369.89 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 5.35% for computing interest on normative loan as given below:

Sl. No.	Particulars	FY 2016-17
<b>1</b>	<b>Opening Balance</b>	<b>392.92</b>
	REC Loans (RGGVY) 11.5%	207.08
	PFC Loans (R-APDRP) 9%	165.07
	PFC Loans (APDRP)	20.77
<b>2</b>	<b>Addition during the year</b>	<b>441.51</b>
	REC Loans (RGGVY) 11.5%	53.1
	PFC Loans (R-APDRP) 9%	39.15
	REC Loans (R-APDRP Part-B) 10.4%	349.26
<b>3</b>	<b>Repayment of loans</b>	<b>237.71</b>
	REC Loans (RGGVY) 11.5%	194.29
	PFC Loans (R-APDRP) 9%	26.96
	PFC Loans (APDRP)	16.46
<b>4</b>	<b>Closing balance</b>	<b>596.72</b>
	REC Loans (RGGVY) 11.5%	65.89
	PFC Loans (R-APDRP) 9%	177.26
	PFC Loans (APDRP)	4.31
	REC Loans (R-APDRP Part-B) 10.4%	349.26
<b>5</b>	<b>Average Loans (1+4)/2</b>	<b>494.82</b>
<b>6</b>	<b>Interest on Loans</b>	<b>26.47</b>
	PFC Loans (R-APDRP) 9%	15.26
	REC Loans (R-APDRP Part-B) 10.4%	11.21
<b>7</b>	<b>Weighted average rate of interest</b>	<b>5.35%</b>

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

**Table 4.33: 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%	3391.52
2	Less: Assets created from Grants at beginning	156.65
3	Addition during the year	1406.92
4	Less: assets created from grants during the year	667.48
5	Net assets (1-2+3-4)	3971.31
6	Less: Repayment during the year	49.46
7	<b>Amount of Debt (5-6)</b>	<b>3921.85</b>
8	<b>Average Debt</b>	<b>3681.41</b>
9	Weighted average rate of Interest on project loans	5.35%
10	<b>Interest on loan (6*7)</b>	<b>196.96</b>

**Commission's analysis:**

The Petitioner has claimed interest expenses at Rs.196.96 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.2701.72 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.228.07 crore (Rs.68.42 crore in Table 35-RoE and Rs.159.65 crore in Table 37-Interest on loan), however has considered Rs.1693.59 crore in Table 27-Depreciation for FY 2016-17. The Petitioner has not furnished reasons for adopting different values for opening Grants in the petition for computation of depreciation and RoE as well as for 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.1478.84 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.1478.84 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 normative Loan at Rs.656.71 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.2009.89 crore and Grants at Rs.953.55 crore in Table 4.28. Further, the Commission has considered Rs.193.10 crore as grant for assets capitalised under UDAY scheme as deliberated in paragraph 4.17 above. Thus the total grant of Rs.1146.65 crore (953.55+193.10) 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	2009.89
Less: Capitalisation through Grants	1146.65
Net capitalisation	863.24
Debt @ 70%	604.27
Equity @ 30%	258.97

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 5.35%. 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	$6=5/4*100$
REC	207.08	415.14	311.11	11.21	3.60%
PFC-RAPDRP	165.07	177.26	253.71	15.26	6.01%
PFC	20.77	144.30			
State Govt.	121.37	122.57	121.97	10.25	8.40%
<b>Total</b>	<b>514.29</b>	<b>859.27</b>	<b>686.79</b>	<b>36.72</b>	<b>5.35%</b>

Accordingly, the Commission has considered the rate of interest of 5.35% 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 4.34: 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 True up for FY 2016-17
1	<b>Opening loan balance</b>	493.03	656.71	--	656.71
2	Additions during the year	432.73	1823.58	--	604.27
3	Normative Repayment	0.00	89.80	--	43.91
4	Closing Loans (1+2-3)	<b>925.77</b>	<b>2390.49</b>	--	<b>1217.06</b>
5	<b>Average Loans {(1+4)/2}</b>	<b>709.40</b>	<b>1523.60</b>	<b>3681.42</b>	<b>936.89</b>
6	Interest rate	8.20%	8.20%	5.35%	5.35%
7	<b>Interest Charges ( 5*6 )</b>	<b>58.17</b>	<b>124.94</b>	<b>196.96</b>	<b>50.12</b>

The Commission, accordingly, approves Rs.50.12 Crore towards interest on loans for FY 2016-17 in true up.

#### 4.18 B. Other Interest and Finance Charges

##### Petitioner's submission:

SBPDCL 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 4.35: 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			11.79
2	Power Factor Rebate			2.81
3	Interest to suppliers/contractors (LPSC to power suppliers)			106.32
4	Interest on GPF			0.04
5	Other Bank charges			2.73
6	Base other finance charges	47.21	59.13	
7	Escalation %	10%	10%	
8	Increase in finance charges	4.72	5.91	
9	<b>Total</b>	<b>51.93</b>	<b>65.04</b>	<b>123.70</b>

SBPDCL 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.11.79 crore.

**The Commission, accordingly, approves Rs.11.79 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.2.81 crore as reported through audited accounts for FY 2016-17.

**The Commission, accordingly, approves Rs.2.81 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.106.32 crore towards LPSC to power suppliers during FY 2016-17.

The Petitioner vide letter no.178 dated 06.03.2018 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.106.32 crore for FY 2016-17.**

#### **Interest on GPF**

The Petitioner has claimed Rs.0.04 crore towards interest on GPF based on the audited accounts for FY 2016-17. The Commission observes that GPF is the liability of the Trust and are not related to the Petitioner hence cannot be passed on to the consumers. **Accordingly, interest on GPF is not considered in true up for FY 2016-17.**

#### **Other Bank charges**

As per the audited accounts for FY 2016-17, the petitioner has incurred Rs.2.73 crore towards Bank charges during FY 2016-17. **The Commission considers the bank charges of Rs.2.73 crore as they represent the bank collection charges, other finance charges, etc. in true up for FY 2016-17.**

Thus the Commission has considered other finance charges at Rs.17.33 crore (11.79+2.81+2.73) in truing up for FY 2016-17.

#### 4.19 Return on Equity

##### Petitioner's submission:

SBPDCL 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.

SBPDCL 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.

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

**Table 4.37: 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	1453.51
2	Less: Assets created out of grant at beginning	68.42
3	Addition during the year	602.97

Sl. No.	Particulars	Claimed in True up for FY 2016-17
4	Less: Assets created from grant during the year	286.06
5	Net Assets	1701.99
6	Average Equity	1577.75
7	Amount of equity eligible for return	1577.75
8	Rate of return on equity	16.00%
<b>9</b>	<b>Amount of return on equity</b>	<b>252.44</b>

### 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 dated 21.03.2016 for FY 2016-17 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.*

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, 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 RoE and Interest on loans, by the Petitioner, the total grant of Rs.228.07 crore (Rs.68.42 crore in Table 35-RoE and Rs.159.65 crore in Table 37-Interest on loan) is considered at beginning/opening grants for FY 2016-17, whereas in Table 27-Depreciation the opening grants of Rs.1693.59 crore is considered. The Petitioner has considered irrational values of grants for computation of RoE, Interest on Loan and Depreciation in the petition.

The Commission has approved closing GFA at Rs.4845.02 Crore and closing Grants at Rs.2701.72 Crore in true up for FY 2015-16. The closing GFA includes assets revalued of Rs.1478.84 Crore. The original value of GFA works out to Rs.3366.18 Crore (Rs.4845.02 Crore – Rs.1478.84 Crore). The net capital base as on 31.03.2016 works out to Rs.664.46 Crore (Original value of GFA Rs.3366.18 Crore – Grants Rs.2701.72 Crore) and the equity at 30% of the net capital base works out to Rs.199.34 crore (Rs.664.46 crore x 30%) on which the RoE shall be considered.

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.638.06 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.2009.89 Crore and funding of capitalisation for FY 2016-17 as depicted in Table 4.28. The Commission has

considered funding of capitalisation through grants at Rs.953.55 crore for FY 2016-17 as depicted in Table 4.28. Further, the Commission has considered Rs.193.10 crore as grant for assets capitalised under UDAY scheme as deliberated in paragraph 4.17 above. Thus the total grant of Rs.1146.65 crore (953.55+193.10) 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	2009.89
2	Less: capitalisation funded through grants	1146.65
3	Net capitalisation (1-2)	863.24
4	Debt @70% (3*70%)	604.27
5	Equity @30% (3*30%)	258.97

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 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 4.38: 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 SBPDCL 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		638.06		638.06
2	Rate of return on equity %		14.00%		14.00%
3	Return on Equity		89.33		89.33
	<b>Equity with effect from 1<sup>st</sup></b>				

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 SBPDCL for FY 2016-17 in truing up	Now approved for FY 2016-17 in truing up
	<b>April 2016</b>				
4	Opening equity		--		--
5	Equity addition during the year FY 2016-17		781.53		258.97
6	Closing equity (4+5)		781.53		258.97
7	Average equity (4+6)/2	132.19	390.77	1577.75	129.49
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)	20.49	60.57	252.44	20.07
<b>10</b>	<b>Total Return on equity (3+9)</b>	<b>20.49</b>	<b>149.90</b>	<b>252.44</b>	<b>109.40</b>

The Commission, accordingly, approves Return on Equity at Rs.109.40 Crore in true up for FY 2016-17.

#### 4.20 Employee Costs

##### Petitioner's submission:

SBPDCL 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 4.39: 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 SBPDCL for FY 2016-17 in truing up
1	Employee expenses	258.11	277.27	288.21
2	Inflationary index	5.25%	3.94%	--
3	Add: Inflationary increase (1*2)	13.55	10.92	--
<b>4</b>	<b>Employee Cost (1+3)</b>	<b>271.66</b>	<b>288.19</b>	<b>288.21</b>
5	Less: Expenses capitalised	13.58	--	--
<b>6</b>	<b>Total Employee Cost (4-5)</b>	<b>258.08</b>	<b>288.19</b>	<b>288.21</b>

##### 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 7<sup>th</sup> of every month to BSEE Master Trust. Accordingly, SBPDCL 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 4.40: 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 SBPDCL for FY 2016-17 in truing up	Now approved for FY 2016-17 in Truing up
1	Employee expenses	258.11	277.27	288.21	288.21
2	Inflationary index	5.25%	3.94%	--	--
3	Add: Inflationary increase (1*2)	13.55	10.92	--	--
<b>4</b>	<b>Employee Cost (1+3)</b>	<b>271.66</b>	<b>288.19</b>	<b>288.21</b>	<b>288.21</b>
5	Less: Expenses capitalised	13.58	--	--	--
<b>6</b>	<b>Total Employee Cost (4-5)</b>	<b>258.08</b>	<b>288.19</b>	<b>288.21</b>	<b>288.21</b>

**The Commission, accordingly, approves the employee cost at Rs.288.21 Crore for FY 2016-17 in true up.**

#### **4.21 Repairs and Maintenance (R&M) Expenses**

##### **Petitioner's submission:**

SBPDCL 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 4.41: 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 SBPDCL for FY 2016-17 in truing up
1	Opening GFA	6646.12	4845.02	--
2	'K' factor	1.50%	1.53%	--
3	R & M Cost (1*2)	99.69	74.13	70.77

SBPDCL 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 SBPDCL for FY 2016-17, the Petitioner has incurred Rs.70.77 Crore towards R&M expenses during FY 2016-17. It is observed that during FY 2016-17, Rs.13.75 crore and Rs.52.53 Crore is incurred towards R&M of Plant & Machinery and Lines and Cable net work respectively. 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:*

$$R\&M_n = K_b * GFAn$$

Where

*R&M<sub>n</sub> : Repairs and Maintenance expense for n<sup>th</sup> year*

*GFAn : Opening Gross Fixed Assets for n<sup>th</sup> 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 1.53% 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 the ‘K’ factor at 1.53%, approved for MYT control period of FY 2016-17 to FY 2018-19 in Tariff order dated 21.03.2016, and allowed the R&M expenses on opening GFA with ‘K’ factor for FY 2016-17 as detailed in the Table below:

**Table 4.42: 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 SBPDCL for FY 2016-17 in truing up	Now approved for FY 2016-17 in Truing up
1	Opening GFA	6646.12	4845.02	--	4845.02
2	‘K’ factor	1.50%	1.53%	--	1.53%
3	R & M Cost (1*2)	99.69	74.13	70.77	74.13

**The Commission, accordingly, approves R&M expenses at Rs.74.13 Crore in true up**

for FY 2016-17.

#### 4.22 Administrative and General (A&G) Expenses

##### Petitioner's submission

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

**Table 4.43: 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 SBPDCL for FY 2016-17 in truing up
1	A&G Expenses	46.71	46.63	56.62
2	Inflationary index	2.63%	--	--
3	Add: Inflationary increase (1*2)	1.23	--	--
<b>4</b>	<b>Total A&amp;G Cost (1+3)</b>	<b>47.93</b>	<b>46.63</b>	<b>56.62</b>

SBPDCL 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 claimed by SBPDCL in true up for FY 2016-17. SBPDCL has claimed Rs.56.62 crore for FY 2016-17 in truing up.

The Regulation 22.3 of BEREC (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:*

$$A\&G_n = (A\&G_b * WPI \text{ inflation}) + Provision$$

Where:

$A\&G_n$  : A&G expense for the year  $n$

*A&G : 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 the above, has considered the actual A&G expenses reported in the audited accounts for FY 2016-17. As per the audited annual accounts of SBPDCL for FY 2016-17, the A&G expenses incurred is at Rs.56.62 Crore (A&G expenses Rs.56.06 crore + Miscellaneous losses/write-offs Rs.0.56 crore). The miscellaneous losses/write-offs represent compensation paid in accident cases to outsiders/other than employees. The Commission has considered the total A&G expenses of Rs.56.62 crore for FY 2016-17 based on the actuals reported through audited accounts for FY 2016-17

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

**Table 4.44: 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 SBPDCL for FY 2016-17 in trueing up	Now approved for FY 2016-17 in Trueing up
1	A&G Expenses	46.71	46.63	56.62	56.62
2	Inflationary index	2.63%	--	--	--
3	Add: Inflationary increase (1*2)	1.23	--	--	--
4	<b>Total A&amp;G Cost (1+3)</b>	<b>47.93</b>	<b>46.63</b>	<b>56.62</b>	<b>56.62</b>

Accordingly, the Commission approves Rs.56.62 Crore towards A&G expenses for FY 2016-17 in true up.

#### 4.23 Allocation of Holding Company Expenses

##### Petitioner's submission

SBPDCL 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 4.45: 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 SBPDCL for FY 2016-17 in trueing up
Holding company expenses	6.52	8.33	5.44

SBPDCL 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 4.46: Holding company expenses as per audited accounts for FY 2016-17**

Particulars	Amount (Rs. Crore)
Employee expenses	17.81

Particulars	Amount (Rs. Crore)
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 4.47: 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 SBPDCL depict Rs.5.44 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 4.48: 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 SBPDCL for FY 2016-17 in truing up	Now approved for FY 2016-17 in Truing up
Holding company expenses	6.52	8.33	5.44	5.44

**The Commission, accordingly, approves Rs.5.44 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 4.49: 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 SBPDCL for FY 2016-17 in truing up	Now approved for FY 2016-17 in Truing up
1	Employee cost	271.66	288.19	288.21	288.21
2	R&M expenses	99.69	74.13	70.77	74.13
3	A&G Expenses	47.93	46.63	56.62	56.62
4	Holding Company expenses	6.52	8.33	5.44	5.44
5	<b>Total O&amp; M cost</b>	<b>425.80</b>	<b>417.28</b>	<b>421.05</b>	<b>424.40</b>
6	Less: Expenses capitalised	13.58	--	--	--
7	<b>Net O&amp; M cost</b>	<b>412.22</b>	<b>417.28</b>	<b>421.05</b>	<b>424.40</b>

**The Commission approves total O&M costs at Rs.424.40 Crore for FY 2016-17 in True up.**

#### **4.25 Interest on Security Deposit**

##### **Petitioner's submission:**

SBPDCL 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 4.50: 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 SBPDCL for FY 2016-17 in truing up
1	Opening Security Deposit	358.74	358.74
2	Addition / (Deletion)	45.58	59.50
3	Closing Security Deposit (1+2)	404.32	418.24
4	Average Security Deposit (1+3)/2	381.53	388.49
5	RBI Bank Rate	6.75%	7.75%
6	Interest on Security Deposit (5*6)	<b>25.75</b>	<b>30.11</b>

SBPDCL 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.28.80 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.10.45 crore only as detailed hereunder:

Sl. No.	Particulars	Amount (Rs. Crore)
1	Opening balance of interest payable to consumers (Note 9-Other current liabilities)	126.41
2	Interest payable during FY 2016-17 (Note 24)	28.80
3	Sub-total (1+2)	155.22
4	Closing balance of interest payable to consumers (Note 9-Other current liabilities)	144.77
5	Interest actually paid to consumers (3-4)	10.45

On a query, the Petitioner vide letter no.18 dated 08.01.2018 has submitted that interest on consumer security deposit amounting to Rs.10.45 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.18.35 crore (28.80 – 10.45) 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.10.45 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 trueing up as given in the Table below:

**Table 4.51: Interest on security deposit approved for FY 2016-17**

Sl. No.	Particulars	Rs. Crore)		
		Approved for FY 2016-17 (RE) in Tariff Order dated 24.03.2017	Claimed by SBPDCL for FY 2016-17 in truing up	Now approved for FY 2016-17 in truing up
1	Opening Security Deposit	358.74	358.74	--
2	Addition / (Deletion)	45.58	59.50	--
3	Closing Security Deposit (1+2)	404.32	418.24	--
4	Average Security Deposit (1+3)/2	381.53	388.49	--
5	RBI Bank Rate	6.75%	7.75%	--
6	Interest on Security Deposit (5*6)	<b>25.75</b>	<b>30.11</b>	<b>10.45</b>

The Commission approves interest on Consumer's Security Deposit at Rs.10.45 crore for FY 2016-17 in true up.

#### 4.26 Net Prior Period Credit / (Charges)

##### Petitioner's submission:

SBPDCL 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 4.52: Net Prior Period Credit / (Charges) claimed for FY 2016-17 (Rs. Crore)**

Sl. No.	Particulars	Expenses	Income
1	Prior period expenses	2.65	
2	Power purchase adjustment for earlier year		30.32
3	Sub-total	2.65	30.32
4	<b>Net prior period Income</b>		<b>27.67</b>

SBPDCL has requested the Commission to approve the net prior period income of Rs.27.67 crore for FY 2016-17.

##### Commission's analysis

As per the audited accounts for FY 2016-17, the prior period expenses are at Rs.2.65 crore. SBPDCL has claimed earlier year power purchase adjustment of (-) Rs.30.32 crore under prior period expenses/income for FY 2016-17. Thus the net prior period income of Rs.27.67 crore is claimed in true up for FY 2016-17.

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

Sl. No.	Particulars	Expenses	Income
1	NHPC – Rangit	0.10	
2	NHPC – Teesta		6.19
3	NTPC – Kahalgoan	11.70	
4	NTPC - Barh II		31.71
5	NTPC - Dadri I	0.98	
6	NTPC - Dadri II		0.27
7	NTPC – Farakka		39.84
8	NTPC - Korba III	0.05	
9	NTPC – Talchar	21.62	
10	Avantika	0.33	
11	Adani	4.18	
12	GMR	0.47	
13	KBUNL		1.43
14	Transmission charges	9.69	
15	<b>Total (1 to 15)</b>	<b>49.12</b>	<b>79.44</b>
16	<b>Net prior period income</b>	<b>30.32</b>	

The Commission has considered actual power purchase cost of Rs.5787.65 crore during FY 2016-17 under power purchase relating to FY 2016-17 and the prior period purchase bills of Rs.(-)30.32 crore were not considered under power purchase cost for FY 2016-17 as discussed in paragraph 4.10. The Commission, accordingly, considers Rs.(-)30.32 crore under prior period expenses/items.

The Commission has addressed the Petitioner to furnish the details of prior period expenses of Rs.2.65 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.2.65 crore of 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, not considered in truing up for FY 2016-17.

The Commission, accordingly, has considered the prior period expenses in true up for FY 2016-17 as detailed in the table below.

**Table 4.53: Net prior period charges/(income) approved for FY 2016-17**

(Rs. Crore)			
Sl. No.	Particulars	Claimed by SBPDCL for FY 2016-17 in truing up	Now approved in truing up for FY 2016-17
	<b>Prior period income</b>		
1	Prior period expenses	2.65	--
2	Prior period power purchase	(30.32)	(30.32)
3	<b>Net prior period expenses/(Income) (1+ 2)</b>	<b>(27.67)</b>	<b>(30.32)</b>

**The Commission, accordingly, approves net prior period income of Rs.30.32 crore for FY 2016-17 in true up.**

#### **4.27 Deposit for Renewable Power Purchase Obligation**

##### **Petitioner's submission:**

SBPDCL has claimed Rs.170.48 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	13.70	-	13.70	Tariff order for FY 2014-15
2	2013-14	13.00	15.40	28.40	Tariff order for FY 2015-16. Revised vide order in Case No.18/2015 dated 14.07.2015.
3	2014-15	24.46	28.02	52.48	Tariff order for FY 2016-17
	<b>Total</b>	<b>51.16</b>	<b>43.42</b>	<b>94.58</b>	

The Commission directed SBPDCL 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.187 dated 17.02.2017 has informed that Rs.80.88 crore in two installments (Rs.69.13 crore and Rs.11.75 crore) was deposited into a separate bank account on 06.08.2016. The Commission, in view of deposit of Rs.80.88 crore in a separate account in FY 2016-17 has considered the RPO obligation of Rs.80.88 crore as pass through in the ARR of FY 2016-17 in trueing up and directs the Petitioner to deposit the balance amount of Rs.13.70 crore in the separate fund with a bank.

**The Commission, accordingly, approves RPO obligation of Rs.80.88 crore as pass through in ARR for FY 2016-17 in true up.**

#### 4.28 Interest on working capital

##### **Petitioner's submission:**

SBPDCL 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%.

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

**Table 4.54: 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 SBPDCL for FY 2016-17 in truing up
1	O&M exp. (1 month)	34.35	34.77	35.09
2	Maintenance spares 40% of R&M expenses for one month	3.32	2.47	2.36
3	Receivables - 2 months	1135.01	974.55	1164.95
4	<b>Total working capital (1+2+3)</b>	<b>1172.68</b>	<b>1011.80</b>	<b>1202.39</b>
5	<b>Less:</b>			
	a. Power purchase cost, transmission charges and load dispatch charges of one month	537.33	437.62	485.23
	b. Depreciation, RoE and contingency reserve	7.72	39.95	50.32
	c. Security deposit from consumers	393.16	394.16	32.37
	d. Grant received from State Govt. for purchaser of power and other O&M expenses	162.25	269.50	69.07
	<b>Sub-total (a+b+c+d)</b>	<b>1100.46</b>	<b>1141.24</b>	<b>636.99</b>
6	<b>Net working capital requirement (4-5)</b>	<b>72.23</b>	<b>(129.44)</b>	<b>565.40</b>
7	Rate of interest %	14.75%	14.75%	14.05%
8	<b>Interest on working capital (6*7)</b>	<b>10.65</b>	--	<b>79.44</b>

### 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 1<sup>st</sup> 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 1<sup>st</sup> 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.2320.34 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 SBPDCL is reduced from the working capital requirement of SBPDCL. The two months support to SBPDCL works out to Rs.386.72 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 1<sup>st</sup> 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 4.55: 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 SBPDCL for FY 2016-17 in truing up	Now approved for FY 2016-17 in Truing up
1	O&M exp. (1 month)	34.35	34.77	35.09	35.37
2	Maintenance spares 40% of R&M expenses for one month	3.32	2.47	2.36	2.47
3	Receivables - 2 months	1135.01	974.55	1164.95	1047.54
4	<b>Total working capital (1+2+3)</b>	<b>1172.68</b>	<b>1011.80</b>	<b>1202.39</b>	<b>1085.38</b>
5	<b>Less:</b>				
	a. Power purchase cost, transmission charges and load dispatch charges of one month	537.33	437.62	485.23	479.99
	b. Depreciation, RoE and contingency reserve	7.72	39.95	50.32	25.55
	c. Security deposit from consumers	393.16	394.16	32.37	418.24
	d. Grant received from State Govt. for purchaser of power and other O&M expenses	162.25	269.50	69.07	386.72
	<b>Sub-total (a+b+c+d)</b>	<b>1100.46</b>	<b>1141.24</b>	<b>636.99</b>	<b>1310.51</b>
6	<b>Net working capital requirement (4-5)</b>	<b>72.23</b>	<b>(129.44)</b>	<b>565.40</b>	<b>(225.13)</b>
7	Rate of interest %	14.75%	14.75%	14.05%	14.05%
8	<b>Interest on working capital (6*7)</b>	<b>10.65</b>	<b>--</b>	<b>79.44</b>	<b>--</b>

**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:

SBPDCL has submitted non tariff income for FY 2016-17 as detailed in the Table below:



**Table 4.56: Projected Non-tariff Income 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 SBPDCL for FY 2016-17 in truing up
1	Non-tariff income	245.00	163.24	213.39
2	Rate of increase	10.00%	10.00%	--
3	Increase in non-tariff income	24.50	16.32	--
4	Less: Financing cost of DPS	--	--	63.99
5	<b>Total Non-tariff income</b>	<b>269.50</b>	<b>179.56</b>	<b>149.40</b>

**Commission analysis:**

The Non-Tariff income as per the audited annual accounts of SBPDCL for FY 2016-17 is at Rs.213.39 Crore (excluding amortisation of grants).

According to the audited accounts for FY 2016-17 of SBPDCL, the incentive/rebate for timely payment of power purchase bills is Rs.26.18 crore. The total power purchases (including transmission charges) is at Rs.5787.66 crore for FY 2016-17 and the rebate @ 1% works out to Rs.57.88 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.5759.90 crore for FY 2016-17 which works out to Rs.57.60 crore. The Commission accordingly has considered rebate at Rs.57.60 crore for FY 2016-17 in true up.

The Petitioner has considered the financing cost on DPS of Rs.63.99 crore and adjusted the same against the non-tariff income and net non-tariff income of Rs.149.40 crore claimed in true 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.213.39 Crore which includes Rs.81.98 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.455.44 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 computed by the Commission is shown in the Table below:

**Table 4.57: Financing cost of DPS (Rs. Crore)**

Particulars	Approved for FY 2016-17
DPS as per audited accounts (@1.5% pm)	81.98
Principal amount on which DPS charged	455.44
Interest rate for funding Principal of DPS	14.05%
Interest on funding of Principal DPS	63.99

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

**Table 4.58: 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 SBPDCL for FY 2016-17 in truing up	Now approved for FY 2016-17 in Truing up
1	Non-tariff income	245.00	163.24	213.39	213.39
2	Rate of increase	10.00%	10.00%	--	--
3	Increase in non-tariff income	24.50	16.32	--	--
4	Less: Financing cost of DPS	--	--	63.99	63.99
5	Less: Rebate as per audited accounts for FY 2016-17	--	--	--	26.18
6	Add: Rebate @1% on total power purchase (incl. transmission charges) for FY 2016-17	--	--	--	57.60
7	<b>Total Non-tariff income (1-4-5+6)</b>	<b>269.50</b>	<b>179.56</b>	<b>149.40</b>	<b>180.82</b>

**The Commission, accordingly, approves non-tariff income at Rs.180.82 Crore for FY 2016-17 in true up.**

#### **4.30 Revenue from sale of power Petitioner submission**

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

**Table 4.59: Revenue from sales of power at existing Tariff for FY 2016-17**

S.	Consumer Category	Number	Revenue	Unit Sold	ABR
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No		of Effective Consumers	form Sale of energy (INR in Crore)	Unit sold in MUs	% of Unit sold	(INR/kWh)
<b>1</b>	<b>Domestic</b>	<b>3,185,872</b>	<b>1,350.10</b>	<b>3,556.56</b>	<b>42%</b>	<b>3.80</b>
	Kutir Jyoti - BPL Consumer	831,932	89.42	325.04	4%	2.75
	Domestic – I	1,276,524	231.95	982.17	11%	2.36
	Domestic - II	1,077,407	1,028.66	2,249.21	26%	4.57
	Domestic - III	9	0.06	0.14	0%	4.43
<b>2</b>	<b>Commercial</b>	<b>262,420</b>	<b>645</b>	<b>914</b>	<b>11%</b>	<b>7.06</b>
	Non-Domestic - I	39,738	8.14	29.71	0%	2.74
	Non-Domestic - II	222,527	630.50	881.94	10%	7.15
	Non-Domestic - III	138	6.57	1.92	0%	34.20
	Non-Domestic - IV	17	0.09	0.13	0%	6.82
<b>3</b>	<b>Public Lighting</b>	<b>700</b>	<b>15.36</b>	<b>15.85</b>	<b>0%</b>	<b>9.69</b>
	Street Light – I	378	4.02	5.77	0%	6.98
	Street Light - II	322	11.33	10.07	0%	11.26
<b>4</b>	<b>Irrigation</b>	<b>144,954</b>	<b>59.96</b>	<b>233.78</b>	<b>3%</b>	<b>2.56</b>
	IAS – I	141,288	21.40	168.38	2%	1.27
	IAS – II	3,666	38.56	65.39	1%	5.90
<b>5</b>	<b>Public Water Works</b>	<b>1,391</b>	<b>43.74</b>	<b>49.63</b>	<b>1%</b>	<b>8.81</b>
<b>6</b>	<b>Industrial LT</b>	<b>28,828</b>	<b>226.42</b>	<b>318.66</b>	<b>4%</b>	<b>7.11</b>
	LTIS - I	26,179	129.47	180.63	2%	7.17
	LTIS - II	2,649	96.95	138.03	2%	7.02
<b>7</b>	<b>Industrial HT</b>	<b>1,375</b>	<b>924.92</b>	<b>1,580.69</b>	<b>18%</b>	<b>5.85</b>
	HTS – I	1,250	359.83	507.28	6%	7.09
	HTS – II	94	196.09	285.74	3%	6.86
	HTS – III	3	76.12	129.23	2%	5.89
	HTSS	13	292.88	658.44	8%	4.45
<b>8</b>	<b>Railway</b>	<b>15</b>	<b>347.87</b>	<b>563.61</b>	<b>7%</b>	<b>6.17</b>
<b>9</b>	<b>Nepal</b>				<b>0%</b>	<b>NA</b>
<b>10</b>	<b>DF – Bhagalpur &amp; Gaya</b>	<b>371,391</b>	<b>351.41</b>	<b>1,315.60</b>	<b>15%</b>	<b>2.67</b>
<b>11</b>	<b>TOTAL</b>	<b>3,996,931</b>	<b>3,956.05</b>	<b>8,548.08</b>	<b>100%</b>	<b>4.64</b>

\* Correct figure is 8548.06

### 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, SBPDCL 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 SBPDCL 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.3965.06 Crore towards sale of 8548.06 MU as per audited accounts for FY 2016-17 (excluding UI).

As discussed in the previous Para 4.3.3, the Commission has not considered UI under-drawal as sale of power and consequently receivable on account of UI under drawal has not been considered as revenue from sale of power. The same has been considered under power purchase cost.

On verification of invoice, Commission has noted that during FY 2016-17 for supply of 691.82 MU to Gaya DF, billed amount was Rs. 178.43 Crore and for supply of 623.78 MU to Bhagalpur DF, billed amount was Rs. 172.98 Crore which are inline with that shown by the petitioner.

Accordingly, the Commission has computed the revenue during FY 2016-17 on the energy sales approved in truing up for FY 2016-17 as detailed in the Table below:

**Table 4.60: Revenue from sale of power approved for FY 2016-17**

Sl.No	Consumer Category	Energy Sales (MU)	Revenue from sale of energy (Rs. Crore)	ABR (Rs./kWh)
1	<b>Domestic</b>	<b>3556.56</b>	<b>1350.09</b>	<b>3.80</b>
	Kutir Jyoti - BPL Consumer	325.04	89.42	2.75
	Domestic - I	982.17	231.95	2.36
	Domestic - II	2249.21	1028.66	4.57
	Domestic - III	0.14	0.06	4.29
2	<b>Commercial</b>	<b>913.7</b>	<b>645.3</b>	<b>7.06</b>
	Non-Domestic - I	29.71	8.14	2.74
	Non-Domestic - II	881.94	630.5	7.15
	Non-Domestic - III	1.92	6.57	34.22
	NDS-IV	0.13	0.09	6.92
3	<b>Public Lighting</b>	<b>15.84</b>	<b>15.35</b>	<b>9.69</b>
	Street Light - I	5.77	4.02	6.97
	Street Light - II	10.07	11.33	11.25
4	<b>Irrigation</b>	<b>233.77</b>	<b>59.96</b>	<b>2.56</b>

Sl.No	Consumer Category	Energy Sales (MU)	Revenue from sale of energy (Rs. Crore)	ABR (Rs./kWh)
	IAS - I	168.38	21.4	1.27
	IAS - II	65.39	38.56	5.90
5	<b>Public Water Works</b>	<b>49.63</b>	<b>43.74</b>	<b>8.81</b>
6	<b>Industrial LT</b>	<b>318.66</b>	<b>226.42</b>	<b>7.11</b>
	LTIS - I	180.63	129.47	7.17
	LTIS - II	138.03	96.95	7.02
7	<b>Industrial HT</b>	<b>1580.69</b>	<b>924.92</b>	<b>5.85</b>
	HTS - I	507.28	359.83	7.09
	HTS - II	285.74	196.09	6.86
	HTS - III	129.23	76.12	5.89
	HTSS	658.44	292.88	4.45
8	<b>Railway</b>	<b>563.61</b>	<b>347.87</b>	<b>6.17</b>
9	<b>Nepal</b>	0.00	0.00	<b>0.00</b>
10	<b>DF Bhagalpur &amp; Gaya (energy supplied)</b>	<b>1315.6</b>	<b>351.41</b>	<b>2.67</b>
11	<b>TOTAL</b>	<b>8,548.06</b>	<b>3,965.06</b>	<b>4.64</b>

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

##### Petitioner's submission

SBPDCL, in the ARR has shown that the subsidy received for FY 2016-17 is Rs.2320.34 Crore. The Petitioner has furnished utilization of subsidy amount as detailed in the Table below:

**Table 4.61: 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 SBPDCL for FY 2016-17 in truing up
1	Resource gap grant received from State Govt.	2416.23	2416.00	2320.34
2	<b>Less:</b> Disallowed power purchase funded through State Govt. grant/subsidy	1442.73	798.97	414.43
3	Available Revenue Subsidy	973.50	1617.03	1905.91

##### Commission's analysis:

The Commission has observed from the audited accounts of the SBPDCL Rs.2320.34

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 SBPDCL Rs.2416.00 crore and NBPDC Rs.1418.00 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 (SBPDCL Rs.2320.34 crore and NBPDC Rs.1513.66 crore).

The Commission has considered the resource gap assistance of Rs.2320.34 crore as per the audited accounts of SBPDCL for FY 2016-17 and adjusted the cost of additional power purchase requirement on account of difference in actual distribution loss of SBPDCL and distribution loss approved by the Commission from resource gap funding by the State Government as detailed in the Table below:

**Table 4.62: 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 SBPDCL for FY 2016-17 in truing up	Now approved for FY 2016-17 in Truing up
1	Resource gap grant received from State Govt.	2416.23	2416.00	2320.34	2320.34
2	<b>Less:</b> Disallowed power purchase funded through State Govt. grant/subsidy	1442.73	798.97	414.43	1313.39
3	Available Revenue Subsidy	973.50	1617.03	1905.91	1006.95

#### **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 4.63: 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 SBPDCL for FY 2016-17 in truing up
1	Purchase of power	5836.29	4668.72	5156.64
2	PGCIL & Other transmission charges	450.47	419.44	504.71
3	BSPTCL transmission charges	161.15	163.32	161.35
4	D to D purchases	--	(118.88)	--
<b>5</b>	<b>O &amp; M Expenses (A+B+C+D)</b>	<b>412.22</b>	<b>417.28</b>	<b>421.05</b>
A	Employee expenses	258.08	288.19	288.21
B	R&M expenses	99.69	74.13	70.77
C	A&G expenses	47.93	46.63	56.62
D	Holding company expenses	6.52	8.33	5.44
6	Depreciation	--	89.80	49.46
7	Interest on loan	58.17	124.94	196.96
8	Other finance charges	51.93	65.04	123.70
9	Return on equity	20.49	149.90	252.44
10	Interest on SD	27.99	25.75	30.11
11	Deposit for RPO obligation	52.48	94.58	170.48
12	Contingency Reserve	25.84	--	--
13	Prior period charges	--	--	(27.67)
14	Interest on working capital	10.65	--	79.44
15	Less: IDC	28.13	73.02	--
<b>16</b>	<b>Total Revenue requirement (1 to 16)</b>	<b>7079.56</b>	<b>6026.87</b>	<b>7118.66</b>
17	Less: Non-tariff income	269.50	179.56	149.40
18	Less: Expenditure disallowed due to excess T&D losses	1442.73	798.97	414.43
<b>19</b>	<b>Net Revenue requirement (16-17-18)</b>	<b>5367.32</b>	<b>5048.34</b>	<b>6554.33</b>
20	Revenue from Existing tariff	4221.12	3654.46	3965.06
<b>21</b>	<b>Gross Gap / (Surplus) (19-20)</b>	<b>1146.20</b>	<b>1393.88</b>	<b>2589.27</b>
22	Subsidy from State Government	2416.23	2416.00	2320.34
23	Subsidy utilised for disallowed power	1442.73	798.97	414.43
24	Subsidy available for revenue gap (22-23)	973.50	1617.03	1905.91
<b>25</b>	<b>Net Gap / (Surplus) (21-24)</b>	<b>172.70</b>	<b>(223.15)</b>	<b>683.37</b>

#### 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 4.64: 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 SBPDCL for FY 2016-17 in truing up	Now approved for FY 2016-17 in truing up
1	Purchase of power	5836.29	4668.72	5156.64	5117.15
2	PGCIL & Other transmission charges	450.47	419.44	504.71	504.71
3	BSPTCL transmission charges	161.15	163.32	161.35	138.04
4	D to D purchases	--	(118.88)	--	--
<b>5</b>	<b>O &amp; M Expenses (A+B+C+D)</b>	<b>412.22</b>	<b>417.28</b>	<b>421.05</b>	<b>424.40</b>
A	Employee expenses	258.08	288.19	288.21	288.21
B	R&M expenses	99.69	74.13	70.77	74.13
C	A&G expenses	47.93	46.63	56.62	56.62
D	Holding company expenses	6.52	8.33	5.44	5.44
6	Depreciation	--	89.80	49.46	43.91
7	Interest on loan	58.17	124.94	196.96	50.12
8	Other finance charges	51.93	65.04	123.70	17.33
9	Return on equity	20.49	149.90	252.44	109.40
10	Interest on SD	27.99	25.75	30.11	10.45
11	Deposit for RPO obligation	52.48	94.58	170.48	80.88
12	Contingency Reserve	25.84	--	--	--
13	Prior period charges	--	--	(27.67)	(30.32)
14	Interest on working capital	10.65	--	79.44	--
15	Less: IDC	28.13	73.02	--	--
<b>16</b>	<b>Total Revenue requirement (1 to 16)</b>	<b>7079.56</b>	<b>6026.87</b>	<b>7118.66</b>	<b>6466.08</b>
17	Less:: Non-tariff income	269.50	179.56	149.40	180.82
18	Less: Expenditure disallowed due to excess T&D losses	1442.73	798.97	414.43	1313.39
<b>19</b>	<b>Net Revenue requirement (16-17-18)</b>	<b>5367.32</b>	<b>5048.34</b>	<b>6554.33</b>	<b>4971.88</b>
20	Revenue from Existing tariff	4221.12	3654.46	3965.06	3965.06
<b>21</b>	<b>Gross Gap / (Surplus) (19-20)</b>	<b>1146.20</b>	<b>1393.88</b>	<b>2589.27</b>	<b>1006.82</b>
22	Subsidy from State Government	2416.23	2416.00	2320.34	2320.34
23	Subsidy utilised for disallowed power	1442.73	798.97	414.43	1313.39
24	Subsidy available for revenue gap (22-23)	973.50	1617.03	1905.91	1006.95
<b>25</b>	<b>Net Gap / (Surplus) (21-24)</b>	<b>172.70</b>	<b>(223.15)</b>	<b>683.37</b>	<b>(0.14)</b>

The Commission approves the **net revenue Surplus** of Rs.0.14 Crore for FY 2016-17 in true up, as against revenue gap of Rs.683.37 Crore claimed by the Petitioner in the truing up petition for FY 2016-17.

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## 5. Review for FY 2017-18

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### 5.1. Background

SBPDCL has filed the present petition on 5<sup>th</sup> December, 2017 which includes Annual Performance Review (APR) for FY 2017-18. SBPDCL 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: Number of Consumers, Connected Load and Sales projected for FY 2017-18 (RE)**

Category	Number of Consumers	Connected Load (KW)	Energy Sales (MU)
<b>Domestic</b>	<b>3,837,462</b>	<b>4,137,878</b>	<b>4,875.82</b>
Kutir Jyoti- BPL Consumers	1,172,518	97,449	435.54
Domestic – I	1,533,667	1,655,472	1,333.46
Domestic – II	1,131,277	2,384,957	3,106.82
Domestic - III	0	0	0.00
<b>Commercial</b>	<b>304,973</b>	<b>1,046,774</b>	<b>1,029.30</b>
Non-Domestic - I	55,789	65,338	41.71
Non-Domestic - II	249,184	981,436	987.59
Non-Domestic - III	0.00	0.00	0.00
<b>Public Lighting</b>	<b>969</b>	<b>5,836</b>	<b>23.63</b>
Street Light - I	591	3,205	11.80
Street Light - II	378	2,631	11.83
<b>Irrigation</b>	<b>171,821</b>	<b>428,188</b>	<b>447.90</b>
IAS – I	167,788	383,966	312.17
IAS – II	4,033	44,222	135.74
<b>Public Water Works</b>	<b>1,782</b>	<b>25,031</b>	<b>100.08</b>
<b>Industrial LT</b>	<b>30,486</b>	<b>436,991</b>	<b>459.77</b>
LTIS - I	27,572	285,835	307.94
LTIS - II	2,914	151,156	151.83
<b>Industrial HT</b>	<b>1,518</b>	<b>670,056</b>	<b>1,888.25</b>
HTS - I	1,385	292,485	562.06
HTS - II	113	175,030	343.50
HTS - III	4	81,500	172.31
HTSS	16	121,041	810.39
<b>Railway</b>	<b>15</b>	<b>170,200</b>	<b>563.61</b>
<b>Nepal</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>U I</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>DF</b>	<b>412,453</b>	<b>672629</b>	<b>1,421.98</b>
<b>Total</b>	<b>4,761,479</b>	<b>7593583</b>	<b>10810.34</b>

On a query by the Commission SBPDCL had submitted Slab-wise details of Consumers, Connected load and Sales for FY 2017-18 vide email dated 21.02.2018 by the petitioner.

**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)
<b>Kutir Jyoti</b>			
Unmetered	36776	3056	17.57
Metered (0-50)	1135742	94392	417.96
<b>Total - KJ</b>	<b>1172518</b>	<b>97449</b>	<b>435.54</b>
<b>DS-I (Rural)</b>			

Category	Consumers	Connected Load (KW)	Sales (MU)
Unmetered	30673	32460	26.67
Metered			
First 50 Units	1581360	1379560	811.70
51 - 100 Units	167438	146071	107.32
Above 100 Units	111625	97381	387.77
<b>Total</b>	<b>1533667</b>	<b>1655472</b>	<b>1333.46</b>
<b>DS-II</b>			
1-100 U/Month	282811	596213	403.89
101 - 200 U/Month	509060	1073183	1056.32
201 -300 U/Month	282811	596213	1211.66
above 300 U/Month	56595	119349	434.95
<b>Total</b>	<b>1131277</b>	<b>2384957</b>	<b>3106.82</b>
<b>NDS-I (Rural)</b>			
Unmetered	880	374	0.21
Metered			
1-100 U/Month	25797	27681	14.60
101 - 200 U/Month	24115	31011	19.19
above 200 U/Month	4997	6272	7.71
<b>Total</b>	<b>55789</b>	<b>65338</b>	<b>41.71</b>
<b>NDS-II</b>			
Contract Demand < 0.5 kW	3929	5624	5.05
Contract Demand > 0.5 kW	0	0	0.00
First 100 Units	115221	415794	512.56
101 - 200 Units	107712	465814	411.16
Above 200 Units	22321	94205	58.83
<b>Total</b>	<b>249184</b>	<b>981436</b>	<b>987.59</b>
<b>IAS-I</b>			
Unmetered	105717	241922	273.33
Metered	62071	142044	38.83
<b>Total</b>	<b>167788</b>	<b>383966</b>	<b>312.17</b>
<b>IAS-II</b>			
Unmetered	1747	19162	75.01
Metered	2285	25061	60.73
<b>Total</b>	<b>4033</b>	<b>44222</b>	<b>135.74</b>
<b>LTIS</b>			
LTIS-I	27572	285835	307.94
LTIS-II	2914	151156	151.83
<b>Total - LTIS</b>	<b>30486</b>	<b>436991</b>	<b>459.77</b>
<b>PWW - Public Water Works</b>			
PWW	1782	25031	100.08
<b>Total PWW</b>	<b>1782</b>	<b>25031</b>	<b>100.08</b>
<b>Street Light Services</b>			
SS-Metered	591	3205	11.80
SS-Unmetered	378	2631	11.83
<b>Total - Street Light</b>	<b>969</b>	<b>5836</b>	<b>23.63</b>
HTS-I (11 kV)	1385	292485	562.06

Category	Consumers	Connected Load (KW)	Sales (MU)
HTS-II (33 kV)	113	175030	343.50
HTS-III (132 kV)	4	81500	172.31
HTS-IV (220 kV)	0	0	0.00
HTSS (33 / 11 kV)	16	121041	810.39
<b>Total - HTS &amp; HTSS</b>	<b>1518</b>	<b>670056</b>	<b>1888.25</b>
RTS (132 kV)	15	170200	563.61
DF	412453	672629	1421.98
<b>Grand Total</b>	<b>4761479</b>	<b>7593583</b>	<b>10810.34</b>

SBPDCL has submitted that for projecting the 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 Resolutions 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

SBPDCL 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 SBPDCL 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 SBPDCL to submit the category-wise estimated number of consumers, sales and connected load of Gaya and Bhagalpur

DF areas for FY 2017-18. The Petitioner has submitted the details in their letter dated 08.01.2018 as follows:

**For Gaya DF for FY 2017-18**

Sl. No	Category	Consumers	Connected Load (KW)	Sales (MU)
1	KJY	52139	10428	23
2	DSI	24667	23434	24
3	DSII	95549	181588	270
4	NDS I Commercial	1432	2735	1
5	NDS II Commercial	20897	68656	83
5	SS I	204	879	4
6	SS II	44	243	1
7	IAS I	5357	9922	10
8	IAS II	17	149	1
9	PWW	130	1451	7
10	LTIS I	2414	19882	27
11	LTIS II	75	3091	4
12	HTS I	88	14764	36
13	HTS II	2	2461	6
14	HTS III	0	0	0
15	HTSS	0	0	0
16	RT	0	0	0
<b>17</b>	<b>Total</b>	<b>203015</b>	<b>339683</b>	<b>496</b>

**For Bhagalpur for FY 2017-18**

Sl. No	Category	Consumers	Connected Load (KW)	Sales (MU)
1	KJY	40774	10193	18
2	DSI	61642	58560	59
3	DSII	83573	160877	236
4	NDS I Commercial	1964	3750	1
5	NDS II Commercial	15337	50390	61
5	SS I	31	133	1
6	SS II	62	340	2
7	IAS I	2323	4303	4
8	IAS II	99	883	3
9	PWW	113	1265	6
10	LTIS I	3410	28085	38
11	LTIS II	52	2143	3
12	HTS I	57	9563	23
13	HTS II	2	2461	6
14	HTS III	0	0	0
15	HTSS	0	0	0
16	RT	0	0	0
<b>17</b>	<b>Total</b>	<b>209439</b>	<b>332946</b>	<b>462</b>

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

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

#### 5.3.1 Number of consumers

##### For SBPDCL area (excluding DFs)

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 340586, 257143 and 26500 respectively and for other categories the addition of consumers is projected based on CAGR (YoY, 2 Year or 3 year).

##### 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	4,43,182	4,18,817	5,28,381	8,31,932	23.36%	40.94%	57.45%
Domestic – I	2,97,781	7,01,786	10,12,042	12,76,524	62.45%	34.87%	26.13%
Domestic – II	8,21,797	8,69,238	9,68,267	10,77,407	9.45%	11.33%	11.27%
Domestic - III	25	15	40	9	-28.86%	-22.54%	-77.50%
Non-Domestic – I	7,871	16,222	28,305	39,738	71.55%	56.51%	40.39%
Non-Domestic – II	1,58,479	1,67,095	1,92,276	2,22,527	11.98%	15.40%	15.73%
Non-Domestic – III	143	135	205	155	2.72%	7.15%	-24.39%
Non-Domestic - IV	0	0	0	0			
Street Light – I	99	138	193	378	56.30%	65.50%	95.85%
Street Light – II	178	183	274	322	21.85%	32.65%	17.52%
IAS – I	45,969	46,031	61,824	1,41,288	45.39%	75.20%	128.53%
IAS – II	1,691	1,862	2,045	3,666	29.42%	40.32%	79.27%
Public Water Works	662	670	900	1,391	28.08%	44.09%	54.56%
LTIS – I	9,809	10,811	13,138	26,179	38.71%	55.61%	99.26%
LTIS – II	1,215	1,364	2,095	2,649	29.67%	39.36%	26.44%
HTS – I	919	1,010	955	1,250	10.80%	11.25%	30.89%
HTS – II	120	67	80	94	-7.82%	18.45%	17.50%
HTS – III	2	3	3	3	14.47%	0.00%	0.00%
HTSS	15	13	14	13	-4.66%	0.00%	-7.14%
<b>Railway</b>	<b>17</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>-4.09%</b>	<b>0.00%</b>	<b>0.00%</b>

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 on high side. However, the Commission has considered a growth rate of 20% for reasonable estimation of

the consumers of IAS-II category. For LTIS-I and LTIS-II, the Petitioner has considered a growth rates of 5.32% and 10% respectively, whereas the CAGRs of earlier years are above 38%. Hence, for these two categories, the Commission has considered a nominal growth rate of 20%. For SS-I category the Petitioner has considered a growth rate of 56.30% (3 Year CAGR) which may not be sustainable and hence the Commission considers a 20% nominal growth rate for this category. The Commission has considered a growth rate of 17.5% (1 year) as against 20% projection by the petitioner for projection of number of consumers of HTS-II

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

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

**Table 5.3: Number of Consumers approved for SBPDCL (excluding DF) FY 2017-18 (RE)**

Category	Actuals for FY 2016-17	New Connections/ Growth rate Considered by Petitioner for projection	Projected by Petitioner for FY 2017-18	New Connections/ Growth rate Considered by Commission	Approved by Commission for FY 2017-18 (RE)
Kutir Jyoti	831932	340586	1172518	340586	1172518
Domestic-I	1276524	257143	1533667	257143	1533667
Domestic-II	1077407	5.00%	1131277	9.45%(3 yr)	1179222
Domestic-III	9		0		
Non-Domestic-I	39738	16051	55789	16051	55789
Non-Domestic-II	222527	11.98%	249184	11.98%(3 yr)	249184
Non-Domestic-III	155		0		
Street Light-I	378	56.35%	591	20%	454
Street Light-II	322	17.39%	378	17.52%(3yr)	378
IAS-I	141288	26500	167788	26500	167788
IAS-II	3666	10.01%	4033	20%(nominal)	4399
Public Water Works	1391	28.11%	1782	28.08%(3 yr)	1782
LTIS-I	26179	5.32%	27572	20%(nominal)	31415
LTIS-II	2649	10%	2914	20%(nominal)	3179
HTS-I	1250	10.80%	1385	10.8% (3 yr)	1385
HTS-II	94	20.21%	113	17.50 (1 yr)	110
HTS-III	3	1	4	1	4
HTSS	13	3	16	3	16
Railway	15		15	0	15
<b>Total</b>	<b>3625540</b>	<b>19.95%</b>	<b>4349026</b>	<b>21.39%</b>	<b>4401305</b>



## Distribution Franchisees

### For Gaya DF

The Petitioner has considered growth rates of 10.78% across all the categories, without considering category-wise past period trend or growth, for projection of number of consumers for FY 2017-18 (RE) for Gaya DF.

The actual category-wise number of consumers and CAGR in the Gaya DF are as shown in the Table above:

#### Category-wise number of consumers in past 3 years for Gaya DF area

Consumer Category	FY 2014-15	FY 2015-16	FY 2016-17	2 Years	YoY
Kutir Jyoti	17,684	28,916	47,065	63.14%	62.76%
Domestic – I	12,649	17,501	22,266	32.68%	27.23%
Domestic – II	70,817	79,875	86,247	10.36%	7.98%
Domestic - III		4	4		0.00%
Non-Domestic – I	393	960	1,293	81.39%	34.69%
Non-Domestic – II	14,081	17,165	18,810	15.58%	9.58%
Non-Domestic – III	57	82	53	-3.57%	-35.37%
Non-Domestic - IV		-	-		
Street Light – I		59	184		211.86%
Street Light – II	58	25	40	-16.95%	60.00%
IAS – I	3,103	3,774	4,836	24.84%	28.14%
IAS – II	8	15	15	36.93%	0.00%
Public Water Works	27	38	117	108.17%	207.89%
LTIS – I	1649	2,011	2,179	14.95%	8.35%
LTIS – II	86	65	68	-11.08%	4.62%
HTS – I	58	72	79	16.71%	9.72%
HTS – II	2	2	2	0.00%	0.00%
HTS – III		0	0		
HTSS		0	0		
Railway		0	0		

By adopting appropriate growth rate for each category based on the CAGR of past years, the Commission has estimated the number consumers for FY 2017-18 (RE). 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 for Gaya DF area are as given in the Table below:

**Table 5.4: Number of consumers approved for Gaya DF for FY 2017-18 (RE)**

Sl.No	Category	Actuals for FY 2016-17	Growth rate Considered by Petitioner for projection	Projected by Petitioner for FY 2017-18	Growth rate Considered by Commission	Approved by Commission for FY 2017-18
1	Kutir Jyoti	47065	10.78%	52139	20%	56478
2	Domestic-I	22266	10.78%	24667	20%	26719
3	Domestic-II	86247	10.78%	95549	7.98%	93130
4	Domestic-III	4		0		
5	Non-Domestic-I	1293	10.78%	1432	20%	1552
6	Non-Domestic-II	18810	10.78%	20897	9.58%	20612
7	Non-Domestic-III	53		0		
8	Street Light-I	184	10.78%	204	10%	202
9	Street Light-II	40	10.78%	44	10%	44
10	IAS-I	4836	10.78%	5357	20%	5803
11	IAS-II	15	10.78%	17	10%	17
12	Public Water Works	117	10.78%	130	20%	140
13	LTIS-I	2179	10.78%	2414	8.35%	2361
14	LTIS-II	68	10.78%	75	4.62%	71
15	HTS-I	79	10.78%	88	9.72%	87
16	HTS-II	2	0.00	2	0	2
17	HTS-III	0	0.00	0		0
18	HTSS	0	0.00	0		0
19	Railway	0	0.00	0		0
<b>20</b>	<b>Total</b>	<b>183258</b>	<b>10.78</b>	<b>203015</b>		<b>207218</b>

**For Bhagalpur DF**

The Petitioner has considered growth rates of 10% across all the categories, without considering category-wise past period trend or growth, for projection of number of consumers for FY 2017-18 (RE) for Bhagalpur DF.

The actual category-wise number of consumers and CAGR in the Bhagalpur DF is as shown in the Table below:

**Table 5.5: Category-wise number of consumers in past 4 years for Bhagalpur DF area**

Consumer Category	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	3 Years	2 Years	YoY
Kutir Jyoti- BPL Consumers	-	37,433	37,400	37,067		-0.49%	-0.89%
Domestic – I	25,743	40,192	50,525	56,038	29.60%	18.08%	10.91%
Domestic – II	51,561	66,880	71,142	75,959	13.79%	6.57%	6.77%
Domestic - III	11	11	12	16	13.30%	20.60%	33.33%
Non-Domestic – I	1,330	1,330	1,565	1,785	10.31%	15.85%	14.06%
Non-Domestic – II	11,697	11,697	12,704	13,890	5.90%	8.97%	9.34%
Non-Domestic – III	23	23	38	53	32.08%	51.80%	39.47%
Non-Domestic - IV		-	-	-			
Street Light – I	14	14	24	28	25.99%	41.42%	16.67%
Street Light – II	12	30	60	56	67.11%	36.63%	-6.67%
IAS – I	1,211	1,745	1,940	2,112	20.37%	10.01%	8.87%
IAS – II	41	65	83	90	29.96%	17.67%	8.43%

Consumer Category	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	3 Years	2 Years	YoY
Public Water Works	10	52	99	103	117.58%	40.74%	4.04%
LTIS – I	2,401	2,931	3,017	3,100	8.89%	2.84%	2.75%
LTIS – II	39	51	71	52	10.06%	0.98%	-26.76%
HTS – I	31	41	51	57	22.51%	17.91%	11.76%
HTS – II	2	0	0	2	0.00%		
HTS – III		0	0	0			
HTSS		0	0	0			
Railway		0	0	0			

By adopting appropriate growth rate for each category based on CAGR of past years the Commission has estimated the number of consumers for FY 2017-18 (RE). 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 for Bhagalpur DF area are as given in the Table below:

**Table 5.6: Number of consumers approved for Bhagalpur DF for FY 2017-18 (RE)**

Sl.no	Category	Actuals for FY 2016-17	Growth rate Considered by Petitioner for projection	Projected by Petitioner for FY 2017-18	Growth rate Considered by Commission	Approved by Commission for FY 2017-18
1	Kutir Jyoti	37067	10%	40774	10%	40774
2	Domestic-I	56038	10%	61642	10.91%(1yr)	62152
3	Domestic-II	75959	10%	83573	6.77%(1 yr)	81101
4	Domestic-III	16		0		
5	Non-Domestic-I	1785	10%	1964	10.31%(3yr)	1969
6	Non-Domestic-II	13890	10%	15337	9.34%(1 yr)	15187
7	Non-Domestic-III	53				
8	Street Light-I	28	10%	31	16.69% (1 yr)	33
9	Street Light-II	56	10%	62	10%	62
10	IAS-I	2112	10%	2323	8.89%(1 yr)	2300
11	IAS-II	90	10%	99	8.43%(1 yr)	98
12	Public Water Works	103	10%	113	4.04%(1 yr)	107
13	LTIS-I	3100	10%	3410	2.75%(1 yr)	3185
14	LTIS-II	52	10%	52	0	52
15	HTS-I	57	0.00	57	0	57
16	HTS-II	2	0.00	2	0	2
17	HTS-III	0	0.00			
18	HTSS	0	0.00			
19	Railway	0	0.00	0		
<b>20</b>	<b>Total</b>	<b>190408</b>		<b>209439</b>		<b>207079</b>

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 5.7: Category-wise number of consumers approved for SBPDCL including DFs for FY 2017-18 (RE)**

Category	SBPDCL	Gaya	Bhagalpur	Total
<b>Domestic</b>				
<b>Kutir Jyoti</b>				
Unmetered	36776			36776
Metered (0-50)	1135742			1135742
<b>Total – KJ</b>	1172518	56478	40774	1269770
<b>DS-I (Rural)</b>				
<b>Unmetered</b>	30673			30673
<b>Metered</b>				
First 50 Units	1277545			1277545
51 - 100 Units	135269			135269
Above 100 Units	90179			90179
<b>Total</b>	1533667	26719	62152	1622538
<b>DS-II (Urban- Demand Based)</b>				
1-100 U/Month	294797			294797
101 - 200 U/Month	530635			530635
201 -300 U/Month	294797			294797
above 300 U/Month	58993			58993
<b>Total</b>	1179222	93130	81101	1353453
<b>NDS-I (Rural)</b>				
<b>Unmetered</b>	880			880
<b>Metered</b>				
1-100 U/Month	25797			25797
101 - 200 U/Month	24115			24115
above 200 U/Month	4997			4997
<b>Total</b>	55789	1552	1969	59310
<b>NDS-II (Demand Based)</b>				
<b>Contract Demand &lt; 0.5 kW</b>	3929			3929
<b>Contract Demand &gt; 0.5 kW</b>				
First 100 Units	115222			115222
101 - 200 Units	107712			107712
Above 200 Units	22321			22321
<b>Total</b>	249184	20612	15187	284983
<b>IAS-I (Pvt Tubewell)</b>				
Unmetered	105717			105717
Metered	62071			62071
<b>Total</b>	167788	5803	2300	175891
<b>IAS-II (State Tubewell)</b>				
Unmetered	1906			1906
Metered	2493			2493
<b>Total</b>	4399	17	98	4514
<b>LTIS</b>				
LTIS-I (Contract Demand < 19 kW)	31415	2361	3185	36961

Category	SBPDCL	Gaya	Bhagalpur	Total
LTIS-II (Contract Demand 19-74 kW))	3179	71	52	3302
<b>Total – LTIS</b>	<b>34594</b>	<b>2432</b>	<b>3237</b>	<b>40263</b>
<b>PWW - Public Water Works (Demand Based)</b>				
PWW	1782	140	107	2029
<b>Total PWW</b>	<b>1782</b>	<b>140</b>	<b>107</b>	<b>2029</b>
<b>Street Light Services</b>				
SS-Metered	454	202	33	689
SS-Unmetered	378	44	62	484
<b>Total - Street Light</b>	<b>832</b>	<b>246</b>	<b>95</b>	<b>1173</b>
HTS-I (11 kV)	1385	87	57	1529
HTS-II (33 kV)	110	2	2	114
HTS-III (132 kV)	4	0	0	4
HTS-IV (220 kV)	0	0	0	0
HTSS (33 / 11 kV)	16	0	0	16
<b>Total - HTS &amp; HTSS</b>	<b>1515</b>	<b>89</b>	<b>59</b>	<b>1663</b>
<b>RTS (132 kV)</b>	<b>15</b>	<b>0</b>	<b>0</b>	<b>15</b>
<b>Total</b>	<b>4401305</b>	<b>207218</b>	<b>207079</b>	<b>4815602</b>

### 5.3.2 Connected Load

#### SBPDCL Area

SBPDCL 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) except for HTS-III and RTS categories. However, wherever the number of consumers is revised, the connected load is also revised.

For HTS-III category, the average connected load per consumer is considered as per actuals of FY 2016-17 at 10950 KW and multiplying it with the number of consumers, where as the Petitioner has considered very high load of 20375 KW per consumers.

For RTS category, the connected load is considered as per actuals in FY 2016-17 as there is no addition in number of connections.

**Table 5.8: Connected Load approved for SBPDCL (excluding DFs) for FY 2017-18**

Sl.No	Category	Projected consumers by petitioner	Projected Connected Load by petitioner (KW)	Approved Consumers by commission	Approved Connected Load by Commission (KW)
1	Kutir Jyoti BPL Consumers	1172518	97449	1172518	97449
2	Domestic-I	1533667	1655472	1533667	1655472
3	Domestic-II	1131277	2384957	1179222	2486034
4	Non-Domestic-I	55789	65338	55789	65338
5	Non-Domestic-II	249184	981436	249184	981436
6	Street Light-I	591	3205	454	2462
7	Street Light-II	378	2631	378	2631
8	IAS-I	167788	383966	167788	383966
9	IAS-II	4033	44222	4399	48235
10	Public Water Works	1782	25031	1782	25031
11	LTIS-I	27572	285835	31415	325675
12	LTIS-II	2914	151156	3179	164902
13	HTS-I	1385	292485	1385	292485
14	HTS-II	113	175030	110	170383
15	HTS-III	4	81500	4	43800
16	HTSS	16	121041	16	121041
17	Railway	15	170200	15	151380
18	<b>Total</b>	<b>4349026</b>	<b>6920954</b>	<b>4401305</b>	<b>7017720</b>

**Gaya DF**

The Commission has revised the category-wise connected load for Gaya DF based on the number of consumers approved for FY 2017-18 (RE) and adopting the average load per consumer as considered by the petitioner as shown in the Table below:

**Table 5.9: Connected Load approved for Gaya DF for FY 2017-18**

Sl. No	Category	Projected consumers by petition	Projected Connected Load by petitioner (KW)	Approved Consumers by Commission	Approved Connected Load by Commission for FY 2017-18 (RE)
1	Kutir Jyoti BPL Consumers	52139	10428	56478	11296
2	Domestic-I	24667	23434	26719	25383
3	Domestic-II	95549	181588	93130	176991
4	Non-Domestic-I	1432	2735	1552	2964
5	Non-Domestic-II	20897	68656	20612	67720
6	Street Light-I	204	879	202	870
7	Street Light-II	44	243	44	243
8	IAS-I	5357	9922	5803	10748
9	IAS-II	17	149	17	149

Sl. No	Category	Projected consumers by petition	Projected Connected Load by petitioner (KW)	Approved Consumers by Commission	Approved Connected Load by Commission for FY 2017-18 (RE)
10	Public Water Works	130	1451	140	1563
11	LTIS-I	2414	19882	2361	19445
12	LTIS-II	75	3091	71	2926
13	HTS-I	88	14764	87	14596
14	HTS-II	2	2461	2	2461
15	HTS-III	0	0	0	0
16	HTSS	0	0	0	0
17	Railway	0	0	0	0
<b>18</b>	<b>Total</b>	<b>203015</b>	<b>339683</b>	<b>207218</b>	<b>337355</b>

The Commission has revised the category-wise connected load for Bhagalpur DF based on number of consumers approved for FY 2017-18 (RE) and adopting the average load per consumer as considered by petitioner as shown in the Table below:

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

Sl. No	Category	Projected consumers by petition	Projected Connected Load by Petitioner	Approved Consumers by Commission	Approved Connected Load by Commission for FY 2017-18 (RE)
1	Kutir Jyoti BPL Consumers	40774	10193	40,774	10193
2	Domestic-I	61642	58560	62,152	59045
3	Domestic-II	83573	160877	81,101	156118
4	Non-Domestic-I	1964	3750	1,969	3760
5	Non-Domestic-II	15337	50390	15,187	49897
6	Street Light-I	31	133	33	142
7	Street Light-II	62	340	62	340
8	IAS-I	2323	4303	2,300	4260
9	IAS-II	99	883	98	874
10	Public Water Works	113	1265	107	1198
11	LTIS-I	3410	28085	3,185	26232
12	LTIS-II	52	2143	52	2143
13	HTS-I	57	9563	57	9563
14	HTS-II	2	2461	2	2461
15	HTS-III		0	-	0
16	HTSS		0	-	
17	Railway	0	0	-	
<b>18</b>	<b>Total</b>	<b>209439</b>	<b>332946</b>	<b>207079</b>	<b>326226</b>

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 SBPDCL including DFs FY 2017-18 (RE)**

Category	SBPDCL	Gaya	Bhagalpur	Total
<b>Domestic</b>				
<b>Kutir Jyoti</b>				
Unmetered	3056			3056
Metered (0-50)	94393			94393
<b>Total - KJ</b>	97449	11296	10193	118938
<b>DS-I (Rural)</b>				
<b>Unmetered</b>	32460			32460
<b>Metered</b>				
First 50 Units	1379560			1379560
51 - 100 Units	146071			146071
Above 100 Units	97381			97381
<b>Total</b>	1655472	25383	59045	1739900
<b>DS-II (Urban- Demand Based)</b>				
1-100 U/Month	621481			621481
101 - 200 U/Month	1118666			1118666
201 -300 U/Month	621481			621481
above 300 U/Month	124407			124407
<b>Total</b>	2486034	176991	156118	2819143
<b>NDS-I (Rural)</b>				
<b>Unmetered</b>	374			374
<b>Metered</b>				
1-100 U/Month	27681			27681
101 - 200 U/Month	31011			31011
above 200 U/Month	6272			6272
<b>Total</b>	65338	2964	3760	72062
<b>NDS-II (Demand Based)</b>				
<b>Contract Demand &lt; 0.5 kW</b>	5624			5624
<b>Contract Demand &gt; 0.5 kW</b>				
First 100 Units	415794			415794
101 - 200 Units	465814			465814
Above 200 Units	94205			94205
<b>Total</b>	981436	67720	49897	1099053
<b>IAS-I (Pvt Tubewell)</b>				
Unmetered	241922			241922
Metered	142044			142044
<b>Total</b>	383966	10748	4260	398974
<b>IAS-II (State Tubewell)</b>				
Unmetered	20900			20900
Metered	27335			27335
<b>Total</b>	48235	149	874	49258
<b>LTIS</b>				
LTIS-I (Contract Demand < 19 kW)	325675	19445	26232	371352



Category	SBPDCL	Gaya	Bhagalpur	Total
LTIS-II (Contract Demand 19-74 kW))	164902	2926	2143	169971
<b>Total - LTIS</b>	<b>490577</b>	<b>22371</b>	<b>28375</b>	<b>541323</b>
<b>PWW - Public Water Works (Demand Based)</b>				
PWW	25031	1563	1198	27792
<b>Total PWW</b>	<b>25031</b>	<b>1563</b>	<b>1198</b>	<b>27792</b>
<b>Street Light Services</b>				
SS-Metered	2462	870	142	3474
SS-Unmetered	2631	243	340	3214
<b>Total - Street Light</b>	<b>5093</b>	<b>1113</b>	<b>482</b>	<b>6688</b>
HTS-I (11 kV)	292485	14596	9563	316644
HTS-II (33 kV)	170383	2461	2461	175305
HTS-III (132 kV)	43800	0	0	43800
HTS-IV (220 kV)	0	0	0	0
HTSS (33 / 11 kV)	121041	0	0	121041
<b>Total - HTS &amp; HTSS</b>	<b>627709</b>	<b>17057</b>	<b>12024</b>	<b>656790</b>
<b>RTS (132 kV)</b>	<b>151380</b>	<b>0</b>	<b>0</b>	<b>151380</b>
<b>Total</b>	<b>7017720</b>	<b>337355</b>	<b>326226</b>	<b>7681301</b>

### 5.3.3 Energy Sales

#### SBPDCL Area

SBPDCL 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) except for PWW, LTIS-I and HTSS categories. However, wherever the number of consumers is revised, the energy sales is also revised.

For PWW category average consumption at 2973.28 units per consumer per month as per actuals of FY 2016-17 is considered, where as the Petitioner has considered it at 4680.13 units, which is on high side.

For LTIS-I category, average consumption per consumer per month of 574.98 kWh as per actuals of FY 2016-17 is considered. Whereas the petitioner has considered

11168.57 units which is on high side. For HTSS category 18.01% (3 Year CAGR) is considered.

**Table 5.12: Energy Sales approved for SBPDCL (excluding DF) for FY 2017-18**

Sl. No	Category	Projected consumers by petition	Projected Sales(MU) by petition	Approved Consumers by Commission	Approved Sales (MU) by Commission for FY 2017-18 (RE)
1	Kutir Jyoti BPL Consumers	1172518	435.54	1172518	435.54
2	Domestic-I	1533667	1333.46	1533667	1,333.46
3	Domestic-II	1131277	3106.82	1179222	3,238.49
4	Non-Domestic-I	55789	41.71	55789	41.71
5	Non-Domestic-II	249184	987.59	249184	987.60
6	Street Light-I	591	11.8	454	9.06
7	Street Light-II	378	11.83	378	11.83
8	IAS-I	167788	312.17	167788	312.17
9	IAS-II	4033	135.74	4399	148.06
10	Public Water Works	1782	100.08	1782	63.81
11	LTIS-I	27572	307.94	31415	216.76
12	LTIS-II	2914	151.83	3179	165.64
13	HTS-I	1385	562.06	1385	562.06
14	HTS-II	113	343.5	110	334.38
15	HTS-III	4	172.31	4	172.31
16	HTSS	16	810.39	16	810.39
17	Railway	15	563.61	15	563.61
<b>18</b>	<b>Total</b>	<b>4349026</b>	<b>9388.38</b>	<b>4401305</b>	<b>9406.88</b>

### Gaya Area

The Commission has revised the category-wise energy sales for Gaya DF based on number of consumers approved for FY 2017-18 (RE) and adopting the average consumption per consumer per month as considered by the petitioner as shown in the Table below:

**Table 5.13: Energy Sales approved for Gaya DF for FY 2017-18**

Sl. No	Category	Projected consumers by petition	Projected Sales(MU) by petition	Approved Consumers by Commission	Approved Sales (MU) by Commission for FY 2017-18 (RE)
1	Kutir Jyoti BPL Consumers	52139	23	56,478	24.91
2	Domestic-I	24667	24	26,719	26.00
3	Domestic-II	95549	270	93,130	263.16

Sl. No	Category	Projected consumers by petition	Projected Sales(MU) by petition	Approved Consumers by Commission	Approved Sales (MU) by Commission for FY 2017-18 (RE)
4	Non-Domestic-I	1432	1	1,552	1.08
5	Non-Domestic-II	20897	83	20,612	81.87
6	Street Light-I	204	4	202	3.96
7	Street Light-II	44	1	44	1.00
8	IAS-I	5357	10	5,803	10.83
9	IAS-II	17	1	17	1.00
10	Public Water Works	130	7	140	7.54
11	LTIS-I	2414	27	2,361	26.41
12	LTIS-II	75	4	71	3.79
13	HTS-I	88	36	87	35.59
14	HTS-II	2	6	2	6.00
15	HTS-III	0	0	-	-
16	HTSS	0	0	-	-
17	Railway	0	0	-	-
<b>18</b>	<b>Total</b>	<b>203015</b>	<b>497</b>	<b>207218</b>	<b>493.14</b>

### Bhagalpur Area

The Commission has revised the category-wise energy sales for Bhagalpur DF based on number of consumers approved for FY 2017-18 (RE) and adopting the average consumption per consumer per month as considered by the petitioner as shown in the Table below:

**Table 5.14: Energy Sales approved for Bhagalpur for FY 2017-18**

Sl. No	Category	Projected consumers by petition	Projected Sales(MU) by petition	Approved Consumers by Commission	Approved Sales (MU) by Commission for FY 2017-18 (RE)
1	Kutir Jyoti BPL Consumers	40774	18	40,774	18.00
2	Domestic-I	61642	59	62,152	59.49
3	Domestic-II	83573	236	81,101	229.02
4	Non-Domestic-I	1964	1	1,969	1.00
5	Non-Domestic-II	15337	61	15,187	60.40
6	Street Light-I	31	1	33	1.06
7	Street Light-II	62	2	62	2.00
8	IAS-I	2323	4	2,300	3.96
9	IAS-II	99	3	98	2.97
10	Public Water Works	113	6	107	5.68
11	LTIS-I	3410	38	3,185	35.49
12	LTIS-II	52	3	52	3.00

Sl. No	Category	Projected consumers by petition	Projected Sales(MU) by petition	Approved Consumers by Commission	Approved Sales (MU) by Commission for FY 2017-18 (RE)
13	HTS-I	57	23	57	23.00
14	HTS-II	2	6	2	6.00
15	HTS-III	0	0	-	0.00
16	HTSS	0	0	-	0.00
17	Railway	0	0	-	0.00
<b>18</b>	<b>Total</b>	<b>209439</b>	<b>461</b>	<b>207079</b>	<b>451.07</b>

The category-wise energy sales, connected load and energy sales approved for FY 2017-18 (RE), in the review, when are subject to true up which the actual energy sales are made available are as given in the Tables below:

**Table 5.15: Category-wise Energy Sales approved for SBPDCL (including DFs) FY 2017-18 (RE)**

Category	SBPDCL	Gaya	Bhagalpur	Total
<b>Domestic</b>				
<b>Kutir Jyoti</b>				
Unmetered	17.57			17.57
Metered (0-50)	417.97			417.97
<b>Total - KJ</b>	435.54	24.91	18.00	478.45
<b>DS-I (Rural)</b>				
<b>Unmetered</b>	26.67			26.67
<b>Metered</b>				
First 50 Units	811.70			811.70
51 - 100 Units	107.32			107.32
Above 100 Units	387.77			387.77
<b>Total</b>	1333.46	26.00	59.49	1418.95
<b>DS-II (Urban- Demand Based)</b>				
1-100 U/Month	421.00			421.00
101 - 200 U/Month	1101.09			1101.09
201 -300 U/Month	1263.01			1263.01
above 300 U/Month	453.39			453.39
<b>Total</b>	3238.49	263.16	229.02	3730.67
<b>NDS-I (Rural)</b>				
<b>Unmetered</b>	0.21			0.21
<b>Metered</b>				
1-100 U/Month	14.60			14.60
101 - 200 U/Month	19.19			19.19
above 200 U/Month	7.71			7.71
<b>Total</b>	41.71	1.08	1.00	43.79
<b>NDS-II (Demand Based)</b>				
<b>Contract Demand &lt; 0.5 kW</b>	5.05			5.05
<b>Contract Demand &gt; 0.5 kW</b>				
First 100 Units	512.57			512.57
101 - 200 Units	411.16			411.16
Above 200 Units	58.83			58.83

Category	SBPDCL	Gaya	Bhagalpur	Total
<b>Total</b>	987.60	81.87	60.40	1129.87
<b>IAS-I (Pvt Tubewell)</b>				
Unmetered	273.33			273.33
Metered	38.84			38.84
<b>Total</b>	312.17	10.83	3.96	326.96
<b>IAS-II (State Tubewell)</b>				
Unmetered	81.82			81.82
Metered	66.24			66.24
<b>Total</b>	148.06	1.00	2.97	152.03
<b>LTIS</b>				
LTIS-I (Contract Demand < 19 kW)	216.76	26.41	35.49	278.66
LTIS-II (Contract Demand 19-74 kW))	165.64	3.79	3.00	172.43
<b>Total - LTIS</b>	382.40	30.20	38.49	451.09
<b>PWW - Public Water Works (Demand Based)</b>				
PWW	63.81	7.54	5.68	77.03
<b>Total PWW</b>	63.81	7.54	5.68	77.03
<b>Street Light Services</b>				
SS-Metered	9.06	3.96	1.06	14.08
SS-Unmetered	11.83	1.00	2.00	14.83
<b>Total - Street Light</b>	20.89	4.96	3.06	28.91
HTS-I (11 kV)	562.06	35.59	23.00	620.65
HTS-II (33 kV)	334.38	6.00	6.00	346.38
HTS-III (132 kV)	172.31	0.00	0.00	172.31
HTS-IV (220 kV)	0.00	0.00	0.00	0.00
HTSS (33 / 11 kV)	810.39	0.00	0.00	810.39
<b>Total - HTS &amp; HTSS</b>	1879.14	41.59	29.00	1949.73
<b>RTS (132 kV)</b>	563.61	0.00	0.00	563.61
<b>Total</b>	<b>9406.88</b>	<b>493.14</b>	<b>451.07</b>	<b>10351.09</b>

**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)
<b>Number of Consumers</b>			
SBPDCL (excluding DFs)	5011119	4349026	4401305
Gaya DF	182182	203015	207218
Bhagalpur DF	197316	209439	207079
Total for SBPDCL	5390617	4761489	4815602
<b>Connected Load (KW)</b>			
SBPDCL (excluding DFs)	7898579	6920954	7017720

Gaya DF	309201	339683	337355
Bhagalpur DF	260324	332946	326226
Total for SBPDCL	8468105	7593583	7681301
<b>Energy Sales (MU)</b>			
SBPDCL (excluding DFs)	8719.66	9388.36	9406.88
Gaya DF	388.52	497.00	493.14
Bhagalpur DF	380.96	461.00	451.07
Total for SBPDCL	9489.14	10346.36	10351.09

#### 5.4 Distribution Loss

##### Petitioner's Submission

SBPDCL 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 22<sup>nd</sup> February 2016, as per which the distribution losses aims at 30% in FY 2017-18 which is far below the actual losses of the utility. SBPDCL has projected the distribution loss as per the trajectory as approved by the Commission in the Tariff Order dated 24.03.2017 as shown in the Table below:

**Table 5.16: Distribution Loss trajectory proposed for FY 2017-18**

Particulars	FY 2017-18
Distribution Loss	30%

##### 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. 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 NBPDC. The Commission has estimated the energy requirement for FY 2017-18 considering distribution losses at 30%. 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 5.17: 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	30%	30%	30%

## 5.5 State Transmission Loss

### Petitioner's Submission

SBPDCL 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 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

SBPDCL 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

SBPDCL 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 14<sup>th</sup> July 2017 for approval regarding distribution of power purchase agreement between NBPDC and SBPDCL. The notification states that,

“RESOLVED THAT Power Purchase & Transmission charges bills are to be admitted and payment by both Discoms i.e NBPDC and SBPDCL 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. NBPDC and SBPDCL”

SBPDCL 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 5.18: Total power purchase projected for FY 2017-18 (RE)**

<b>S. No.</b>	<b>Power Purchase Sources</b>	<b>Share Allocation (MW)</b>	<b>Energy (MU)</b>
<b>1</b>	<b>Central Sector Stations</b>	<b>1,615.37</b>	<b>11,216.67</b>
2	Talcher – I ( 2 x 500 MW)	224.91	1,716.55
3	Farakka – I & II (1600 MW)	274.75	1,853.71
4	Farakka – III (500 MW)	58.32	408.99
5	Kahalgaon – I (840 MW)	191.65	1,424.43
6	Kahalgaon – II (1500 MW)	40.34	344.28
7	Barh-II	571.86	4,055.77
8	Korba	-	1.31
9	Rangit – HEP	11.34	71.29
10	Teesta – HEP	58.55	371.82
11	Chukha	43.20	348.72
12	Tala	140.45	619.81
13	Barh Stage-I (3 X 660 MW)	-	-
<b>14</b>	<b>State Generating Stations</b>	<b>515.16</b>	<b>920.44</b>
15	KBUNL 1	118.80	379.87
16	KBUNL 2	142.56	390.57
17	Small Hydro (BShPCL)	-	2.84
18	Barauni Stage I	118.80	98.56
19	Barauni Stage II	135.00	48.60
<b>20</b>	<b>IPP</b>	<b>140.40</b>	<b>1,040.40</b>
21	GMR Kamalanga Energy	140.40	1,040.40
22	Adani Enterprises Limited	-	-
<b>23</b>	<b>JV projects</b>	<b>27.00</b>	<b>96.94</b>
24	Nabinagar Railway (4 X 250 MW)	27.00	96.94
25	Nabinagar Stage-I (3 X 660 MW)	-	-
26	Nabinagar JV (3 X 660 MW) Stage-II	-	-
<b>27</b>	<b>Renewable</b>	<b>120.96</b>	<b>232.72</b>
28	SECI	5.40	11.04
29	ACME Magadh	5.40	9.05
30	ACME Nalanda	8.10	12.98

S. No.	Power Purchase Sources	Share Allocation (MW)	Energy (MU)
31	Sunmark	5.40	9.01
32	Avantika	2.70	3.33
33	AZURE	5.40	7.46
34	Udipta Energy & Equipment Pvt Ltd	2.70	3.53
35	Glatt	1.62	1.74
36	Welspun 2	8.10	13.24
37	Welspun 1	5.40	8.57
38	Alpha Infraprop	10.80	5.96
39	Welspun 3	8.10	13.02
40	Response Renewabe Energy	5.40	5.73
41	New Swadeshi Sugar Mill,Narkatiaganj	3.78	8.83
42	Harinagar Sugar Mills,Harinagar	5.94	25.82
43	Bharat Sugar Mills,Sidhiwalia,Gopalganj	5.94	20.51
44	Lauriya Sugar Mill	10.80	25.20
45	Sugauli Sugar Mill	10.80	24.87
46	Hasanpur Sugar Mills,Samastipur	5.40	12.43
47	Riga Sugar Company Ltd,Sitamarhi	1.62	3.73
48	Siddhashram Rice Mill Cluster Pvt Ltd	0.54	2.69
49	BDBPL	1.62	3.97
<b>50</b>	<b>Open Market Purchase</b>	-	<b>1,776.65</b>
51	IEX/PXIL	-	1,104.05
52	DB Power	-	-
53	JAYPEE NIGRIE	-	169.19
54	JPL	-	29.28
55	GMR ETL	-	11.80
56	TATA ETL	-	34.45
57	Manikaran Power	-	327.47
58	NEA	-	0.66
59	NVVNL	-	-
60	PVVNL	-	-
61	Adani Short Term	-	12.48
62	UI	-	87.26
63	<b>Sub Total Power Purchase</b>	<b>2,418.89</b>	<b>15,283.83</b>
64	Transfer from Other Discom		407.18
65	Open Market Purchase		296.80
<b>66</b>	<b>Net Power Purchase</b>	<b>2,418.89</b>	<b>15,987.81</b>

### 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

48.60 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 SBPDCL at 54% the Commission has considered 99.23 MU (54% 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 BSP(H)CL 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 1.3 MU per day received since 15.01.2018 and hence considering a share of 54%, 53 MU of purchase of power from this source is factored in the power purchase for FY 2017-18.

On a query from the Commission, SBPDCL vide letter no 166 dated 28.02.2018 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 stated that about 49.57 MU shall be procured from this source during FY 2017-18. From Korba-III Commission has considered 49.57 MU against 1.31 MU projected by petitioner in the petition.

It is also noted that SBPDCL has proposed to procure 407.18 MU from NBPDCL and also to purchase 296.80 MU from open market (IEX/PXIL) to meet the demand for the estimated energy sales in its licensed area. The Commission has considered 375.08 MU of power purchase from NBPDCL as per the energy balance as shown in Table 5.23.

The Power Purchase, station/source-wise approved by the Commission for FY 2017-18 (RE) is as given in the Table below:

**Table 5.19: 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)
<b>1</b>	<b>Central Sector Stations</b>	<b>1,615.37</b>	<b>11,216.67</b>	<b>11264.94</b>
2	Talcher – I ( 2 x 500 MW)	224.91	1,716.55	1716.55
3	Farakka – I & II (1600 MW)	274.75	1,853.71	1853.71
4	Farakka – III (500 MW)	58.32	408.99	408.99
5	Kahalgaon – I (840 MW)	191.65	1,424.43	1424.43
6	Kahalgaon – II (1500 MW)	40.34	344.28	344.28
7	Barh-II	571.86	4,055.77	4055.77
8	Korba	-	1.31	49.57
9	Rangit – HEP	11.34	71.29	71.29
10	Teesta – HEP	58.55	371.82	371.82
11	Chukha	43.20	348.72	348.72
12	Tala	140.45	619.81	619.81
13	Barh Stage-I (3 X 660 MW)	-	-	-
<b>14</b>	<b>State Generating Stations</b>	<b>515.16</b>	<b>920.44</b>	<b>872.51</b>
15	KBUNL 1	118.80	379.87	379.87
16	KBUNL 2	142.56	390.57	390.57
17	Small Hydro (BSHPCL)	5.40	2.84	2.84
18	Barauni Stage I	118.80	98.56	99.23
19	Barauni Stage II	135.00	48.60	0.00
<b>20</b>	<b>IPP</b>	<b>140.40</b>	<b>1,040.40</b>	<b>1040.40</b>
21	GMR Kamalanga Energy	140.40	1,040.40	1040.40
<b>22</b>	<b>JV projects</b>	<b>27.00</b>	<b>96.94</b>	<b>96.94</b>
23	Nabinagar Railway (4 X 250 MW)	27.00	96.94	96.94
24	Nabinagar Stage-I (3 X 660 MW)	-	-	-
25	Nabinagar JV (3 X 660 MW) Stage-II	-	-	-
<b>26</b>	<b>Renewable</b>	<b>120.96</b>	<b>232.72</b>	<b>232.71</b>
27	SECI	5.40	11.04	11.04
28	ACME Magadh	5.40	9.05	9.05
29	ACME Nalanda	8.10	12.98	12.98
30	Sunmark	5.40	9.01	9.01
31	Avantika	2.70	3.33	3.33
32	AZURE	5.40	7.46	7.46
33	Udipta Energy & Equipment Pvt ltd	2.70	3.53	3.53
34	Glatt	1.62	1.74	1.74
35	Welspun 2	8.10	13.24	13.24
36	Welspun 1	5.40	8.57	8.57
37	Alpha Infracorp	10.80	5.96	5.96
38	Welspun 3	8.10	13.02	13.02
39	Response Renewabe Energy	5.40	5.73	5.73
40	New Swadeshi Sugar Mill,Narkatiaganj	3.78	8.83	8.83
41	Harinagar Sugar Mills,Harinagar	5.94	25.82	25.82
42	Bharat SugarMills,Sidhiwalia,Gopalganj	5.94	20.51	20.51

S. No.	Power Purchase Sources	Share Allocation (MW)	Projected for FY 2017-18 (RE) (MU)	Approved by Commission for FY 2017-18 (RE) (MU)
43	Lauriya Sugar Mill	10.80	25.20	25.20
44	Sugauli Sugar Mill	10.80	24.87	24.87
45	Hasanpur Sugar Mills, Samastipur	5.40	12.43	12.43
46	Riga Sugar Company Ltd, Sitamarhi	1.62	3.73	3.73
47	Siddhashram Rice Mill Cluster Pvt Ltd	0.54	2.69	2.69
48	BDBPL	1.62	3.97	3.97
<b>49</b>	<b>Open Market Purchase</b>	-	<b>1,776.65</b>	<b>1829.64</b>
50	IEX/PXIL	-	1,104.05	1104.05
51	Jindal Power	-	-	53.00
52	DB Power			-
53	JAYPEE NIGRIE	-	169.19	169.19
54	JPL	-	29.28	29.28
55	GMR ETL	-	11.80	11.80
56	TATA ETL	-	34.45	34.45
57	Manikaran Power	-	327.47	327.47
58	NEA	-	0.66	0.66
59	NVVNL	-	-	-
60	PVVNL	-	-	-
61	Adani Short Term	-	12.48	12.48
62	UI	-	87.26	87.26
<b>63</b>	<b>Sub total</b>	<b>2424.29</b>	<b>15,283.83</b>	<b>15337.14</b>
64	Transfer from Other Discom (NBPDCCL)		407.18	375.08
65	Open Market Purchase		296.80	0
<b>66</b>	<b>Total Power Purchase</b>	<b>2424.29</b>	<b>15,987.81</b>	<b>15,712.22</b>

## 5.8 Renewable Power Purchase Obligation

### Petitioner's Submission

SBPDCL 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 5.20: 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	10810.34
2	% of RPO Obligation	%	7.75%
	Solar	%	2.25%
	Non-Solar	%	5.50%
3	MUs required as per RPO for the year FY 2017-18	MU	837.80

S. No.	Particulars	Unit	FY 2017-18
	Solar	MU	243.23
	Non-Solar	MU	594.57
4	Solar Energy to be procured during the year	MU	243.33
5	Non-Solar Energy to be procured during the year	MU	594.57

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 SBPDCL has proposed to purchase only 104.66 MU of solar energy and 130.89 MU of non-solar energy for FY 2017-18, which will not be sufficient to meet the RPO.

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 5.21: Renewable energy purchase obligation for FY 2017-18**

S. No.	Particulars	Unit	FY 2017-18
1	Energy consumption excluding Nepal	MU	10351.09
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	802.21
(i)	Solar	MU	232.90
(ii)	Non-Solar	MU	569.31
4	Solar Energy projected during the year	MU	104.66
5	Non-Solar Energy projected during the year	MU	130.89
6	Balance Solar to be procured	MU	128.24
7	Balance Non-solar to be procured	MU	438.42
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

S. No.	Particulars	Unit	FY 2017-18
10	Cost of solar REC (Rs. Crore)	Rs.Cr	12.82
11	Cost of non-solar REC (Rs. Crore)	Rs.Cr	43.84
12	<b>Total cost of certificate (Rs. Crore)</b>	Rs.Cr	<b>56.67</b>

SBPDCL 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

SBPDCL has projected the energy Balance for FY 2017-18 as shown in the Table below:

**Table 5.22: Energy Balance projected for FY 2017-18 (RE)**

S. No.	Particulars	Unit	FY 2017-18 (RE)
1	Energy sales	MU	10,810.34
2	Less: Energy supplied to DF area	MU	1,421.98
3	Less: Sales to Nepal	MU	0.00
4	Less: UI	MU	0.00
5	Energy sale excluding DF area and Nepal	MU	9,388.36
6	Distribution loss	%	<b>30.00%</b>
7	Distribution loss	MU	4,023.58
8	Energy required (3+5)	MU	13,411.94
9	Add: Energy to DF area including loss for DF area	MU	1,421.98
10	Energy required at Distribution periphery (7+8)	MU	14,833.92
11	Add: Sales to Nepal	MU	0.00
12	Total energy required (9+10)	MU	14,833.92
13	State Transmission loss	%	3.92%
14	State Transmission loss	MU	605.21
15	Add: UI sales	MU	0.00
16	<b>Energy required at State Transmission periphery</b>	<b>MU</b>	<b>15,439.13</b>
17	Power Purchase from CGS, SGS and others	MU	15,987.81
18	UI	MU	0.00
19	Power Purchase from CGS	MU	12,138.82
20	Losses in Regional Transmission System (excluding state generating stations)	%	2.26%
21	Losses in Regional Transmission system (MU)	MU	274.34
22	Power Purchase from SGS, others	MU	3,574.65
23	Energy available at State Transmission Periphery	MU	15,439.13
24	<b>Surplus energy (23-16)</b>	<b>MU</b>	<b>0</b>

### Commission's Analysis

It is observed that at Sl.No. 23 in the above table, the petitioner has considered the energy available as 15439.13 instead of 15713.47 (i.e. 15987.81-274.34) and has shown surplus energy as 'Zero' instead of 274.34 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 5.23: Energy Balance approved for FY 2017-18 (RE)**

Sl. No	Particulars	Unit	Projected by Petitioner for FY 2017-18 (RE)	Approved by Commission for FY 2017-18 (RE)
1	Energy sales including DF	MU	10810.34	10351.09
2	Less: Energy Supplied to DF area	MU	1421.98	0.00
3	Less: Sales to Nepal	MU	0.00	0.00
4	Energy sale excluding Nepal	MU	9388.36	10351.09
5	Distribution loss	%	30.00%	30.00%
6	Distribution Loss	MU	4023.58	4436.18
7	Energy Required (5+7)	MU	13411.94	14787.27
8	Add: Energy to DF area including loss to DF area	MU	1421.98	0.00
9	Energy required at Distribution periphery (8+9)	MU	14833.92	14787.27
10	Add: Sales to Nepal	MU	0.00	0.00
11	Total energy Required (10+11)	MU	14833.92	14787.27
12	State Transmission Loss	%	3.92%	3.92%
13	State Transmission Loss	MU	605.21	603.31
<b>14</b>	<b>Energy required at State Transmission periphery</b>	<b>MU</b>	<b>15439.13</b>	<b>15390.58</b>
15	Power available from CGS,SGS and others	MU	15987.81	<b>15337.14</b>
16	Power purchases from CGS and others	MU	12138.82	<b>14231.92</b>
17	Losses in Regional Transmission system (excluding state generating stations)	%	2.26%	2.26%
18	Losses in Regional Transmission System (MU)	MU	274.34	321.64
19	Power Purchase from SGS and others	MU	3574.65	<b>1105.22</b>
<b>20</b>	<b>Energy available at State Transmission Periphery (16-18 +19)</b>	<b>MU</b>	<b>15439.13</b>	<b>15015.50</b>
21	Surplus energy (20-14)	MU	0.00	<b>-375.08</b>

SBPDCL may procure the additional energy required from NBPDC who having surplus energy.



## **5.10 Power Purchase Cost**

### **Petitioner's Submission**

SBPDCL 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 4.42 INR/kWh inclusive of all charges.

Table 5.24: 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 (INR/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	1,615.37	11,216.67	1.27	1,425.65	2.51	2,812.03	21.21	4,258.88	3.80
2	Talcher – I ( 2 x 500 MW)	224.91	1,716.55	0.90	153.70	1.60	275.44	9.27	438.41	2.55
3	Farakka – I & II (1600 MW)	274.75	1,853.71	0.98	181.99	2.82	523.67	9.24	714.90	3.86
4	Farakka – III (500 MW)	58.32	408.99	1.77	72.36	2.84	116.27	3.59	192.21	4.70
5	Kahalgaon – I (840 MW)	191.65	1,424.43	1.00	141.84	2.49	355.10	0.31	497.26	3.49
6	Kahalgaon – II (1500 MW)	40.34	344.28	0.87	30.12	2.43	83.67	0.06	113.85	3.31
7	Barh-II	571.86	4,055.77	1.97	798.79	2.93	1,186.92	(1.33)	1,984.38	4.89
8	Korba	-	1.31	1.42	0.19	1.15	0.15	0.00	0.34	2.57
9	Rangit – HEP	11.34	71.29	1.77	12.61	1.96	13.94	0.02	26.57	3.73
10	Teesta - HEP	58.55	371.82	0.92	34.05	1.16	43.13	0.09	77.27	2.08
11	Chukha	43.20	348.72	-	-	2.29	79.86	(0.03)	79.83	2.29
12	Tala	140.45	619.81	-	-	2.16	133.88	-	133.88	2.16
13	Barh Stage-I (3 X 660 MW)	-	-	-	-	-	-	-	-	-
14	State Generating Stations	515.16	920.44	1.43	131.49	3.40	312.85	-	444.33	4.83
15	KBUNL 1	118.80	379.87	1.41	53.49	3.41	129.42	-	182.90	4.81
16	KBUNL 2	142.56	390.57	2.00	78.00	3.15	123.02	-	201.02	5.15
17	Small Hydro (BSHPCL)	-	2.84	-	-	2.49	0.71	-	0.71	2.49
18	Barauni Stage I	118.80	98.56	-	-	4.10	40.41	-	40.41	4.10
19	Barauni Stage II	135.00	48.60	-	-	3.97	19.29	-	19.29	3.97
20	IPP	140.40	1,040.40	1.95	202.67	1.13	117.24	52.68	372.58	3.58
21	GMR Kamalanga Energy	140.40	1,040.40	1.95	202.67	1.13	117.24	52.68	372.58	3.58
22	Adani Enterprises Limited	-	-	-	-	-	-	-	-	-
23	JV projects	27.00	96.94	2.24	21.75	1.99	19.27	-	41.02	4.23
24	Nabinagar Railway (4 X 250 MW)	27.00	96.94	2.24	21.75	1.99	19.27	-	41.02	4.23
25	Nabinagar Stage-I (3 X 660)	-	-	-	-	-	-	-	-	-

S. No.	Power Purchase Sources	Current Year (FY 2017-18)								
		Share Allocation (MW)	Energy (MU)	Fixed Charge rate (INR/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)
	MW)									
26	Nabinagar JV (3X660MW)	-	-	-	-	-	-	-	-	-
27	Renewable	120.96	232.72	-	-	4.72	109.93	-	109.93	4.72
28	SECI	5.40	11.04	-	-	5.62	6.21	-	6.21	5.62
29	ACME Magadh	5.40	9.05	-	-	8.73	7.90	-	7.90	8.73
30	ACME Nalanda	8.10	12.98	-	-	8.73	11.33	-	11.33	8.73
31	Sunmark	5.40	9.01	-	-	7.02	6.32	-	6.32	7.02
32	Avantika	2.70	3.33	-	-	7.69	2.56	-	2.56	7.69
33	AZURE	5.40	7.46	-	-	8.39	6.26	-	6.26	8.39
34	Udipta Energy & Equipment Pvt Ltd	2.70	3.53	-	-	7.98	2.82	-	2.82	7.98
35	Glatt	1.62	1.74	-	-	7.02	1.22	-	1.22	7.02
36	Welspun 2	8.10	13.24	-	-	8.64	11.44	-	11.44	8.64
37	Welspun 1	5.40	8.57	-	-	8.70	7.46	-	7.46	8.70
38	Alpha Infraprop	10.80	5.96	-	-	8.56	5.11	-	5.11	8.56
39	Welspun 3	8.10	13.02	-	-	8.56	11.15	-	11.15	8.56
40	Response Renewable Energy	5.40	5.73	-	-	7.02	4.03	-	4.03	7.02
41	New Swadeshi Sugar Mill,Narkatiaganj	3.78	8.83	-	-	-	-	-	-	-
42	Harinagar Sugar Mills,Harinagar	5.94	25.82	-	-	5.34	13.79	-	13.79	5.34
43	Bharat Sugar Mills,Sidhiwalia, Gopalganj	5.94	20.51	-	-	5.04	10.33	-	10.33	5.04
44	Lauriya Sugar Mill	10.80	25.20	-	-	-	-	-	-	-
45	Sugauli Sugar Mill	10.80	24.87	-	-	-	-	-	-	-
46	Hasanpur Sugar Mills,Samastipur	5.40	12.43	-	-	0.01	0.02	-	0.02	0.01
47	Riga Sugar Company	1.62	3.73	-	-	-	-	-	-	-

S. No.	Power Purchase Sources	Current Year (FY 2017-18)								
		Share Allocation (MW)	Energy (MU)	Fixed Charge rate (INR/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)
	Ltd,Sitamarhi									
48	Siddhashram Rice Mill Cluster Pvt Ltd	0.54	2.69	-	-	7.41	1.99	-	1.99	7.41
49	BDBPL	1.62	3.97	-	-	-	-	-	-	-
50	Open Market Purchase	-	1,776.65	-	-	4.01	712.96	2.74	715.70	4.03
51	IEX/PXIL	-	1,104.05	-	-	3.94	435.46	2.74	438.20	3.97
52	DB Power	-	-	-	-	-	-	-	-	-
53	JAYPEE NIGRIE	-	169.19	-	-	2.82	47.63	-	47.63	2.82
54	JPL	-	29.28	-	-	2.86	8.39	-	8.39	2.86
55	GMR ETL	-	11.80	-	-	3.17	3.74	-	3.74	3.17
56	TATA ETL	-	34.45	-	-	3.99	13.74	-	13.74	3.99
57	Manikaran Power	-	327.47	-	-	4.65	152.27	-	152.27	4.65
58	NEA	-	0.66	-	-	2.72	0.18	-	0.18	2.72
59	NVVNL	-	-	-	-	-	-	-	-	-
60	PVVNL	-	-	-	-	-	-	-	-	-
61	Adani Short Term	-	12.48	-	-	5.08	6.34	-	6.34	5.08
62	UI	-	87.26	-	-	5.18	45.20	-	45.20	5.18
63	Sub Total Power Purchase	2,418.89	15,283.83	1.17	1,781.55	2.67	4,084.27	76.63	5,942.44	3.89
64	Transmission charges	-	-	-	-	-	-	-	851.21	-
65	PGCIL	-	-	-	-	-	-	-	407.92	-
66	POSOCO & SLDC Charges	-	-	-	-	-	-	-	7.31	-
67	BSPTCL charges	-	-	-	-	-	-	-	328.30	-
68	BGCL	-	-	-	-	-	-	-	107.67	-
69	<b>Total Power Purchase</b>	<b>2,418.89</b>	<b>15,283.83</b>	<b>1.17</b>	<b>1,781.55</b>	<b>2.67</b>	<b>4,084.27</b>	<b>76.63</b>	<b>6,793.65</b>	<b>4.44</b>
70	<b>Purchase from NBPDC</b>		407.18			4.44	180.76		180.76	4.44
71	<b>Open Market purchase</b>		296.80			3.00	89.04		89.04	3.00
72	<b>Net Power Purchase</b>	<b>2,418.89</b>	<b>15,987.81</b>	<b>1.11</b>	<b>1,781.55</b>	<b>2.72</b>	<b>4,354.07</b>	<b>76.63</b>	<b>7,063.45</b>	<b>4.42</b>

**Commission's Analysis**

SBPDCL 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 1<sup>st</sup> 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
- (v) BDBPL

There was no purchase of energy from the above sources during 1<sup>st</sup> 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 September, 2017 as per the bills for Central Generating Stations, IPPs and JV projects are as given in the Table below:

**Table 5.25: Power Purchase cost during April, 2017 to September, 2017 (6 Months)**

Sl. No.	Power Sources	Purchase	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
<b>1</b>	<b>Central Sector Stations</b>		<b>5,392.29</b>	<b>662.76</b>	<b>1.23</b>	<b>1,194.14</b>	<b>2.21</b>	<b>5.26</b>	<b>1,862.15</b>	<b>3.45</b>
2	Talcher – I ( 2 x 500 MW)		842.53	75.57	<b>0.90</b>	137.90	<b>1.64</b>	5.36	218.82	2.60
3	Farakka – I & II (1600 MW)		798.63	76.68	<b>0.96</b>	217.70	<b>2.73</b>	0.20	294.58	3.69
4	Farakka – III (500 MW)		184.12	32.44	<b>1.76</b>	50.65	<b>2.75</b>	(0.73)	82.36	4.47
5	Kahalgaon – I (840 MW)		684.76	68.06	<b>0.99</b>	157.99	<b>2.31</b>	0.17	226.22	3.30
6	Kahalgaon – II (1500 MW)		184.91	16.44	<b>0.89</b>	41.47	<b>2.24</b>	0.03	57.94	3.13
7	Barh-II		1,860.58	365.25	<b>1.96</b>	429.01	<b>2.31</b>	0.21	794.47	4.27
8	Korba		1.22	0.17	<b>1.42</b>	0.14	<b>1.15</b>	0.00	0.31	2.57
9	Rangit – HEP		40.19	7.17	<b>1.78</b>	7.35	<b>1.83</b>	0.00	14.53	3.62
10	Teesta - HEP		227.79	20.97	<b>0.92</b>	26.42	<b>1.16</b>	0.01	47.40	2.08
11	Chukha		223.77	-	-	51.24	<b>2.29</b>	-	51.24	2.29
12	Tala		343.79	-	-	74.26	<b>2.16</b>	-	74.26	2.16
<b>13</b>	<b>State Generating Stations</b>		<b>321.69</b>	<b>63.27</b>	<b>1.97</b>	<b>97.97</b>	<b>3.05</b>	-	<b>161.24</b>	<b>5.01</b>
14	KBUNL 1		169.22	24.04	<b>1.42</b>	55.65	<b>3.29</b>	-	79.69	4.71
15	KBUNL 2		133.44	39.23	<b>2.94</b>	34.52	<b>2.59</b>	-	73.75	5.53
<b>16</b>	<b>IPP</b>		<b>477.53</b>	<b>92.98</b>	<b>1.95</b>	<b>52.36</b>	<b>1.10</b>	<b>19.39</b>	<b>164.73</b>	<b>3.45</b>
17	GMR Kamalanga Energy		477.53	92.98	<b>1.95</b>	52.36	<b>1.10</b>	19.39	164.73	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 cost approved for FY 2017-18 (RE) is as given in the Table below:

Table 5.26: 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)
<b>1</b>	<b>Central Sector Stations</b>	<b>11264.94</b>	<b>1.27</b>	<b>1426.36</b>	<b>2.23</b>	<b>2515.39</b>	<b>0.00</b>	<b>3941.76</b>	<b>3.50</b>
2	Talcher – I ( 2 x 500 MW)	1716.55	0.90	153.96	1.64	280.95	0.00	434.91	2.53
3	Farakka – I & II (1600 MW)	1853.71	0.96	177.98	2.73	505.30	0.00	683.29	3.69
4	Farakka – III (500 MW)	408.99	1.76	72.07	2.75	112.51	0.00	184.58	4.51
5	Kahalgaon – I (840 MW)	1424.43	0.99	141.58	2.31	328.65	0.00	470.24	3.30
6	Kahalgaon – II (1500 MW)	344.28	0.89	30.61	2.24	77.21	0.00	107.82	3.13
7	Barh-II	4055.77	1.96	796.18	2.31	935.18	0.00	1731.36	4.27
8	Korba	49.57	1.42	7.02	1.15	5.69	0.00	12.71	2.56
9	Rangit – HEP	71.29	1.78	12.72	1.83	13.05	0.00	25.77	3.61
10	Teesta – HEP	371.82	0.92	34.22	1.16	43.13	0.00	77.35	2.08
11	Chukha	348.72	0.00	0.00	2.29	79.85	0.00	79.85	2.29
12	Tala	619.81	0.00	0.00	2.16	133.88	0.00	133.88	2.16
13	Barh Stage-I (3 X 660 MW)	-							
<b>14</b>	<b>State Generating Stations</b>	<b>872.51</b>	<b>1.93</b>	<b>168.78</b>	<b>3.06</b>	<b>267.34</b>	<b>0.00</b>	<b>436.13</b>	<b>5</b>
15	KBUNL 1	379.87	1.42	53.97	3.29	124.92	0.00	178.89	4.71
16	KBUNL 2	390.57	2.94	114.81	2.59	101.03	0.00	215.84	5.53
17	Small Hydro (BSHPCL)	2.84	0.00	0.00	2.49	0.71	0.00	0.71	2.49
18	Barauni Stage I	99.23	0.00	0.00	4.10	40.68	0.00	40.68	4.10
19	Barauni Stage II								
<b>20</b>	<b>IPP</b>	<b>1040.40</b>	<b>1.95</b>	<b>202.58</b>	<b>1.1</b>	<b>114.07</b>	<b>19.39</b>	<b>336.04</b>	<b>3.23</b>
21	GMR Kamalanga Energy	1040.40	1.95	202.58	1.10	114.07	19.39	336.04	3.23
<b>22</b>	<b>JV projects</b>	<b>96.94</b>	<b>2.24</b>	<b>21.71</b>	<b>1.99</b>	<b>19.29</b>	<b>0.00</b>	<b>41.00</b>	<b>4.23</b>
23	Nabinagar Railway (4 X 250 MW)	96.94	2.24	21.71	1.99	19.29	0.00	41.01	4.23
24	Nabinagar Stage-I (3 X 660 MW)	-						0.00	

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)
25	Nabinagar JV (3 X 660 MW) Stage-II	-						0.00	
26	<b>Total Renewable</b>	<b>232.71</b>	<b>0.00</b>	<b>0.00</b>	<b>6.55</b>	<b>152.42</b>	<b>0.00</b>	<b>152.42</b>	<b>6.55</b>
27	SECI	11.04	0	0	5.85	6.46	-	6.46	5.85
28	ACME Magadh	9.05	-	-	8.73	7.90	-	7.90	8.73
29	ACME Nalanda	12.98	-	-	8.73	11.33	-	11.33	8.73
30	Sunmark	9.01	-	-	7.02	6.33	-	6.33	7.02
31	Avantika	3.33	-	-	7.69	2.56	-	2.56	7.69
32	AZURE	7.46	-	-	8.39	6.26	-	6.26	8.39
33	Udipta Energy & Equipment Pvt Ltd	3.53	-	-	7.98	2.82	-	2.82	7.98
34	Glatt	1.74	-	-	7.02	1.22	-	1.22	7.02
35	Welspun 2	13.24	-	-	8.64	11.44	-	11.44	8.64
36	Welspun 1	8.57	-	-	8.7	7.46	-	7.46	8.70
37	Alpha Infracorp	5.96	-	-	7.87	4.69	-	4.69	7.87
38	Welspun 3	13.02	-	-	8.56	11.15	-	11.15	8.56
39	Response Renewabe Energy	5.73	-	-	7.02	4.02	-	4.02	7.02
40	New Swadeshi Sugar Mill, Narkatiaganj	8.83	-	-	4.57	4.04	-	4.04	4.57
41	Harinagar Sugar Mills,Harinagar	25.82	-	-	5.34	13.79	-	13.79	5.34
42	Bharat SugarMills,Sidhiwalia,	20.51	-	-	5.04	10.34	-	10.34	5.04
43	Lauriya Sugar Mill	25.20	-	-	5.34	13.46	-	13.46	5.34
44	Sugauli Sugar Mill	24.87	-	-	5.34	13.28	-	13.28	5.34
45	Hasanpur Sugar Mills,Samastipur	12.43	-	-	5.97	7.42	-	7.42	5.97
46	Riga Sugar Company Ltd,Sitamarhi	3.73	-	-	5.84	2.18	-	2.18	5.84
47	Siddhashram Rice Mill Cluster Pvt Ltd	2.69	-	-	7.41	1.99	-	1.99	7.41
48	BDBPL	3.97	-	-	5.8	2.30	-	2.30	5.80
49	<b>Open Market Purchase</b>	<b>1829.64</b>	<b>0.00</b>	<b>0.00</b>	<b>3.98</b>	<b>728.94</b>	<b>0.00</b>	<b>728.94</b>	<b>3.98</b>
50	IEX/PXIL	1104.05			3.94	435.00		435.00	3.94



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)
51	Jindal Power	53.00			3.09	16.38		16.38	3.09
52	DB Power	-						0.00	
53	JAYPEE NIGRIE	169.19			2.82	47.71		47.71	2.82
54	JPL	29.28			2.86	8.37		8.37	2.86
55	GMR ETL	11.80			3.17	3.74		3.74	3.17
56	TATA ETL	34.45			3.99	13.75		13.75	3.99
57	Manikaran Power	327.47			4.65	152.27		152.27	4.65
58	NEA	0.66			2.72	0.18		0.18	2.72
59	NVVNL	-							
60	PVVNL	-							
61	Adani Short Term	12.48			5.08	6.34		6.34	5.08
62	UI	87.26			5.18	45.20		45.20	5.18
63	<b>Sub Total Power Purchase</b>	<b>15337.14</b>	<b>1.186</b>	<b>1819.44</b>	<b>2.476</b>	<b>3797.45</b>	<b>19.39</b>	<b>5636.28</b>	<b>3.675</b>
64	Transfer from Other Discom (NBPDCCL)	375.08						137.84	3.675
65	Open Market Purchase	0.00						0.00	
66	<b>Total Power Purchase</b>	<b>15712.22</b>	<b>1.158</b>	<b>1819.44</b>	<b>2.417</b>	<b>3797.45</b>	<b>19.39</b>	<b>5774.12</b>	<b>3.675</b>
67	Solar REC to meet RPO (128.24 MU)							12.82	
68	Non Solar REC to meet RPO (438.42 MU)							43.84	
69	<b>Total</b>	<b>15712.22</b>	<b>1.158</b>	<b>1819.44</b>	<b>2.417</b>	<b>3797.45</b>	<b>19.39</b>	<b>5830.78</b>	<b>3.711</b>

## 5.11 Transmission Charges

### Petitioner's Submission

SBPDCL 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.

SBPDCL 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 5.27 : Transmission charges projected for FY 2017-18 (RE)**

(Rs. Crore)	
Utilities	Transmission Charge
PGCIL Charges	407.92
POSOCO & SLDC Charges	7.31
BSPTCL charges	328.30
BGCL Charges	107.67
<b>Total transmission Charges</b>	<b>851.21</b>

### 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 NBPDCCL and SBPDCL. 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:

**Table 5.28 : PGCIL charges from April, 2017 to September, 2017 (6 Months) (Rs.Crore)**

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
<b>7</b>	<b>Total</b>	<b>401.85</b>	<b>2.36</b>

The PGCIL and POSCO charges are computed considering the above actual charges for 6 months and prorated for 12 months of FY 2017-18 and are considered in the approved ratio of 46 : 54 for NBPDC and SBPDCL respectively.

**Table 5.29: 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	407.92	434.00
2	POSOCH Charges	7.31	2.55
3	BSPTCL Charges	328.30	336.73
4	SLDC Charges	-	2.93
5	BGCL Charges	107.67	110.57
6	<b>Total Transmission Charges</b>	<b>851.21</b>	<b>886.78</b>

### 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 5.30: 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	15987.81	6212.25	15,712.22	5774.12
2	Transmission Charges	-	851.21	-	886.78
3	Total Power Purchase Cost	-	7063.46	-	6660.90
4	Less: Rebate at 1%	-	-	-	66.61
5	Net power purchase cost (3-4)	-	-	-	6594.29
6	Solar and Non solar REC to meet RPO			-	56.66
7	<b>Power purchase (5+6)</b>			-	<b>6650.95</b>

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:

SBPDCL 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.

SBPDCL has projected huge investment under various schemes for FY 2017-18 as

given below:

Sl. No.	Name of the scheme/project	FY 2017-18 (Rs. Crore)
1	BRGF Phase-I	243.94
2	BRGF Phase-II	450.41
3	BRGF Phase-II part C	64.32
4	BRGF Phase-II RE portion	117.11
5	RAPDRP Part A	60.55
6	RAPDRP Part B	331.83
7	APDRP	5.13
8	NABARD Phase VIII	7.47
9	NABARD Phase XI	7.54
10	MP/CM LAD	15.02
11	Deposit Scheme	0.33
12	ADB	24.49
13	Burnt DTR - State Plan	31.46
14	ACA State Plan	13.64
15	State Plan	51.48
16	IPDS	103.99
17	RGGVY 11th Plan Phase II	845.73
18	RGGVY 12th Plan	689.88
19	DDUGJY	255.23
20	APL connections	67.40
21	<b>Total</b>	<b>3386.90</b>

SBPDCL 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 5.31: 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 SBPDCL for FY 2017-18 (RE)
1	Opening CWIP	3167.41	3011.88	2888.25
2	New Investment	3143.15	2590.08	5647.15
3	<b>Less: Capitalisation (4+5)</b>	<b>3155.27</b>	<b>4603.23</b>	<b>3386.90</b>
4	Opening CWIP	1583.70	2409.50	2709.52
5	New Investment	1571.57	2193.73	677.38
6	<b>Closing CWIP (1+2-3)</b>	<b>3155.29</b>	<b>998.73</b>	<b>5148.50</b>
7	<b>Funding</b>			
8	<b>CWIP Capitalisation (9+10+11)</b>	<b>1583.70</b>	<b>2409.50</b>	<b>2709.52</b>
9	Grant	1341.77	939.00	1334.69
10	Equity	146.91	1261.98	806.61
11	Loan	95.02	208.52	568.22

Sl. No.	Particulars	Approved in MYT order dated 21.03.2016	Revised and approved in Tariff order dated 24.03.2017	Projected by SBPDCL for FY 2017-18 (RE)
<b>12</b>	<b>New Investment (13+14+15)</b>	<b>1571.57</b>	<b>2193.72</b>	<b>677.38</b>
13	Grant	719.87	854.91	333.67
14	Equity	426.15	1148.97	201.65
15	Loan	425.55	189.84	142.06
<b>16</b>	<b>Total Capitalisation (8+12)</b>	<b>3155.27</b>	<b>4603.22</b>	<b>3386.90</b>
<b>17</b>	<b>Total Grant (9+13)</b>	<b>2061.64</b>	<b>1793.91</b>	<b>1668.36</b>
<b>18</b>	<b>Total Equity (10+14)</b>	<b>573.06</b>	<b>2410.95</b>	<b>1008.26</b>
<b>19</b>	<b>Total Loan (11+15)</b>	<b>520.57</b>	<b>398.36</b>	<b>710.28</b>

### Commission's analysis:

The Petitioner has projected the revised capital investment and capitalisation Rs.5647.15 Crore and Rs.3386.90 Crore (Table 55 of the petition) 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 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 Gol and the Discoms shall collect Rs.500 per household in 10 equal monthly instalments. The amount collected shall be refunded to Gol. 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.677.38 crore and against the opening CWIP of Rs.2709.52 crore totalling to Rs.3386.90 crore. The Commission opines that the Petitioner shall be in a better position to monitor the projects/works implementation and their completion. Based on scheme-wise funding of capitalisation details furnished by the Petitioner, the Commission has arrived at the capitalisation at Rs.3386.95 crore and accordingly considered total capitalisation of Rs.3386.95 crore for FY 2017-18 as detailed in the following table.

The Commission has considered funding of capitalisation, based on the scheme-wise details, as given below:

**Table 5.32: Funding of Capitalisation considered for FY 2017-18 (RE)**

(Rs. Crore)

Sl. No.	Planned Scheme	Capitalisation			
		Grant	Equity	Loan	Total
1	BRGF Phase-I		243.94		243.94
2	BRGF Phase-II		450.41		450.41
3	BRGF Phase-II Part C		64.32		64.32
4	BRGF RE portion		117.11		117.11
5	IPDS	62.39	31.20	10.40	103.99
6	DDUGJY	153.14	25.52	76.57	255.23
7	RGGVY XI plan	761.16		84.57	845.73
8	RGGVY XII plan	620.89		68.99	689.88
9	R-APDRP Part A			60.55	60.55
10	R-APDRP Part B			331.83	331.83
11	APDRP			5.13	5.13
12	NABARD Phase VIII	7.47			7.47
13	NABARD Phase XI	7.54			7.54
14	MP/CM LAD	15.02			15.02
15	Deposit scheme	0.33			0.33
16	ADB			24.49	24.49
17	APL connection - State Plan	40.44	20.22	6.74	67.40
18	State Plan		51.48		51.48
19	ACA State plan			13.64	13.64
20	Burnt DTR State Plan			31.46	31.46
	<b>Total</b>	<b>1668.38</b>	<b>1004.20</b>	<b>714.37</b>	<b>3386.95</b>

The Commission has considered opening CWIP at Rs.2888.25 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 5.33: 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 SBPDCL for FY 2017-18 (RE)	Approved in review for FY 2017-18 (RE)
1	Opening CWIP	3167.41	3011.88	2888.25	2888.25
2	New Investment	3143.15	2590.08	5647.15	5647.15
<b>3</b>	<b>Less: Capitalisation (4+5)</b>	<b>3155.27</b>	<b>4603.23</b>	<b>3386.90</b>	<b>3386.95</b>
4	Opening CWIP	1583.70	2409.50	2709.52	2709.52
5	New Investment	1571.57	2193.73	677.38	677.43
<b>6</b>	<b>Closing CWIP (1+2-3)</b>	<b>3155.29</b>	<b>998.73</b>	<b>5148.50</b>	<b>5148.45</b>
<b>7</b>	<b>Funding</b>				
<b>8</b>	<b>CWIP Capitalisation (9+10+11)</b>	<b>1583.70</b>	<b>2409.50</b>	<b>2709.52</b>	<b>2709.52</b>
9	Grant	1341.77	939.00	1334.69	1334.69
10	Equity	146.91	1261.98	806.61	806.61
11	Loan	95.02	208.52	568.22	568.22
<b>12</b>	<b>New Investment (13+14+15)</b>	<b>1571.57</b>	<b>2193.72</b>	<b>677.38</b>	<b>677.43</b>
13	Grant	719.87	854.91	333.67	333.69
14	Equity	426.15	1148.97	201.65	197.59
15	Loan	425.55	189.84	142.06	146.15
<b>16</b>	<b>Total Capitalisation (8+12)</b>	<b>3155.27</b>	<b>4603.22</b>	<b>3386.90</b>	<b>3386.95</b>
<b>17</b>	<b>Total Grant (9+13)</b>	<b>2061.64</b>	<b>1793.91</b>	<b>1668.36</b>	<b>1668.38</b>
<b>18</b>	<b>Total Equity (10+14)</b>	<b>573.06</b>	<b>2410.95</b>	<b>1008.26</b>	<b>1004.20</b>
<b>19</b>	<b>Total Loan (11+15)</b>	<b>520.57</b>	<b>398.36</b>	<b>710.28</b>	<b>714.37</b>

#### 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

SBPDCL 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 5.34: 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 SBPDCL for FY 2017-18 (RE)
1	Opening GFA	9855.31	8698.95	6854.91
2	Additions during the year	3155.27	4603.23	3386.90
3	Add : IDC	33.84	25.89	--
4	Add: Employee cost capitalised	14.30	14.98	--
<b>5</b>	<b>Closing GFA (1 to 4)</b>	<b>13058.71</b>	<b>13343.05</b>	<b>10241.82</b>

**Commission's analysis:**

The Commission has considered the capitalisation at Rs.3386.95 Crore (Table 5.33) in review for FY 2017-18. The Commission has considered closing GFA as on 31<sup>st</sup> March 2017 at Rs.6854.91 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 31<sup>st</sup> 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 5.35: 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 SBPDCL for FY 2017-18 (RE)	Approved in review for FY 2017-18 (RE)
1	Opening GFA	9855.31	8698.95	6854.91	6854.91
2	Additions during the year	3155.27	4603.23	3386.90	3386.95
3	Add : IDC	33.84	25.89	--	--
4	Add: Employee cost capitalised	14.30	14.98	--	--
<b>5</b>	<b>Closing GFA (1 to 4)</b>	<b>13058.71</b>	<b>13343.05</b>	<b>10241.82</b>	<b>10241.86</b>

**5.16. Depreciation**

**Petitioner's submission:**



SBPDCL 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. SBPDCL has adopted weighted average rate of depreciation of 5.11% for FY 2017-18.

The Petitioner has projected the depreciation for FY 2017-18 as detailed in the Table below:

**Table 5.36: Depreciation projected for FY 2017-18**

Sl. No.	Particulars	(Rs. Crore)		
		Approved in MYT order dated 21.03.2016	Revised and approved for FY 2017-18 in order dated 24.03.2017	Projected by SBPDCL for FY 2017-18 (RE)
1	Opening GFA	9855.31	8698.95	6854.91
2	Less: Value of land	1517.37	1533.97	1528.55
3	Net opening GFA (1-2)	8337.95	7164.98	5326.37
4	Additions during the year (excl. value of land)	3155.27	4603.23	3373.52
5	Expenses capitalised	14.30	14.98	--
6	IDC	33.84	25.89	--
7	Closing GFA (3+4+5+6)	11541.35	11809.08	8699.89
8	Average GFA (3+7)/2	9939.65	9487.03	7013.13
9	Weighted average rate of depreciation	4.63%	4.68%	5.11%
10	Gross Depreciation (8*9)	460.21	443.54	358.14
11	Opening Grants	8645.32	3946.13	2647.13
12	Grants during the year	2061.64	1793.91	1661.77
13	Total Grants (11+12)	10706.96	5740.04	4308.91
14	Average Grants (11+13)/2	9676.14	4843.09	3478.02
15	Weighted average rate of Depreciation	4.63%	4.68%	6.29%
16	Depreciation for GFA on Grants (14*15)	448.01	226.42	218.72
17	Depreciation for GFA on Loans (9-16)	12.20	217.12	139.43

SBPDCL 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 5.11% in respect of GFA and 6.29% in respect of Grants.

The Petitioner has projected capitalisation at Rs.3373.52 Crore (excluding value of land Rs.13.38 crore from total capitalisation of Rs.3386.95 crore) and grants at Rs.1661.77 Crore (excluding grants relating to land Rs.6.56 crore from total grants of Rs.1668.38 crore) for computation of depreciation during the year 2017-18.

The Commission has considered capitalisation at Rs.3386.95 Crore and Grants at Rs.1668.38 Crore based on the capitalisation for FY 2017-18 as discussed in the foregone relevant paragraphs. However, for the purpose of depreciation capitalisation of Rs.3373.52 crore (excluding value of land) and grants Rs.1661.79 crore (excluding grants relating to land) are considered as projected by the Petitioner.

Regulation 73 (2) (a) (i) of the BERC (Terms and Conditions for Determination of Tariff) Regulations 2007, specifies that ***“the value base for the purpose of depreciation shall be the historical cost of the asset”***. The Regulation 73 (2) (a) (ii) 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.5326.36 Crore and closing grants at Rs.3848.37 Crore in truing up for FY 2016-17. Accordingly, the Commission has considered the value of assets at Rs.5326.36 Crore as opening depreciable GFA and Rs.3848.37 Crore as opening grants for FY 2017-18. The Commission has considered weighted average rate of depreciation at 4.18% 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 5.37: 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 SBPDCL for FY 2017-18 (RE)	Approved for FY 2017-18 (RE)
1	Opening GFA	9855.31	8698.95	6854.91	--
2	Less: Value of land	1517.37	1533.97	1528.55	--
3	Net opening GFA (1-2)	8337.95	7164.98	5326.37	5326.36
4	Additions during the year (excl. value of land)	3155.27	4603.23	3373.52	3373.57
5	Expenses capitalised	14.30	14.98	--	--
6	IDC	33.84	25.89	--	--
7	Closing GFA (3+4+5+6)	11541.35	11809.08	8699.89	8699.93
8	Average GFA (3+7)/2	9939.65	9487.03	7013.13	7013.15
9	Weighted average rate of depreciation	4.63%	4.68%	5.11%	4.18%
10	Gross Depreciation (8*9)	460.21	443.54	358.14	293.21
11	Opening Grants	8645.32	3946.13	2647.13	3848.37
12	Grants during the year	2061.64	1793.91	1661.77	1661.79
13	Total Grants (11+12)	10706.96	5740.04	4308.91	5510.16
14	Average Grants (11+13)/2	9676.14	4843.09	3478.02	4679.27
15	Weighted average rate of Depreciation	4.63%	4.68%	6.29%	4.18%%
16	Depreciation on Grants (14*15)	448.01	226.42	218.72	195.64
17	Depreciation for GFA on Loans (9-16)	12.20	217.12	139.43	97.57

**The Commission, accordingly, considers the depreciation at Rs.97.57 crore in review for FY 2017-18.**

#### **5.17. Interest on Loans**

##### **Petitioner's submission:**

SBPDCL has submitted that opening balance of GFA funded through debt is taken as Rs.4798.44 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 @ 11.51%. SBPDCL has projected the interest charges for FY 2016-17 as detailed in the Table below:

**Table 5.38: 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 SBPDCL for FY 2017-18 (RE)
1	Amount of total asset at the beginning			4798.44
2	Less: assets created through grants at the beginning			1852.99
3	Additions during the year			2370.83
4	Less: assets created through grants during the year			1163.24
5	Net assets			4153.04
6	Less: Normative repayment			139.43
7	Amount of debt (Loan)			4013.61
8	Average debt			4406.03
9	Amount of loan eligible for interest			4406.03
10	Opening loan	925.76	2390.49	--
11	Additions during the year	520.57	1995.13	--
12	Normative repayment	12.20	217.12	--
13	Closing loan	1434.13	4168.50	--
14	Average loans	1179.95	3279.50	4406.03
15	Interest rate/weighted average rate	8.20%	8.20%	11.51%
16	<b>Interest Charges</b>	<b>96.76</b>	<b>268.92</b>	<b>506.97</b>

SBPDCL 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 11.51% for FY 2017-18 as given below:

Sl. No.	Particulars	FY 2017-18
1	<b>Opening Balance</b>	<b>596.72</b>
	REC Loans (RGGVY) 11.5%	65.89
	PFC Loans (R-APDRP) 9%	177.26
	REC Loans (R-APDRP Part-B) 10.4%	349.26
	PFC Loans (APDRP)	4.31
2	<b>Addition during the year</b>	<b>221.96</b>
	REC Loans (RGGVY) 11.5%	221.96
3	<b>Repayment of loans</b>	<b>4.31</b>
	REC Loans (RGGVY) 11.5%	--
	PFC Loans (R-APDRP) 9%	--
	PFC Loans (APDRP)	4.31

Sl. No.	Particulars	FY 2017-18
4	<b>Closing balance</b>	<b>814.37</b>
	REC Loans (RGGVY) 11.5%	287.84
	PFC Loans (R-APDRP) 9%	177.26
	PFC Loans (APDRP)	--
	REC Loans (R-APDRP Part-B) 10.4%	349.26
5	<b>Average Loans (1+4)/2</b>	<b>705.54</b>
6	<b>Interest on Loans</b>	<b>81.18</b>
	REC Loans (RGGVY) 11.5%	12.57
	PFC Loans (R-APDRP) 9%	31.90
	PFC Loans (APDRP)	0.39
	REC Loans (R-APDRP Part-B) 10.4%	36.32
7	<b>Weighted average rate of interest</b>	<b>11.51%</b>

The Commission has examined the computation of weighted average rate of interest projected by the Petitioner for FY 2017-18 and observed that the Petitioner has not considered repayment of loan in respect of REC (RGGVY) loans, REC (R-APDRP) Loan and PFC (R-APDRP) Loan for FY 2017-18. Further, the addition to loans during FY 2017-18 is not in commensurate with the capital investment plan of Rs.5647.15 crore projected by the Petitioner. Hence, the Commission provisionally considers the weighted average rate of interest at 5.35% 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 5.33. 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 5.39: Equity and Debt (normative) considered for FY 2017-18**

Sl. No.	Particulars	Amount (Rs. Crore)
1	Capitalisation during FY 2017-18	3386.95
2	Less: capitalisation funded through grants	1668.38
3	Net capitalisation to be considered for Debt : Equity (1-2)	1718.57
4	Debt @70% (3*70%)	1203.00
5	Equity @30% (3*30%)	515.57

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 5.35% 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.1217.06 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 5.39 above.

The Commission, considering the above, has computed interest on loans in review for FY 2017-18 as detailed in the Table below:

**Table 5.40: 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 SBPDCL for FY 2017-18 (RE)	Approved for FY 2017-18 (RE)
1	Opening loan	925.76	2390.49	--	1217.06
2	Additions during the year	520.57	1995.13	--	1203.00
3	Normative repayment	12.20	217.12	--	97.58
4	Closing loan	1434.13	4168.50	--	2322.48
5	Average loans	1179.95	3279.50	4406.03	1769.77
6	Interest rate/weighted average rate	8.20%	8.20%	11.51%	5.35%
7	<b>Interest Charges</b>	<b>96.76</b>	<b>268.92</b>	<b>506.97</b>	<b>94.68</b>

**The Commission, accordingly, has considered Rs.94.68 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 5.41: 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 SBPDCL for FY 2017-18 (RE)
1	Other finance charges as per audited accounts for FY 2015-16	51.93	65.04	123.70
2	Escalation percentage	10.00%	10.00%	10.00%
3	Add: increase in finance charges	5.19	6.50	12.37
4	Total Other finance charges	57.12	71.54	136.07

**Commission's analysis:**

The Commission has approved other finance charges at Rs.17.33 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 5.42: 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 SBPDCL for FY 2017-18 (RE)	Approved in review for FY 2017-18 (RE)
1	Other finance charges approved in true up for FY 2016-17	51.93	65.04	123.70	17.33
2	Escalation percentage	10.00%	10.00%	10.00%	10.00%
3	Add: increase in finance charges	5.19	6.50	12.37	1.73
4	<b>Other finance charges</b>	<b>57.12</b>	<b>71.54</b>	<b>136.07</b>	<b>19.06</b>

**The Commission, accordingly, has considered Rs.19.06 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**



SBPDCL 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 per 1000 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 "*..... SBPDCL has been functioning independently from 01.11.2012 and accordingly, reporting operational and financial performance.*

SBPDCL 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 SBPDCL 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:

SBPDCL 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 7<sup>th</sup> 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 300 employees is projected and the terminal benefits and other benefits are considered with an increase of @10% for FY 2017-18. The Petitioner has furnished the details of employee cost as given hereunder:

Sl. No.	Particulars	Amount (Rs. Crore)
1	Salaries	275.26
2	Overtime	4.36
3	Dearness allowance	13.76
4	Other allowance	18.27
5	Medical reimbursement	0.39
6	Leave salary contribution	13.42
7	Payment under Workmen Compensation Act	4.01
8	Staff welfare expenses	0.60
9	Terminal Benefits	22.70
	<b>Total</b>	<b>352.79</b>

The Petitioner has projected employee cost for FY 2017-18 (RE) as detailed in the Table below:

**Table 5.43: 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 SBPDCL for FY 2017-18 (RE)
1	Employee expenses	271.66	288.19	352.79
2	Inflationary index	5.25%	3.94%	--
3	Add: Inflationary increase	14.26	11.35	--
4	<b>Employee Cost</b>	<b>285.92</b>	<b>299.54</b>	<b>352.79</b>
5	Less: Capitalisation	14.30	14.98	--
6	<b>Total Employee Cost</b>	<b>271.62</b>	<b>284.56</b>	<b>352.79</b>

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:*

$$EMP_n = (EMP_b * CPI \text{ inflation}) + Provision$$

*Where:*

*EMP<sub>n</sub>: Employee expense for the year n*

*EMP<sub>b</sub>: 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:

<b>Particulars</b>	<b>Index points</b>
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 7<sup>th</sup> 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 5.44: 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 SBPDCL for FY 2017-18 (RE)	Approved in review for FY 2017-18 (RE)
1	Employee expenses	271.66	288.19	352.79	288.21
2	Inflationary index	5.25%	3.94%	--	3.24%
3	Add: Inflationary increase	14.26	11.35	--	9.34
4	Pay revision impact @15% (on 1)	--	--	--	43.23
<b>4</b>	<b>Employee Cost</b>	<b>285.92</b>	<b>299.54</b>	<b>352.79</b>	<b>340.78</b>
5	Less: Capitalisation	14.30	14.98	--	--
<b>6</b>	<b>Total Employee Cost</b>	<b>271.62</b>	<b>284.56</b>	<b>352.79</b>	<b>340.78</b>

The Commission, accordingly, considers the employee cost at Rs.340.78 Crore for FY 2017-18 (RE) as detailed in the above Table.

### 5.19.3 Repairs and Maintenance (R&M) Expenses

#### Petitioner's submission:

SBPDCL 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

*GFA<sub>n</sub>* : Opening Gross Fixed Assets for  $n^{th}$  year

*K<sub>b</sub>* : Percentage point as per the norm

SBPDCL 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	4114	4282	4845
2	R&M Expense for the year	47.12	68.86	71
3	% of R&M expenses to GFA (2/1)*100	1.15%	1.61%	1.46%
4	<b>Average % of R&amp;M expenses to GFA</b>	<b>1.41%</b>		

SBPDCL has projected R&M expenses for FY 2017-18 adopting 'K' factor on the opening GFA as given in the Table below:

**Table 5.45: 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 SBPDCL for FY 2017-18 (RE)
1	Opening GFA	9855.31	8698.95	6854.91
2	K factor	1.50%	1.53%	1.41%
3	<b>R &amp; M expenses</b>	<b>147.83</b>	<b>133.41</b>	<b>96.69</b>

SBPDCL 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 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 1.53% (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 5.46: 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 SBPDCL for FY 2017-18 (RE)	Approved in review for FY 2017-18 (RE)
1	Opening GFA	9855.31	8698.95	6854.91	6854.91
2	K factor	1.50%	1.53%	1.41%	1.53%
3	<b>R &amp; M expenses</b>	<b>147.83</b>	<b>133.41</b>	<b>96.69</b>	<b>104.88</b>

The Commission, accordingly, considers R&M expenses at Rs.104.88 Crore in review for FY 2017-18.

#### 5.19.4 Administration and General (A&G) Expenses

##### Petitioner's submission

SBPDCL 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 SBPDCL has estimated the A&G expenses at Rs.67.94 Crore for FY 2017-18 as furnished in Table below:

**Table 5.47: 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 SBPDCL for FY 2017-18 (RE)
1	A&G Expenses	47.93	46.63	67.94
2	Inflationary index	2.63%	--	--
3	Inflationary increase	1.26	--	--
4	<b>Total A &amp; G expenses</b>	<b>49.20</b>	<b>46.63</b>	<b>67.94</b>

SBPDCL 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:*

$$A\&G_n = (A\&G_b * WPI \text{ inflation}) + Provision$$

*Where:*

*A&G<sub>n</sub> : A&G expense for the year n*

*A&G<sub>b</sub> : 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 7.29.1 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 A&G expense actuals 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:

<b>Particulars</b>	<b>Index points</b>
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 5.48: 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 SBPDCL for FY 2017-18 (RE)	Approved in review for FY 2017-18 (RE)
1	A&G expenses	47.93	46.63	67.94	56.62
2	Inflationary index	2.63%	--	--	--
3	Inflationary increase	1.26	--	--	--
<b>4</b>	<b>A&amp;G expenses</b>	<b>49.20</b>	<b>46.63</b>	<b>67.94</b>	<b>56.62</b>

The Commission, accordingly, considers Rs.56.62 Crore towards Administration and General Expenses for FY 2017-18 in review.

#### 5.19.5 Allocation of Holding Company Expenses

##### Petitioner's submission

SBPDCL 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 SBPDCL 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 5.49: 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 SBPDCL for FY 2017-18 (RE)
Holding company expenses	7.02	9.16	5.99

SBPDCL 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.5.99 crore in review for FY 2017-18 considering escalation at 10.00% for inflationary increase over the holding company expenses approved (Rs.5.44 crore) in true up for FY 2016-17.

The Commission has approved Rs.5.44 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 5.50: Holding Company expenses considered for FY 2017-18**

Particulars	(Rs. Crore)			
	Approved in MYT order dated 21.03.2016	Revised and approved for FY 2017-18 in order dated 24.03.2017	Projected by SBPDCL for FY 2017-18 (RE)	Approved in review for FY 2017-18 (RE)
Holding company expenses	7.02	9.16	5.99	5.99

**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 5.51: 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 SBPDCL for FY 2017-18 (RE)	Now approved for FY 2017-18 in review
1	Employee cost	285.92	284.56	352.79	340.78
2	R&M expenses	147.83	133.41	96.69	104.88
3	A&G Expenses	49.20	46.63	67.94	56.62
4	Holding company expenses	7.02	9.16	5.99	5.99
5	<b>Total O&amp; M cost</b>	<b>489.98</b>	<b>473.76</b>	<b>523.41</b>	<b>508.27</b>

**The Commission considers total O&M expenses at Rs.508.27 Crore in review for FY 2017-18 (RE).**

## 5.20. Return on Equity

### Petitioner's submission:

SBPDCL 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.

SBPDCL 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 5.52: Return on Equity projected for FY 2017-18****(Rs. Crore)**

Sl. No.	Particulars	Projected by SBPDCL for FY 2017-18 (RE)
1	Amount of total assets at the beginning	2056.47
2	Less: assets created from grant at the beginning	794.14
3	Addition during the year	1016.07
4	Less: Additions created through grants	496.53
5	Net assets	1779.87
6	Average equity	1918.17
7	Rate of Return per annum %	16.00%
8	<b>Return on Equity</b>	<b>306.91</b>

SBPDCL 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 SBPDCL.

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.638.06 crore as closing equity to end of 31.03.2016 and accordingly, has considered RoE at 14% as per regulation 27(c).

Further, the Commission has also approved closing equity of Rs.258.97 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.3386.95 Crore and grants at Rs.1668.38 crore for FY 2017-18 as shown in Table 5.37 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	3386.95
2	Less: capitalisation funded through grants	1668.38
3	Net capitalisation (1-2)	1717.57
4	Debt @70% (3*70%)	1203.00
5	Equity @30% (3*30%)	515.57

Accordingly, the Commission has computed return on equity for FY 2017-18 as detailed in the Table below:

**Table 5.53: 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 SBPDCL for FY 2017-18 (RE)	Approved for FY 2017-18 in review
1	Closing equity to end of 31.03.2016		638.06		638.06
2	Rate of return on equity %		14.00%		14.00%
3	Return on Equity		89.33		89.33
	<b>Equity with effect from 1<sup>st</sup> April 2016</b>				
4	Opening equity		781.53		258.97
5	Equity addition during the year FY 2017-18		855.06		515.57
6	Closing equity (4+5)		1636.69		774.54
7	Average equity (4+6)/2	435.65	1209.06	1918.17	516.76
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)	67.53	187.40	306.91	80.10
10	<b>Total Return on equity (3+9)</b>	<b>178.41</b>	<b>276.73</b>	<b>306.91</b>	<b>169.43</b>

The Commission, accordingly, approves Return on Equity at Rs.169.43 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.36.10 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.6854.91 crore for FY 2017-18 (Table 5.35). The opening GFA approved includes assets revalued of Rs.1478.84 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 5.54: Contribution to Contingency Reserve approved for FY 2017-18**

(Rs. Crore)		
Sl. No.	Particulars	Approved for FY 2017-18
1	Opening GFA	6854.91
2	Less: Assets revalued	1478.84
3	Original cost of GFA	5376.07
4	% of Appropriation to Contingency	0.50%
5	<b>Contingency reserve (3* 4)</b>	<b>26.88</b>

**The Commission approves contribution to contingency reserve at Rs.26.88 crore for FY 2017-18.**

## 5.22. Interest on Security Deposit

### Petitioner's submission:

SBPDCL 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 5.55: Interest on security deposit projected for FY 2017-18 (RE)**

Sl. No.	Particulars	(Rs. Crore)
		Projected by SBPDCL for FY 2017-18 (RE)
1	Opening Security Deposit	418.24
2	Addition / (Deletion)	59.50
3	Closing Security Deposit	477.74
4	Average Security Deposit	447.99
5	RBI Bank Rate	7.75%
6	Interest on Security Deposit	34.72

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.418.24 Crore. The Commission has considered addition to consumer security deposits at Rs.59.50 crore as projected by the Petitioner for FY 2017-18. The RBI rate as on 1<sup>st</sup> 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 5.56: 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 SBPDCL for FY 2017-18 (RE)	Approved in review for FY 2017-18
1	Opening Security Deposit	393.16	404.32	418.24	418.24
2	Addition during the year	40.00	45.58	59.50	59.50
3	Closing Security Deposit (1+2)	433.16	449.90	477.74	477.74
4	Average Security Deposit (1+3)/2	413.16	427.11	447.99	447.99
5	RBI Bank Rate	7.50%	6.75%	7.75%	6.25%
6	Interest on Security Deposit (4*5)	30.99	28.83	34.72	28.00

**The Commission considers interest on Consumer's Security Deposit at Rs.28.00 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 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	10.22	13.70	-	-	13.70	Tariff order for FY 2014-15
2	2013-14	22.41	13.00	46.66	15.40	28.40	Tariff order for FY 2015-16 Revised vide order in Case No.18/2015 dated 14.07.2015.
3	2014-15	42.17	24.46	84.89	28.02	52.48	Tariff order for FY 2016-17
4	2015-16	67.04	38.88	196.18	64.74	103.62	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	75.56	43.83	303.71	100.22	144.05	Tariff order for FY 2018-19 (Rs.26.44 cr Solar and Rs.45.56 cr Non-solar totalling to Rs.72.00 cr considered and taken into ARR for FY 2017-18 and balance Rs.72.05 cr to be borne by the utility).
	<b>Total</b>	<b>217.40</b>	<b>133.87</b>	<b>631.44</b>	<b>208.38</b>	<b>342.25</b>	

The Commission directed SBPDCL 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.187 dated 17.02.2017 has informed that Rs.80.88 crore in two installments (Rs.69.13 crore and Rs.11.75 crore) was deposited into a separate bank account on 06.08.2016. The Commission, in view of deposit of Rs.80.88 crore in a separate bank account in FY 2016-17 has considered the RPO obligation of Rs.80.88 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 31<sup>st</sup> March 2017”*. SBPDCL vide letter no.35 dated 17.01.2018 had submitted the copies of Non-solar RE Certificates purchased for Rs.95.652 crore (637.68 MUs) to end of FY 2016-17 as

given below:

Sl. No.	Financial year	Non-solar MUs
1	Till FY 2013-14	46.66
2	FY 2014-15	84.89
3	FY 2015-16	196.18
4	FY 2016-17	309.95
5	Total	637.68
6	No of RE certificates (Numbers)	637680
7	<b>Cost @Rs.1500/- per RE Certificate (in Rs. crore)</b>	<b>Rs.95.652 crore</b>

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 NBPDCCL 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 NBPDCCL.

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 for 208.94 MU for Rs.31.341 crore 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 NBPDCCL, however no breakup details were furnished. In the absence of details, the Commission has considered balance RPO (60.01 MU) to be fulfilled by NBPDCCL 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	10.22	13.70			10.22	13.70	Tariff order for FY 2014-15
2	2013-14	22.41	13.00	46.66	15.40	69.07	28.40	Tariff order for FY 2015-16. Revised vide order in Case No.18/2015 dated 14.07.2015.
3	2014-15	42.17	24.46	84.89	28.02	127.06	52.48	Tariff order for FY 2016-17
4	2015-16	67.04	38.88	196.18	64.74	263.22	103.62	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	75.56	43.83	303.71	100.22	379.27	144.05	Tariff order for FY 2018-19 (Rs.26.44 cr Solar and Rs.45.56 cr Non-solar totalling to Rs.72.00 cr considered and taken into ARR for FY 2017-18 and balance Rs.72.05 cr to be borne by the utility).
<b>6</b>	<b>Total RPO</b>	<b>217.40</b>	<b>133.87</b>	<b>631.44</b>	<b>208.38</b>	<b>848.84</b>	<b>342.25</b>	
7	Less: REC purchased					637.68	95.65	Lr.No.69 dated 23.01.2018
8	Less: REC purchased					208.94	31.34	Lr.No.207 dated 14.03.2018
9	Less: REC purchased					48.99	7.35	Lr.No.207 dated 14.03.2018 (BSPHCL had purchased 109.001 RECs on behalf of Discoms and allocated to SBPDCL and NBPDCCL)
<b>10</b>	<b>REC to be purchased</b>	<b>217.40</b>	<b>133.87</b>	<b>631.44</b>	<b>208.38</b>	<b>(46.77)</b>	<b>207.91</b>	

It can be observed from Table above, the SBPDCL 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.134.34 crore (95.65+31.34+7.35).

The Commission has allowed Rs.80.88 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.134.34 crore as such the Commission has now considered the balance amount of Rs.53.46 crore (134.34-80.88) as pass through in the ARR for FY 2017-18.

The Commission, accordingly, considers Rs.53.46 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.12.82 crore and Rs.43.84 crore totaling Rs.56.66 crore towards cost of 128.24 MU solar and 438.42 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 SBPDCL to deposit Rs.207.91 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:**

SBPDCL 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 5.57: Projected Non-tariff Income for FY 2017-18 (RE)**

(Rs. Crore)		
Sl. No.	Particulars	Projected by SBPDCL for FY 2017-18 (RE)
1	Base Non-tariff income	192.97
2	Rate of Increase	10.00%
3	Increase in non tariff income	19.30
4	<b>Sub-total</b>	<b>212.27</b>
5	Less: Financing cost of DPS	73.89
6	<b>Net non-tariff income</b>	<b>138.37</b>

##### **Commission analysis:**

The Commission in true up for FY 2016-17 has considered non-tariff income of Rs.123.22 Crore (excluding rebate on payment of power purchase bills, which is considered separately @1% on power purchase cost) 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 5.58: 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 SBPDCL for FY 2017-18 (RE)	Approved for FY 2017-18 in review
1	Net Non-tariff income	269.50	179.56	192.97	123.22
2	Rate of Increase	10.00%	10.00%	10.00%	10.00%
3	Increase in non tariff Income	26.95	17.95	19.30	12.32
4	Sub-total	296.45	264.61	212.27	135.54
5	Less: Financing cost of DPS	--	--	73.89	--
6	Additional income due to release of new connections	--	67.09	--	--
7	<b>Total Non-tariff income</b>	<b>296.45</b>	<b>264.61</b>	<b>138.37</b>	<b>135.54</b>

**The Commission, accordingly, considered non-tariff income at Rs.135.54 Crore for FY 2017-18 (RE) as detailed in the Table above.**

#### **5.25. Interest on working capital**

##### **Petitioner's submission:**

SBPDCL 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.

SBPDCL has projected interest on working for FY 2017-18 computed based on the norms as detailed in the Table below:

**Table 5.59: 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 SBPDCL for FY 2017-18 (RE)
1	O&M expenses (1 month)	39.64	39.48	43.62
2	Two months equivalent expected revenue	1457.06	1194.51	1448.30
3	Maintenance spares @40% of R&M expenses for one month	4.93	4.45	3.22
<b>4</b>	<b>Sub-total (1+2+3)</b>	<b>1501.62</b>	<b>1238.44</b>	<b>1495.14</b>
	<b>Less:</b>			
5	(i) Power purchase cost, transmission charges and load dispatch charges of one month	683.06	489.69	588.62
	(ii) Depreciation, return on equity and contribution to contingency reserve	20.27	88.32	74.39
	(iii) Security Deposits from consumers	433.16	449.90	37.33
	(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))	<u>865.90</u>	1027.92	700.34
7	<b>Net working capital requirement (4-6)</b>	<b>635.72</b>	<b>210.52</b>	<b>794.80</b>
8	Rate of interest %	14.75%	14.00%	14.75%
9	<b>Interest on working capital (7*8)</b>	<b>93.77</b>	<b>29.47</b>	<b>117.23</b>

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.37.33 crore (average SD  $447.99/12=37.33$ ) for one month only. The Security Deposit from consumers represents equivalent to two months consumption amount and hence, 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.477.74 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 1<sup>st</sup> 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.1786.65 crore projected by the Petitioner represent tariff subsidy extended to the consumers by the State Government being received @ Rs.148.88 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.1786.55 crore as subsidy from GoB for FY 2017-18 and accordingly not considered 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 5.60: 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 SBPDCL for FY 2017-18 (RE)	Approved in review for FY 2017-18
1	O&M expenses (1 month)	39.64	39.48	43.62	--
2	Two months equivalent expected revenue	1457.06	1194.51	1448.30	1256.32
3	Maintenance spares @40% of R&M expenses for one month	4.93	4.45	3.22	3.50
4	<b>Sub-total (1+2+3)</b>	<b>1501.62</b>	<b>1238.44</b>	<b>1495.14</b>	<b>1259.81</b>
5	<b>Less:</b>				
	(i) Power purchase cost, transmission charges and load dispatch charges of one month	683.06	489.69	588.62	554.25
	(ii) Depreciation, return on equity and contribution to contingency reserve	20.27	88.32	74.39	48.98
	(iii) Grant received from the State Govt. for power purchase and other O&M expenses	433.16	449.90	37.33	--
	(iv) Security Deposits from consumers	--	--	--	477.74
6	Sub-total (5(i)+5(ii)+5(iii)+5(iv))	<u>865.90</u>	1027.92	700.34	1080.97
7	<b>Net working capital requirement (4-6)</b>	<b>635.72</b>	<b>210.52</b>	<b>794.80</b>	<b>178.85</b>
8	Rate of interest %	14.75%	14.00%	14.75%	14.05%
9	<b>Interest on working capital (7*8)</b>	<b>93.77</b>	<b>29.47</b>	<b>117.23</b>	<b>25.13</b>

The Commission, accordingly, has considered interest on working capital at

**Rs.25.13 crore in review for FY 2017-18 (RE).****5.26. Revenue from sale of power at existing tariff****Petitioner's submission**

SBPDCL has submitted the category wise revenue based on the existing tariff excluding sale to Nepal for FY 2017-18 as detailed in the Table below:

**Table 5.61: Projected Revenue from sale of power at existing tariff for FY 2017-18 (RE)**

<b>Sl. No</b>	<b>Category</b>	<b>Revenue (Rs. Crore)</b>
1	KJY	114.90
2	DSI	409.60
3	DSII	1630.00
4	DS III	
5	NDS I Commercial	16.40
6	NDS II Commercial	780.30
7	NDS III Commercial	
8	NDS IV	
9	SS I	9.30
10	SS II	10.10
11	Irrigation and Agriculture I	76.00
12	Irrigation and Agriculture II	110.50
13	PWW	93.90
14	LTIS I	244.10
15	LTIS II	127.70
16	HT IS I	472.90
17	HT IS II	279.30
18	HT IS III	136.10
19	HTSS	399.50
20	RT	451.70
21	DF	651.30
	<b>Total</b>	<b>6013.40</b>

**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. 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 approved tariff rates as detailed in Annexure-IV (except DF which is based on input rate) by the Commission on the approved sales for FY 2017-18 (RE) as detailed in the Table below:

**Table 5.62: 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	435.54	6.19	269.41
2	DS-I	1,333.46	6.19	824.75
3	DS-II	3,238.49	6.78	2,196.30
4	NDS-I	41.71	6.52	27.20
5	NDS-II	987.60	8.30	819.97
6	SS Metered	9.06	7.94	7.19
7	SS Unmetered	11.83	10.01	11.84
8	IAS-I	312.17	10.85	338.69
9	IAS-II	148.06	8.14	120.50
10	Public Water Works	63.81	10.91	69.60
11	LTIS-I	216.76	9.61	208.24
12	LTIS-II	165.64	9.11	150.92
13	HTIS-I	562.06	8.97	504.19
14	HTIS-II	334.38	8.87	296.65
15	HTIS-III	172.31	7.79	134.31
16	HTSS	810.39	5.51	446.13
17	RT	563.61	8.06	454.17
18	DF	1,421.98	3.11	441.67
	<b>Total</b>	<b>10,828.86</b>	<b>6.76</b>	<b>7,321.72</b>

## 5.27. 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.1786.55 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 5.63: Resource Gap utilization projected for FY 2017-18**

Sl.	Particulars	Projected by SBPDCL for FY
-----	-------------	----------------------------

No.		2017-18 (RE)
1	Proposed resource gap grant from State Govt.	1786.55
2	Less: Disallowed power purchase funded through State Govt. grant/subsidy	--
3	Available Revenue Subsidy	1786.55

### Commission's analysis:

The Commission observes that the subsidy of Rs.1786.65 crore projected by the Petitioner represent tariff subsidy extended to the consumers by the State Government being received @ Rs.148.88 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.1786.55 crore as subsidy from GoB for FY 2017-18 as detailed in the Table below:

**Table 5.64: Resource Gap utilization considered for FY 2017-18**

(Rs. Crore)			
Sl. No.	Particulars	Projected by SBPDCL for FY 2017-18 (RE)	Approved in review for FY 2017-18 (RE)
1	Proposed resource gap assistance from State Government	1786.55	--
2	Less: Disallowed power purchase funded through State Govt. grant	--	--
3	Available balance resource gap assistance	1786.55	--

### 5.28. 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 5.65: 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 SBPDCL for FY 2017-18 (RE)
1	Purchase of power	7383.36	5101.39	6212.24
2	PGCIL & Other transmission charges	495.52	461.38	415.24
	BSPTCL transmission charges	317.83	374.15	435.97
	BGCL charges	--	122.67	--
	SLDC charges	--	3.27	--
	Less: 1% rebate	--	(60.63)	--
5	<b>O &amp; M Expenses (a+b+c+d)</b>	<b>475.67</b>	<b>473.76</b>	<b>523.41</b>
	a. Employee expenses	271.63	284.56	352.79
	b. R&M expenses	147.83	133.41	96.69
	c. A&G expenses	49.20	46.63	67.94
	d. Holding company expenses allocated	7.02	9.16	5.99
6	Depreciation	12.20	217.12	139.43
7	Interest on loans	96.76	268.92	506.97
8	Other finance charges	57.12	71.54	136.07
9	Return on equity	67.53	276.73	306.91
10	Interest on SD	30.99	28.83	34.72
11	Deposit for RPO obligation	--	52.88	--
13	Less: IDC	(33.84)	(25.89)	--
14	Interest on working capital	93.77	29.47	117.23
15	Contribution to Contingency Reserve	41.88	36.10	--
16	<b>Total Revenue requirement</b>	<b>9038.79</b>	<b>7431.69</b>	<b>8828.18</b>
17	Less: Non-tariff income	296.45	264.61	138.37
18	Less: Expenditure disallowed due to excess T&D losses	1623.50	--	--
19	<b>Net Revenue requirement</b>	<b>7118.84</b>	<b>7167.08</b>	<b>8689.81</b>
20	Revenue from Existing tariff	4221.12	6903.19	6013.40
21	<b>Gross Gap / (Surplus)</b>	<b>2897.72</b>	<b>263.89</b>	<b>2676.41</b>
23	Add: Recovery of (Surplus) FY 2015-16	--	585.07	834.56
25	<b>Net Gap / (Surplus) before subsidy</b>	<b>2897.72</b>	<b>848.96</b>	<b>3510.97</b>
26	Subsidy from State Government	--	--	1786.55
27	Subsidy used for disallowed power	--	--	--
28	Subsidy available for revenue gap	--	--	1786.55
29	<b>Net Gap / (Surplus) after subsidy</b>	<b>686.50</b>	<b>848.96</b>	<b>1724.42</b>

#### 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 5.66: 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 SBPDCL for FY 2017-18 (RE)	Approved for FY 2017-18 in review
1	Purchase of power	7383.36	5101.39	6212.24	5774.12
2	PGCIL & Other transmission charges	495.52	461.38	415.24	436.55
3	BSPTCL transmission charges	317.83	374.15	435.97	336.73
4	BGCL charges	--	122.67	--	110.57
5	SLDC charges	--	3.27	--	2.93
6	Less: 1% rebate	--	(60.63)	--	(66.61)
7	RE Purchases				56.66
7	<b>O &amp; M Expenses (a+b+c+d)</b>	<b>475.67</b>	<b>473.76</b>	<b>523.41</b>	<b>508.27</b>
	a. Employee expenses	271.63	284.56	352.79	340.78
	b. R&M expenses	147.83	133.41	96.69	104.88
	c. A&G expenses	49.20	46.63	67.94	56.62
	d. Holding company expenses allocated	7.02	9.16	5.99	5.99
8	Depreciation	12.20	217.12	139.43	97.57
9	Interest on loans	96.76	268.92	506.97	94.68
10	Other finance charges	57.12	71.54	136.07	19.06
11	Return on equity	67.53	276.73	306.91	169.43
12	Interest on SD	30.99	28.83	34.72	28.00
13	Deposit for RPO obligation	--	52.88		53.46
14	Less: IDC	(33.84)	(25.89)	--	--
15	Interest on working capital	93.77	29.47	117.23	25.13
16	Contribution to Contingency Reserve	41.88	36.10		26.88
17	<b>Total Revenue requirement (1 to 16)</b>	<b>9038.79</b>	<b>7431.69</b>	<b>8828.18</b>	<b>7673.43</b>
18	Less:: Non-tariff income	296.45	264.61	138.37	135.54
19	Less: Expenditure disallowed due to excess T&D losses	1623.50	--	--	--
20	<b>Net Revenue requirement (17-18-19)</b>	<b>7118.84</b>	<b>7167.08</b>	<b>8689.81</b>	<b>7537.90</b>
21	Revenue from Existing tariff	4221.12	6903.19	6013.40	7321.72
22	<b>Gross Gap / (Surplus) (20-21)</b>	<b>2897.72</b>	<b>263.89</b>	<b>2676.41</b>	<b>216.18</b>
23	Add: Recovery of (Surplus) FY 2015-16	--	585.07	834.56	585.07
24	<b>Net Gap / (Surplus) before subsidy (22+23)</b>	<b>2897.72</b>	<b>848.96</b>	<b>3510.97</b>	<b>801.25</b>
25	Subsidy from State Government	--	--	1786.55	--
26	Subsidy used for disallowed power	--	--	--	--
27	Subsidy available for revenue gap (25-26)	--	--	1786.55	--
28	<b>Net Gap / (Surplus) after subsidy (24-27)</b>	<b>686.50</b>	<b>848.96</b>	<b>1724.42</b>	<b>801.25</b>

The Commission approves the net **revenue Gap** of Rs.801.25 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.

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## 6. ARR for FY 2018-19

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### 6.1 Background

SBPDCL has submitted the present petition on 5<sup>th</sup> 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

SBPDCL serves about 39.97 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

SBPDCL 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	4,43,182	4,18,817	5,28,381	8,31,932	23.36%	40.94%	57.45%
Domestic – I	2,97,781	7,01,786	10,12,042	12,76,524	62.45%	34.87%	26.13%
Domestic – II	8,21,797	8,69,238	9,68,267	10,77,407	9.45%	11.33%	11.27%
Domestic - III	25	15	40	9	-28.86%	-22.54%	-77.50%
Non-Domestic – I	7,871	16,222	28,305	39,738	71.55%	56.51%	40.39%
Non-Domestic – II	1,58,479	1,67,095	1,92,276	2,22,527	11.98%	15.40%	15.73%
Non-Domestic – III	143	135	205	155	2.72%	7.15%	-24.39%
Non-Domestic - IV	0	0	0	0			
Street Light – I	99	138	193	378	56.30%	65.50%	95.85%
Street Light – II	178	183	274	322	21.85%	32.65%	17.52%
IAS – I	45,969	46,031	61,824	1,41,288	45.39%	75.20%	128.53%
IAS – II	1,691	1,862	2,045	3,666	29.42%	40.32%	79.27%
Public Water Works	662	670	900	1,391	28.08%	44.09%	54.56%
LTIS – I	9,809	10,811	13,138	26,179	38.71%	55.61%	99.26%
LTIS – II	1,215	1,364	2,095	2,649	29.67%	39.36%	26.44%
HTS – I	919	1,010	955	1,250	10.80%	11.25%	30.89%
HTS – II	120	67	80	94	-7.82%	18.45%	17.50%
HTS – III	2	3	3	3	14.47%	0.00%	0.00%
HTSS	15	13	14	13	-4.66%	0.00%	-7.14%
Railway	17	15	15	15	-4.09%	0.00%	0.00%

**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	159.55	144.34	200.56	325.04	26.77%	50.06%	62.07%
Domestic – I	295.13	396.58	708.02	982.17	49.30%	57.37%	38.72%
Domestic – II	1,217.91	1,318.00	1,698.84	2,249.21	22.69%	30.63%	32.40%
Domestic - III	0.54	0.04	0.27	0.14	-36.24%	87.08%	-48.15%
Non-Domestic – I	8.41	13.42	20.31	29.71	52.30%	48.79%	46.28%
Non-Domestic – II	509.98	543.35	691.27	881.94	20.03%	27.40%	27.58%
Non-Domestic – III	2.4	0.68	1.27	1.92	-7.17%	68.03%	51.18%
Non-Domestic - IV	-	-	-	0.13			
Street Light – I	1.69	4	7.65	5.77	50.58%	20.10%	-24.58%
Street Light – II	17.96	6.77	12.25	10.07	-17.54%	21.96%	-17.80%
IAS – I	146.31	139.37	149.32	168.38	4.79%	9.92%	12.76%
IAS – II	70.64	70.65	75.04	65.39	-2.54%	-3.79%	-12.86%
Public Water Works	34.26	37.02	45.62	49.63	13.15%	15.79%	8.79%
LTIS – I	102.1	96.84	120.19	180.63	20.95%	36.57%	50.29%
LTIS – II	88.55	87.95	119.8	138.03	15.95%	25.28%	15.22%
HTS – I	488.19	424.35	448.96	507.28	1.29%	9.34%	12.99%
HTS - II	169.65	202.58	253.35	285.74	18.98%	18.76%	12.78%
HTS - III	63.45	70.45	118.1	129.23	26.76%	35.44%	9.42%
HTSS	480.78	479.07	557.97	658.44	11.05%	17.24%	18.01%
Railway	511.9	527.21	579.95	563.61	3.26%	3.39%	-2.82%

**Table 6.3: Category wise sanctioned / contracted load for FY 2013-14 to FY 2017-18**

Consumer Category	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	3 years	2 years	YoY
Kutir Jyoti- BPL Consumers	328210	307132	323665	69142	-40.50%	-52.55%	-78.64%
Domestic – I	324800	705917	1019584	1314933	59.38%	36.48%	28.97%
Domestic – II	1396367	750105	1844909	2163227	15.71%	69.82%	17.25%
Non-Domestic – I	9297	17990	31091	44323	68.30%	56.96%	42.56%
Non-Domestic – II	420548	201106	745486	834710	25.67%	103.73%	11.97%
Non-Domestic – III	1057	607	873	3905	54.59%	153.64%	347.31%
Street Light – I	830	1097	2574	2051	35.20%	36.73%	-20.32%
Street Light – II	3527	2266	2795	2239	-14.06%	-0.60%	-19.89%
IAS – I	107016	91280	123139	317355	43.67%	86.46%	157.72%
IAS – II	19795	19271	21564	40047	26.48%	44.16%	85.71%
Public Water Works	12588	9801	16959	19543	15.79%	41.21%	15.24%
LTIS – I	75176	41974	113766	271394	53.41%	154.28%	138.55%
LTIS – II	43742	30221	176160	137414	46.46%	113.24%	-21.99%
HTS – I	214769	208482	256317	263981	7.12%	12.53%	2.99%
HTS – II	76329	98406	151324	141850	22.95%	20.06%	-6.26%
HTS – III	14400	25650	29500	32850	31.64%	13.17%	11.36%
HTSS	155883	87640	105743	98346	-14.23%	5.93%	-7.00%
Railway	151022	151020	168000	153180	0.47%	0.71%	-8.82%

#### 6.4 Category-wise number of Consumers, Connected Load and Sales projected by the petitioner for FY 2018-19

##### Petitioner's Submission

SBPDCL 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 11.98 Lakh house holds in South 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.

SBPDCL 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.

SBPDCL has further submitted that the Distribution Franchisee agreement with M/s BEDCPL for distribution of electricity in Bhagalpur area was terminated with effect from 26.11.2017 and therefore, the Bhagalpur area is now considered under its jurisdiction for the purpose of projection of consumers, sales and connected load for FY 2018-19.

**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 SBPDCL for FY 2018-19**

Category	Consumers for FY 2018-19	Sales for FY 2018-19 (MU)	Connected Load for FY 2018-19 (KW)
<b>Domestic</b>	<b>4,623,819</b>	<b>6,399.23</b>	<b>5467883</b>
Kutir Jyoti- BPL Consumers	1,449,835	620.64	362459
Domestic – I	1,898,391	1,869.46	2147300
Domestic – II	1,275,593	3,909.13	2958124
Domestic – III	0	0.00	

Category	Consumers for FY 2018-19	Sales for FY 2018-19 (MU)	Connected Load for FY 2018-19 (KW)
<b>Commercial</b>	<b>353,637</b>	<b>1,257.48</b>	<b>1278163</b>
Non-Domestic - I	63,430	49.79	78001
Non-Domestic - II	290,207	1,207.69	1200162
Non-Domestic - III	0	0.00	<b>0.00</b>
<b>Public Lighting</b>	<b>1,466</b>	<b>35.04</b>	<b>8732</b>
Street Light - I	956	19.10	5188
Street Light - II	510	15.94	3544
<b>Irrigation</b>	<b>307,268</b>	<b>697.20</b>	<b>755769</b>
IAS – I	302,728	544.39	705791
IAS – II	4,540	152.81	49978
<b>Public Water Works</b>	<b>2,401</b>	<b>134.87</b>	<b>33732</b>
<b>Industrial LT</b>	<b>34,413</b>	<b>517.81</b>	<b>492083</b>
LTIS – I	31,153	347.93	322959
LTIS – II	3,260	169.88	169125
<b>Industrial HT</b>	<b>1,731</b>	<b>2,127.57</b>	<b>718956</b>
HTS – I	1,595	647.10	336738
HTS – II	116	352.62	179677
HTS – III	4	187.81	81500
HTSS	16	940.05	121041
<b>Railway</b>	<b>15</b>	<b>563.61</b>	<b>170200</b>
<b>DF</b>	<b>213,160</b>	<b>734.89</b>	<b>347621</b>
<b>Total</b>	<b>5,537,909</b>	<b>12,467.71</b>	<b>9273139</b>

### Commission's Analysis

#### 6.5 Analysis of category wise number of consumers, energy sales and connected load

On a query from the Commission SBPDCL 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 SBPDCL for FY 2018-19**

Category	Consumers	Connected Load (KW)	Sales (MU)
<b>Domestic</b>			
<b>Kutir Jyoti</b>			
Unmetered	45474	11369	25.04
Metered (0-50)	1404361	351090	595.60
<b>Total - KJ</b>	<b>1449835</b>	<b>362459</b>	<b>621</b>
<b>DS-I (Rural)</b>			
<b>Unmetered</b>	<b>37968</b>	<b>42104</b>	<b>37.39</b>
<b>Metered</b>			
First 50 Units	1581360	1789417	1137.98
51 - 100 Units	167438	189468	150.45

Category	Consumers	Connected Load (KW)	Sales (MU)
Above 100 Units	111625	126312	543.64
<b>Total</b>	<b>1898391</b>	<b>2147300</b>	<b>1869</b>
<b>DS-II (Urban- Demand Based)</b>			
1-100 U/Month	318889	739498	508.19
101 - 200 U/Month	574000	1331097	1329.10
201 -300 U/Month	318889	739498	1524.56
above 300 U/Month	63814	148031	547.28
<b>Total</b>	<b>1275593</b>	<b>2958124</b>	<b>3909</b>
<b>NDS-I (Rural)</b>			
<b>Unmetered</b>	<b>1000</b>	<b>447</b>	<b>0.25</b>
<b>Metered</b>			
1-100 U/Month	29330	33046	17.43
101 - 200 U/Month	27418	37021	22.91
above 200 U/Month	5682	7487	9.21
<b>Total</b>	<b>63430</b>	<b>78001</b>	<b>50</b>
<b>NDS-II (Demand Based)</b>			
<b>Contract Demand &lt; 0.5 kW</b>	<b>4576</b>	<b>6877</b>	<b>6.17</b>
<b>Contract Demand &gt; 0.5 kW</b>			
First 100 Units	134190	508459	626.79
101 - 200 Units	125445	569626	502.79
Above 200 Units	25996	115199	71.94
<b>Total</b>	<b>290207</b>	<b>1200162</b>	<b>1208</b>
<b>IAS-I (Pvt Tubewell)</b>			
Unmetered	190737	444692	476.67
Metered	111991	261099	67.72
<b>Total</b>	<b>302728</b>	<b>705791</b>	<b>544</b>
<b>IAS-II (State Tubewell)</b>			
Unmetered	1967	21655	84.44
Metered	2573	28322	68.37
<b>Total</b>	<b>4540</b>	<b>49978</b>	<b>153</b>
<b>LTIS</b>			
LTIS-I (Contract Demand < 19 kW)	31153	322959	347.93
LTIS-II (Contract Demand 19-74 kW))	3260	169125	169.88
<b>Total - LTIS</b>	<b>34413</b>	<b>492083</b>	<b>518</b>
<b>PWW - Public Water Works (Demand Based)</b>			
PWW	2401	33732	134.87
<b>Total PWW</b>	<b>2401</b>	<b>33732</b>	<b>135</b>
<b>Street Light Services</b>			
SS-Metered	956	5188	19.10
SS-Unmetered	510	3544	15.94
<b>Total - Street Light</b>	<b>1466</b>	<b>8732</b>	<b>35</b>
HTS-I (11 kV)	1595	336738	647.10
HTS-II (33 kV)	116	179677	352.62
HTS-III (132 kV)	4	81500	187.81
HTS-IV (220 kV)	0	0	0.00

Category	Consumers	Connected Load (KW)	Sales (MU)
HTSS (33 / 11 kV)	16	121041	940.05
<b>Total - HTS &amp; HTSS</b>	1731	718956	2128
RTS (132 kV)	15	170200	563.61
<b>Total</b>	<b>5324750</b>	<b>8925518</b>	<b>11733</b>
DF	213160	347621	734.89
<b>Grand Total</b>	<b>5535508</b>	<b>9273139</b>	<b>12467.71</b>

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** : SBPDCL 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 2.77 Lakh KJ consumers would be added in FY 2018-19 and projected 14,49,835 KJ consumers including the projected KJ consumers of erstwhile Bhagalpur DF for FY 2018-19.

The Commission approves the number of Kutir Jyoti consumers for FY 2018-19 at 14,49,835 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:** SBPDCL 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 362459 KW as projected by petitioner.
- (iii) **Sales:** SBPDCL has submitted that monthly consumption of 37 kWh per consumer per month is considered to arrive at estimated sales for FY 2018-19.

It is noted that petitioner has projected 25.04 MU for KJ (Unmetered) which works out to 45.88 units/month/connection which is within the approved norms of 50 units/months/connection. The Commission accepts the proposal of the Petitioner as the specific consumption considered is within the approved norm of 50 units and approves the sales of Kutir Jyoti category for FY 2018-19 at 620.64 MU 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 6.6: 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	1449835	362459	620.64
Approved			
Unmetered	45474	11369	25.04
Metered	1404361	351090	595.60
Total	1449835	362459	620.64

### 6.5.2 Domestic Service – I (DS-I)

- (i) **Consumers** : SBPDCL has submitted that about 32.98 lakh consumers need to be electrified by end of FY 2018-19; 3.64 lakh consumers are considered to be added to this category including projected consumers of erstwhile Bhagalpur DF.

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 1898391 as projected by the Petitioner as all rural households have to be electrified by FY 2018-19.

- (ii) **Connected Load**: SBPDCL 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 2147300 as projected by the Petitioner.

- (iii) **Sales**: SBPDCL 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.

The petitioner has projected 37.39 MU for DS-I unmetered category. The average consumption per month per consumer works out to 82.06 units per month per consumer. The norms for this category is 75 units per month per consumer. Accordingly, the Commission considers the average consumption per consumer per month as 75 kWh and approves the energy sales for DS-I



unmetered category as 34.17 MU and remaining sales in 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	1898391	2147300	1869.46
Approved			
Unmetered	37968	42104	34.17
Metered	1860423	2105196	1835.29
Total	1898391	2147300	1869.46

### 6.5.3 Domestic Service - II (DS-II)

- (i) **Consumers** : SBPDCL 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 and adding projected consumers of Bhagalpur for FY 2018-19.

The Commission considers a growth rate of 9.18% (3 Year CAGR) over the number of consumers estimated for FY 2017-18 including Bhagalpur (1179222+81101) and approves the total number of consumers under DS-II category as 1376020 for FY 2018-19.

- (ii) **Connected Load**: SBPDCL 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 2.108 KW. Considering a nominal 5% growth rate on the average connected load per consumer, the Commission approves the connected for DS-II category for FY 2018-19 as 30,45,683 KW.

- (iii) **Sales:** SBPDCL 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 228.85 kWh. Considering a nominal growth of 5% on the average consumption per consumer per month, the Commission approves the sales for DS-II category at 3967.77 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	1275593	2958124	3909.13
Approved	1376020	3045683	3967.77

#### 6.5.4 Non-Domestic Service - I (NDS-I)

- (i) **Consumers :** SBPDCL 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 adding projected consumers of Bhagalpur for FY 2018-19 and also submitted that there are not many significant consumers left un-electrified in this sub-category.

The Commission approves the number of consumer for NDS-I category as 63430 for FY 2018-19 as projected in view of the explanation given by the Petitioner.

- (ii) **Connected Load:** SBPDCL has submitted that a nominal growth rate of 5% on average load per consumer in FY 2017-18, which comes to 1.23 KW is considered for projecting the connected load.

The average connected load per consumer in FY 2017-18 is 1.17 KW and it works out to 1.23 KW with escalation of 5%. The Commission approves the

connected load of NDS-I category as 78001 KW for FY 2018-19 as projected by the Petitioner.

- (iii) **Sales:** SBPDCL has submitted that the sales have been projected by considering 5% growth on the average consumption per consumer per month of FY 2016-17 and multiplying with total number of consumers.

It is noted that SBPDCL has projected 0.25 MU for NDS-I unmetered which works out to 20.83 units/month/consumer. The approved norms 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 49.79MU 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	63430	78001	49.79
Approved			
Unmetered	1000	447	0.25
Metered	62430	77554	49.54
Total	63430	78001	49.79

#### 6.5.5 Non-Domestic Service - II (NDS-II)

- (i) **Consumers :** SBPDCL has submitted that number of consumers are projected considering a growth rate of 10% on the number of consumers ending FY 2017-18 and adding projected consumers of Bhagalpur for FY 2018-19.

The Commission has considered a growth rate of 11.98% (1 Year and 4 Year CAGR) over the projected number of consumers for FY 2017-18 including

Bhagalpur (249186+151187) and approves the number of consumers of NDS-II category as 296045 for FY 2018-19.

- (ii) **Connected Load:** SBPDCL has submitted that for projecting connected load a growth rate of 5% 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 3.94 KW considering a growth rate of 5% and multiplying with approved number of consumers the Commission approves the connected load of NDS-II category as 1224738 KW for FY 2018-19.

- (iii) **Sales:** SBPDCL has submitted that for projecting the sales, 5% growth rate on average consumption per month in FY 2016-17 is considered.

The average consumption per consumer per month in FY 2017-18 is 330.27 kWh. Considering a growth rate of 5% on the average consumption the Commission approves the sales for NDS-II category as 1231.96 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	290207	1200162	1207.69
Approved	296045	1224738	1231.96

#### 6.5.6 Street Light (Metered) - SS - I

- (i) **Consumers :** SBPDCL has submitted that the trend of number of consumers in this sub-category is quite uneven and for projecting number of consumers, 3 year CAGR of 56% on the total number of consumers estimated in FY 2017-18

is considered and then projected number of consumers of Bhagalpur DF for FY 2018-19 are added.

The high growth considered may be due to increased electrification of un-electrified villages and increasing street light connection in already electrified villages. Therefore, the Commission approves the number of consumers of SS-I category as 956 for FY 2018-19 as projected by the petitioner.

- (ii) **Connected Load:** SBPDCL 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 accepts the reasoning of the petitioner and approves the connected load of SS-I category as 5188 KW for FY 2018-19 as projected by the petitioner.

- (iii) **Sales:** SBPDCL 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 approves the sales for SS-I category as 19.10 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	956	5188	19.10
Approved	956	5188	19.10

### 6.5.7 Street Light (Un-Metered) - SS - II

- (i) **Consumers** : SBPDCL has submitted that for projecting number of consumers 17.52% (1 Year CAGR) growth rate is considered on the number of consumers estimated in FY 2017-18 and the projected consumers of Bhagalpur DF for FY 2018-19 are added.

The growth rate of FY 2016-17 over FY 2015-16 is 17.52%. The Commission considers a growth of 17.52% over the number of consumers estimated for FY 2017-18 including Bhagalpur (378+56) and approves the number of consumers of SS-II category as 510 for FY 2018-19 as projected by Petitioner.

- (ii) **Connected Load**: SBPDCL 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 3544 KW for FY 2018-19 as projected by Petitioner.

- (iii) **Sales**: SBPDCL has submitted that for projecting the sales average consumption per consumer per month during FY 2016-17 is considered.

The norms stipulated for this category is 25 units per 100W per month. The Commission approves the sales of SS-II category as 10.63 MU for FY 2018-19 based on the approved norm.

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	510	3544	15.94
Approved	510	3544	10.63

**6.5.8 IAS-I**

- (i) **Consumers** : SBPDCL 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. SBPDCL has submitted that for projecting the number of consumers approximately 1.32 Lakh new connections in SBPDCL and projected consumers of Bhagalpur for FY 2018-19 are considered.

It is observed that 1,34,940 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 3,02,728 for FY 2018-19 as projected by the Petitioner.

- (ii) **Connected Load**: SBPDCL 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 2.25 KW and in FY 2017-18 (RE) is 2.29 KW i.e., an increase of 1.78%.

The Commission accepts the proposal of the Petitioner and approves the connected load of IAS-I category as 705791 KW for FY 2018-19 as projected by the Petitioner.

- (iii) **Sales**: SBPDCL has projected 544.39 MU submitting that for IAS-I category only 3 months consumption of 10% 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 476.67 MU for IAS-I unmetered category. The average consumption per KW per annum works out to 1071.91 kWh. The norms 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 544.39 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 6.13: 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	3,02,728	705791	544.39
Approved			
Unmetered	190737	444692	476.67
Metered	111991	261099	67.72
Total	302728	705791	544.39

#### 6.5.9 IAS-II

- (i) **Consumers** : SBPDCL has submitted that there is a constant growth of around 30% every year in this category; The Petitioner has considered a nominal growth rate of 10% on the total number of consumers projected for FY 2017-18 and added projected consumers of Bhagalpur for FY 2018-19.

The Commission approves the number of consumers of IAS-II category as 4540 for FY 2018-19 as projected by Petitioner, since this category pertains to Tubewell where there are only limited number of connections.

- (ii) **Connected Load**: SBPDCL 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 10.924 KW and in FY 2017-18 (RE) is 10.965 i.e., there is a growth of 0.38% in FY 2017-18



(RE). The Commission approves the connected load of IAS-II category as 49978 KW for FY 2018-19 as projected by petitioner.

- (iii) Sales:** SBPDCL 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 84.77 MU for IAS-II unmetered which works out to 3899.33units/KW/annum. The approved norm is 3620 units/KW/annum.

The Commission approves the sales for IAS-II unmetered category as 78.39 MU based on the norms and the balance 74.42 MU (152.81-78.39) sales in metered category of IAS-II 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 6.14: 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	4540	49978	152.81
Approved			
Unmetered	1967	21655	78.39
Metered	2573	28323	74.42
Total	4540	49978	152.81

#### 6.5.10 Public Water Works (PWW)

- (i) Consumers :** SBPDCL has submitted that for projecting number of consumers a growth rate of 28.08% ( 3 Year CAGR) of FY 2016-17 over FY 2013-14 on the total number of consumers estimated for FY 2017-18 is considered and projected consumers of Bhagalpur are added.

It is noted that CAGRs during FY 2013-14 to FY 2016-17 are varying from 28.09% to 40.71%.

The Commission considers the 4 Year CAGR of 28.09% as reasonable and applying the same on the projected number of consumers for FY 2017-18 including Bhagalpur (1782+107) approves the number of consumers of PWW category as 2419 for FY 2018-19.

- (ii) **Connected Load:** SBPDCL 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 14.05 KW per consumer which is as per actuals during FY 2016-17. The Commission accepts the proposal of the Petitioner and multiplying the same with the number of consumers estimated for FY 2017-18 including Bhagalpur and approves the connected load of PWW category as 33987 KW.

- (iii) **Sales:** SBPDCL 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 2973.28 kWh whereas the Petitioner has considered as 4681 kWh for projecting sales for FY 2018-19. The Commission considers the average consumption per consumer per month as 2973.28 kWh as per actuals of FY 2016-17 and escalating by a nominal growth rate of 5% approves the sales as 90.62 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	2401	33732	134.87
Approved	2419	33987	90.62

**6.5.11 LTIS- I**

- (i) **Consumers** : SBPDCL has submitted that the number of consumers projected are considered at the same level of FY 2017-18 and added the projected consumers of Bhagalpur for FY 2018-19.

It is noted that CAGRs are ranging from 38.71% to 99.26% during the period FY 2013-14 to FY 2016-17. The Commission considers a nominal growth of 20% and applying the same on the estimated consumers for FY 2017-18 (RE), including Bhagalpur (31415+3185) approves the number of consumers as 41520 for LTIS-I category for FY 2018-19.

- (ii) **Connected Load**: SBPDCL has submitted that for projecting the connected load average load per consumer in FY 2016-17 is considered.

It is noted that the average connected load per consumer in FY 2016-17 is 10.37 KW. The Commission accepts the proposal of the Petitioner and multiplying the average load per consumer of 1037 KW with the approved number of consumers, approves the connected load as 430562 KW for LTIS-I category for FY 2018-19.

- (iii) **Sales**: SBPDCL 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 574.98 kWh and the Petitioner has considered 930.71 kWh for projecting sales for FY 2018-19. The growth of sales Year on Year for this category is increasing; 3 Year, 2 Year and 1 Year CAGRs are 20.95%, 36.57%, and 50.29% respectively. The Commission considers the average consumption per consumer per month at 574.98 kWh as per actuals of FY 2016-17 and escalating at a nominal growth rate of 5% approves the sale as 300.80 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 6.16: 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	31153	322959	347.93
Approved	41520	430562	300.80

#### 6.5.12 LTIS- II

- (i) **Consumers:** SBPDCL has submitted that for projecting number of consumers a nominal growth rate of 10% is considered on the total number of consumers for FY 2017-18 and added the projected number of consumers of Bhagalpur for FY 2018-19.

The Commission considers a nominal growth of 10% and applying the same on the estimated consumers for FY 2017-18 (RE) including Bhagalpur (3179+52) approves the number of consumers as 3554 for LTIS-II category for FY 2018-19.

- (ii) **Connected Load:** SBPDCL 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 51.87 KW. The Commission accepts the proposal of the Petitioner and multiplying the approved number of consumers by 51.87 KW, approves the connected load at 184346 KW for LTIS-II category for FY 2018-19.

- (iii) **Sales:** SBPDCL has submitted that for projecting sales, average consumption per consumer per month at the same level as in FY 2016-17 is considered.

It is noted that the sales per consumer per month is 4342.20 kWh in FY 2016-17 and the same is considered by the Petitioner for projection sales 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 4342.20 kWh as per actuals of FY 2016-17 and approves the sales of LTIS-II category as 185.19 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	3260	169125	169.88
Approved	3554	184346	185.19

### 6.5.13 High Tension Supply – I (HTS-I)

- (i) **Consumers** : SBPDCL 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. SBPDCL has submitted that for projecting number of consumers a growth rate of 10.80% (1 Year CAGR) is considered on the total number of consumers projected for FY 2017-18 and added projected consumer of Bhagalpur for FY 2018-19.

It is noted that the CAGR of FY 2016-17 over FY 2013-14 is 10.80%. The Commission accepts the CAGR of 10.80% and applying the same on the estimated consumers of FY 2017-18 (RE) including Bhagalpur (1385+57) approves the total number of consumers as 1598 for HTS-I category for FY 2018-19.

- (ii) **Connected Load**: SBPDCL 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 211.18 KW. The Commission considers the connected load per consumer at 211.18 kW as per actuals of FY 2016-17 and multiplying with approved number of consumers approves the connected load for HTS-I category as 337466 KW for FY 2018-19.

- (iii) **Sales**: SBPDCL 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 33818.67 kWh and the Petitioner has considered the same for projecting the sales for FY 2018-19.

The growth in sales for this category is increasing Year on Year; 3 Year, 2 Year and 1 Year CAGRs are 1.29%, 9.34% and 12.99% respectively.

The Commission considers the average consumption per consumer per month as 33818.67 kWh as per actual of FY 2016-17 and escalating at nominal growth rate of 5% and approves the sales for HTS-I category as 680.93 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	1595	336738	647.10
Approved	1598	337466	680.93

#### 6.5.14 High Tension Supply – II (HTS-II)

- (i) **Consumers** : SBPDCL has submitted that for projecting the number of consumers, no growth rate is considered and for the consumers estimated for FY 2017-18 (RE), the projected consumers of Bhagalpur for FY 2018-19 are added.

The Commission approves the number of consumers for HTS-II category as 116 for FY 2018-19 as projected by the Petitioner.

- (ii) **Connected Load**: SBPDCL 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 1509.04 KW. The Commission considers the average load per consumer as 1509.04 KW

and multiplying with approval number of consumers approves the connected load for HTS-II category as 175048.64 KW for FY 2018-19.

- (iii) **Sales:** SBPDCL 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 253318.58 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 18.98%, 18.76% and 12.78% respectively.

The Commission considers the average consumption per consumer per month as 253318.58 kWh as per actuals of FY 2016-17 and approves the sales for HTS-II category as 352.62 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	116	179677	352.62
Approved	116	175049	352.62

**6.5.15 High Tension Supply – III (HTS-III)**

- (i) **Consumers** : SBPDCL 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 4 for FY 2018-19 as projected by Petitioner.

- (ii) **Connected Load**: SBPDCL 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 10950 KW, whereas the Petitioner has considered it as 20375 KW. The Commission considers the average load per consumers at 10950 KW and multiplying with the approved number of consumers, approves the connected load for HTS-III category as 43800 KW for FY 2018-19.

- (iii) **Sales**: SBPDCL has submitted that for projecting sales, a growth rate of 9% (1 Year CAGR) on average consumption per consumer per month for FY 2017-18 is considered.

It is noted that the growth rate of FY 2016-17 over FY 2015-16 is 9.42%. There is a decreasing trend in growth rate of energy sales during FY 2016-17. The Commission considers the average consumption per consumer of FY 2016-17 as per actuals at 43.08 MU per consumer per annum and escalating of nominal growth of 5% and approves the sales for HTS-III category as 180.94 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 6.20: 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	4	81500	187.81
Approved	4	43800	180.94

#### 6.5.16 High Tension Special Services (HTSS)

- (i) **Consumers:** SBPDCL has submitted that no growth is considered for projecting number of consumers.

It is noted that there is negative growth during FY 2014-15 to FY 2016-17. The Commission accepts the proposal of the Petitioner and approves the number of consumers of HTSS category as 16 for FY 2018-19 as projected by the petitioner.

- (ii) **Connected Load:** SBPDCL 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 7565.05 KW. The Commission considers the averages load at 7565.05 KW consumer and multiplying by number of approved consumers approves the connected load for HTSS category as 121041 KW for FY 2018-19.

- (iii) **Sales:** SBPDCL 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 50.65 MU per annum whereas, the Petitioner has considered 58.75 MU for projecting sales for FY 2018-19.

The 1 Year, 2 Year and 3 Year CAGRs are 11.05%, 17.24% and 18.01% during FY 2013-14 to FY 2016-17. The growth in sales for this category is improving year on year even though there is no much addition of new consumers. The Commission considering growth rate of 11.05% (1 year CAGR) on the average consumption per consumer of 50.65 MU as per actual of FY 2016-17, the Commission approves the sales for HTSS category as 899.95 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 6.21: 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	16	121041	940.05
Approved	16	121041	899.95

#### 6.5.17 Railway Traction Service (RTS)

- (i) **Consumers** : SBPDCL has submitted that for projecting number of consumers no growth rate is considered. The number of consumers is considered as 15, equivalent to last year.

The Commission has considered the number of consumers for RTS category as 15 for FY 2018-19 as per actuals of FY 2016-17 as no additions are expected during FY 2018-19.

- (ii) **Connected Load**: SBPDCL 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 as 170200 KW whereas the same as per actuals in FY 2016-17 is 153180 KW.

The Commission approves the connected load for RTS category as 153180 KW at the same level of FY 2016-17 as no growth is anticipated during FY 2018-19.

- (iii) **Sales**: SBPDCL has submitted that for projecting sales no growth is considered.

The Commission approves the sales for RTS category as 591.79 MU for FY 2018-19 considering a nominal growth rate of 5% on the actual 563.61 MU in FY 2016-17.

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	15	170200	563.61
Approved	15	153180	591.79

#### 6.5.18 GAYA Distribution Franchisee (DF)

SBPDCL has submitted that while projecting the sales and consumers for Gaya DF for FY 2018-19, 5% growth rate for consumers and average consumption per consumer per month of 287.30 kWh is assumed on projections of FY 2017-18 and projected the total number of consumers as 213360 and sales as 734.89 MU (Input energy). Subsequently through letter no 155 dated 27.02.2018, SBPDCL revised the figure of category-wise sales as 554 MU reproduced in table 6.23 below.

SBPDCL has submitted that the agreement with M/s BEDCPL for Bhagalpur DF was terminated with effect from 26.11.2017 and so the number of consumers, connected load and sales projected for erstwhile Bhagalpur DF are included in SBPDCL.

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 Gaya DF for FY 2018-19**

Sl. No	Category	Number of Consumers	Connected Load (KW)	Sales (MU)
<b>1</b>	<b>Domestic</b>	<b>189290</b>	<b>218969</b>	<b>362</b>
2	Kutir Jyoti BPL Consumers	41498	10873	24
3	Domestic-I	62736	23274	26
4	Domestic-II	85056	184822	311
<b>6</b>	<b>Commercial</b>	<b>17609</b>	<b>73352</b>	<b>92</b>
7	Non-Domestic-I	1999	1469	1
8	Non-Domestic-II	15610	71883	91
<b>10</b>	<b>Public Lighting</b>	<b>95</b>	<b>1176</b>	<b>6</b>
11	Street Light-I	32	922	4
12	Street Light-II	63	254	1
<b>13</b>	<b>Irrigation</b>	<b>2466</b>	<b>10576</b>	<b>11</b>

Sl. No	Category	Number of Consumers	Connected Load (KW)	Sales (MU)
14	IAS-I	2365	10419	10
15	IAS-II	101	157	1
<b>16</b>	<b>Public Water Works</b>	<b>115</b>	<b>1518</b>	<b>8</b>
<b>17</b>	<b>Industrial LT</b>	<b>3524</b>	<b>24134</b>	<b>32</b>
18	LTIS-I	3471	20878	28
19	LTIS-II	53	3256	4
<b>20</b>	<b>Industrial HT</b>	<b>61</b>	<b>17896</b>	<b>43</b>
21	HTS-I	58	15435	37
22	HTS-II	3	2461	6
23	HTS-III			
24	HTSS			
25	Railway			
<b>26</b>	<b>Total</b>	<b>213160</b>	<b>347621</b>	<b>554</b>

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.

Commission has observed that the number of consumers projected for FY 2018-19 are less than the actuals furnished for FY 2016-17 for many categories and for some categories very high compared to earlier years as shown in the Table below:

Sl. No	Category	Number of Consumers		
		FY 2016-17 (Actuals)	FY 2017-18 (RE) (Estimated)	FY 2018-19 (Projected)
<b>1</b>	<b>Domestic</b>	<b>155582</b>	<b>172355</b>	<b>189290</b>
2	Kutir Jyoti BPL Consumers	47065	52139	41498
3	Domestic-I	22266	24667	62736
4	Domestic-II	86247	95549	85056
<b>5</b>	<b>Commercial</b>	<b>20156</b>	<b>22329</b>	<b>17609</b>
6	Non-Domestic-I	1293	1432	1999
<b>6</b>	<b>Non-Domestic-II</b>	<b>18810</b>	<b>20897</b>	<b>15610</b>
7	Public Lighting	224	248	95
8	Street Light-I	184	204	32
10	Street Light-II	40	44	63
<b>11</b>	<b>Irrigation</b>	<b>4851</b>	<b>5374</b>	<b>2466</b>
12	IAS-I	4836	5357	2365
<b>13</b>	<b>IAS-II</b>	<b>15</b>	<b>17</b>	<b>101</b>

Sl. No	Category	Number of Consumers		
		FY 2016-17 (Actuals)	FY 2017-18 (RE) (Estimated)	FY 2018-19 (Projected)
14	<b>Public Water Works</b>	117	130	<b>115</b>
15	<b>Industrial LT</b>	2247	2489	<b>3524</b>
16	LTIS-I	2179	2414	3471
17	LTIS-II	68	75	53
18	<b>Industrial HT</b>	81	90	<b>61</b>
19	HTS-I	79	88	58
20	HTS-II	2	2	3
21	HTS-III	0	0	0
22	HTSS	0	0	0
23	<b>Railway</b>	0	0	<b>0</b>
24	<b>Total</b>	<b>183258</b>	<b>203015</b>	<b>213160</b>

The Commission has computed the projection of category-wise number of consumers, connected load and sales for FY 2018-19 for Gaya 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 Gaya DF for FY 2018-19 as given below:

Sl. No	Category	Number of Consumers approved for FY 2017-18 (RE)	Growth rate Considered	Number of Consumers approved for FY 2018-19
1	Kutir Jyoti BPL Consumers	56478	20%	67,774
2	Domestic-I	26719	20%	32,063
3	Domestic-II	93130	7.98%	100,561
4	Non-Domestic-I	1552	20%	1,862
5	Non-Domestic-II	20612	9.58%	22,587
6	Street Light-I	202	10%	222
7	Street Light-II	44	10%	48
8	IAS-I	5803	20%	6,964
9	IAS-II	17	0	17
10	Public Water Works	140	20%	168
11	LTIS-I	2361	8.35%	2,558
12	LTIS-II	71	4.62%	74
13	HTS-I	87	9.72%	95
14	HTS-II	2	0	2
15	HTS-III	0	0	-
16	HTSS	0	0	-
17	Railway	0	0	-
18	<b>Total</b>	<b>207218</b>		<b>234995</b>

- (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 Gaya DF for FY 2018-19 as given below:

Sl. No	Category	Average Connected Load per consumer per month (kW)	Consumers approved for FY 2018-19	Connected load approved for FY 2018-19 (KW)
1	Kutir Jyoti BPL Consumers	0.20	67774	13555
2	Domestic-I	0.95	32063	30460
3	Domestic-II	1.90	100561	191114
4	Non-Domestic-I	1.91	1862	3556
5	Non-Domestic-II	3.29	22587	74207
6	Street Light-I	4.31	222	957
7	Street Light-II	5.52	48	265
8	IAS-I	1.85	6964	12898
9	IAS-II	8.76	17	149
10	Public Water Works	11.16	168	1880
11	LTIS-I	8.24	2558	21069
12	LTIS-II	41.21	74	3067
13	HTS-I	167.77	95	15956
14	HTS-II	1230.50	2	2461
15	HTS-III			
16	HTSS			
17	Railway			
<b>18</b>	<b>Total</b>	<b>1488</b>	<b>234995</b>	<b>371595</b>

- (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 Gaya DF for FY 2018-19 as given 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	36.76	67774	29.90
2	Domestic-I	75	32063	28.86
3	Domestic-II	235.48	100561	284.16
4	Non-Domestic-I	50	1862	1.12
5	Non-Domestic-II	330.99	22587	89.71
6	Street Light-I	1633.99	222	4.35
7	Street Light-II	25 U/100 W	48	0.80
8	IAS-I	155.56	6964	13.00
9	IAS-II	4901.96	17	1.00
10	Public Water Works	2451.00	168	4.96
11	LTIS-I	932.06	2558	28.61
12	LTIS-II	4444.44	74	3.97
13	HTS-I	34090.91	95	38.91
14	HTS-II	250000.00	2	6.00
15	HTS-III			
16	HTSS			
17	Railway			
18	<b>Total</b>		<b>234995</b>	<b>535.35</b>

**6.5.19 Summary of Slab-wise number of Consumers Connected load and Energy Sales approved for SBPDCL including Gaya DF for FY 2018-19 are as given in the Table below:**

**Table 6.24: category-wise number of consumers approved for SBPDCL and Gaya DF for FY 2018-19**

Category	SBPDCL	Gaya	Total
<b>Domestic</b>			
<b>Kutir Jyoti</b>			
Unmetered	45474		45474
Metered (0-50)	1404361		1404361
<b>Total - KJ</b>	1449835	67774	1517609
<b>DS-I (Rural)</b>			
<b>Unmetered</b>	37968		37968
<b>Metered</b>			
First 50 Units	1581360		1581360
51 - 100 Units	167438		167438
Above 100 Units	111625		111625
<b>Total</b>	1898391	32063	1930454
<b>DS-II (Urban- Demand Based)</b>			
1-100 U/Month	343995		343995

Category	SBPDCL	Gaya	Total
101 - 200 U/Month	619191		619191
201 -300 U/Month	343995		343995
above 300 U/Month	68839		68839
<b>Total</b>	<b>1376020</b>	<b>100561</b>	<b>1476581</b>
<b>NDS-I (Rural)</b>			
<b>Unmetered</b>	1000		1000
<b>Metered</b>			
1-100 U/Month	29330		29330
101 - 200 U/Month	27418		27418
above 200 U/Month	5682		5682
<b>Total</b>	<b>63430</b>	<b>1862</b>	<b>65292</b>
<b>NDS-II (Demand Based)</b>			
<b>Contract Demand &lt; 0.5 kW</b>	4668		4668
<b>Contract Demand &gt; 0.5 kW</b>			
First 100 Units	136890		136890
101 - 200 Units	127968		127968
Above 200 Units	26519		26519
<b>Total</b>	<b>296045</b>	<b>22587</b>	<b>318632</b>
<b>IAS-I (Pvt Tubewell)</b>			
Unmetered	190737		190737
Metered	111991		111991
<b>Total</b>	<b>302728</b>	<b>6964</b>	<b>309692</b>
<b>IAS-II (State Tubewell)</b>			
Unmetered	1967		1967
Metered	2573		2573
<b>Total</b>	<b>4540</b>	<b>17</b>	<b>4557</b>
<b>LTIS</b>			
LTIS-I (Contract Demand < 19 kW)	41520	2558	44078
LTIS-II (Contract Demand 19-74 kW))	3554	74	3628
<b>Total - LTIS</b>	<b>45074</b>	<b>2632</b>	<b>47706</b>
<b>PWW - Public Water Works</b>			
PWW	2419	168	2587
<b>Total PWW</b>	<b>2419</b>	<b>168</b>	<b>2587</b>
<b>Street Light Services</b>			
SS-Metered	956	222	1178
SS-Unmetered	510	48	558
<b>Total - Street Light</b>	<b>1466</b>	<b>270</b>	<b>1736</b>
HTS-I (11 kV)	1598	95	1693
HTS-II (33 kV)	116	2	118
HTS-III (132 kV)	4	0	4
HTS-IV (220 kV)	0	0	0
HTSS (33 / 11 kV)	16	0	16
<b>Total - HTS &amp; HTSS</b>	<b>1734</b>	<b>97</b>	<b>1831</b>
<b>RTS (132 kV)</b>	15	0	15
<b>Total</b>	<b>5441697</b>	<b>234995</b>	<b>5676692</b>



Table 6.25: Category-wise Connected Load approved for SBPDCL and Gaya DF for FY 2018-19

Category	SBPDCL	Gaya	Total
<b>Domestic</b>			
<b>Kutir Jyoti</b>			
Unmetered	11369		11369
Metered (0-50)	351090		351090
<b>Total - KJ</b>	362459	13555	376014
<b>DS-I (Rural)</b>			
<b>Unmetered</b>	42104		42104
<b>Metered</b>			
First 50 Units	1789417		1789417
51 - 100 Units	189468		189468
Above 100 Units	126312		126312
<b>Total</b>	2147300	30460	2177760
<b>DS-II (Urban- Demand Based)</b>			
1-100 U/Month	761387		761387
101 - 200 U/Month	1370496		1370496
201 -300 U/Month	761387		761387
above 300 U/Month	152413		152413
<b>Total</b>	3045683	191114	3236797
<b>NDS-I (Rural)</b>			
<b>Unmetered</b>	447		447
<b>Metered</b>			
1-100 U/Month	33046		33046
101 - 200 U/Month	37021		37021
above 200 U/Month	7487		7487
<b>Total</b>	78001	3556	81557
<b>NDS-II (Demand Based)</b>			
<b>Contract Demand &lt; 0.5 kW</b>	7018		7018
<b>Contract Demand &gt; 0.5 kW</b>			
First 100 Units	518871		518871
101 - 200 Units	581291		581291
Above 200 Units	117558		117558
<b>Total</b>	1224738	74207	1298945
<b>IAS-I (Pvt Tubewell)</b>			
Unmetered	444692		444692
Metered	261099		261099
<b>Total</b>	705791	12898	718689
<b>IAS-II (State Tubewell)</b>			
Unmetered	21655		21655
Metered	28323		28323
<b>Total</b>	49978	149	50127
<b>LTIS</b>			
LTIS-I (Contract Demand < 19 kW)	430562	21069	451631
LTIS-II (Contract Demand 19-74 kW))	184346	3067	187413
<b>Total - LTIS</b>	614908	24136	639044
<b>PWW - Public Water Works</b>			
PWW	33987	1880	35867
<b>Total PWW</b>	33987	1880	35867
<b>Street Light Services</b>			
SS-Metered	5188	957	6145

Category	SBPDCL	Gaya	Total
SS-Unmetered	3544	265	3809
<b>Total - Street Light</b>	<b>8732</b>	<b>1222</b>	<b>9954</b>
HTS-I (11 kV)	337466	15956	353422
HTS-II (33 kV)	175049	2461	177510
HTS-III (132 kV)	43800	0	43800
HTS-IV (220 kV)	0	0	0
HTSS (33 / 11 kV)	121041	0	121041
<b>Total - HTS &amp; HTSS</b>	<b>677356</b>	<b>18417</b>	<b>695773</b>
<b>RTS (132 kV)</b>	<b>153180</b>	<b>0</b>	<b>153180</b>
<b>Total</b>	<b>9102113</b>	<b>371594</b>	<b>9473707</b>

**Table 6.26: Category-wise Energy Sales approved for SBPDCL and Gaya DF for FY 2018-19**

Category	SBPDCL	Gaya	Total
<b>Domestic</b>			
<b>Kutir Jyoti</b>			
Unmetered	25.04		25.04
Metered (0-50)	595.60		595.60
<b>Total - KJ</b>	<b>620.64</b>	<b>29.90</b>	<b>650.54</b>
<b>DS-I (Rural)</b>			
<b>Unmetered</b>	<b>34.17</b>		<b>34.17</b>
<b>Metered</b>			
First 50 Units	1139.85		1139.85
51 - 100 Units	151.78		151.78
Above 100 Units	543.66		543.66
<b>Total</b>	<b>1869.46</b>	<b>28.86</b>	<b>1898.32</b>
<b>DS-II (Urban- Demand Based)</b>			
1-100 U/Month	515.81		515.81
101 - 200 U/Month	1349.04		1349.04
201 -300 U/Month	1547.43		1547.43
above 300 U/Month	555.49		555.49
<b>Total</b>	<b>3967.77</b>	<b>284.16</b>	<b>4251.93</b>
<b>NDS-I (Rural)</b>			
<b>Unmetered</b>	<b>0.25</b>		<b>0.25</b>
<b>Metered</b>			
1-100 U/Month	17.43		17.43
101 - 200 U/Month	22.90		22.90
above 200 U/Month	9.21		9.21
<b>Total</b>	<b>49.79</b>	<b>1.12</b>	<b>50.91</b>
<b>NDS-II (Demand Based)</b>			
<b>Contract Demand &lt; 0.5 kW</b>	<b>6.29</b>		<b>6.29</b>
<b>Contract Demand &gt; 0.5 kW</b>			
First 100 Units	639.39		639.39
101 - 200 Units	512.89		512.89
Above 200 Units	73.38		73.38
<b>Total</b>	<b>1231.96</b>	<b>89.71</b>	<b>1321.67</b>
<b>IAS-I (Pvt Tubewell)</b>			
Unmetered	476.67		476.67
Metered	67.72		67.72
<b>Total</b>	<b>544.39</b>	<b>13.00</b>	<b>557.39</b>
<b>IAS-II (State Tubewell)</b>			
Unmetered	78.39		78.39
Metered	74.42		74.42
<b>Total</b>	<b>152.81</b>	<b>1.00</b>	<b>153.81</b>
<b>LTIS</b>			

Category	SBPDCL	Gaya	Total
LTIS-I (Contract Demand < 19 kW)	300.80	28.61	329.41
LTIS-II (Contract Demand 19-74 kW))	185.19	3.97	189.16
<b>Total - LTIS</b>	<b>485.99</b>	<b>32.58</b>	<b>518.57</b>
<b>PWW - Public Water Works (Demand Based)</b>			
PWW	90.62	4.96	95.58
<b>Total PWW</b>	<b>90.62</b>	<b>4.96</b>	<b>95.58</b>
<b>Street Light Services</b>			
SS-Metered	19.10	4.35	23.45
SS-Unmetered	10.63	0.80	11.43
<b>Total - Street Light</b>	<b>29.73</b>	<b>5.15</b>	<b>34.88</b>
HTS-I (11 kV)	680.93	38.91	719.84
HTS-II (33 kV)	352.62	6.00	358.62
HTS-III (132 kV)	180.94	0.00	180.94
HTS-IV (220 kV)	0.00	0.00	0.00
HTSS (33 / 11 kV)	899.95	0.00	899.95
<b>Total - HTS &amp; HTSS</b>	<b>2114.44</b>	<b>44.91</b>	<b>2159.35</b>
<b>RTS (132 kV)</b>	<b>591.79</b>	<b>0.00</b>	<b>591.79</b>
<b>Total</b>	<b>11749.39</b>	<b>535.35</b>	<b>12284.74</b>

## 6.6 Distribution Loss

### Petitioner's Submission

SBPDCL 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 15 Lakh rural and 11 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.

SBPDCL 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 for FY 2018-19**

<b>Particulars</b>	<b>FY 2018-19</b>
Distribution Loss	22%

SBPDCL has requested to approve the Distribution loss at 22% for FY 2018-19 accordingly.

#### **Commission's Analysis**

The Commission has approved the Distribution loss at 22% for FY 2018-19 in the Tariff Order of SBPDCL dated 24.03.2017. Therefore, the Commission approves the Distribution loss at 22% 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**

SBPDCL 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 dated 07.03.2018 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, NBPCL and SBPDCL shall record, jointly with the concerned Transmission licensees, input energy at all their interface points for every month and

compute the transmission system losses for BSPTCL and BGCL. The State transmission losses shall be submitted along with such details in the Tariff Petitions.

## 6.8 Central Transmission Loss (CTU)

### Petitioners Submission

SBPDCL 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

SBPDCL 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 14<sup>th</sup> July 2017 for approval regarding distribution of power purchase agreement between NBPDC and SBPDCL. The notification states that,

*"RESOLVED THAT Power Purchase & Transmission charges bills are to be admitted and payment by both discoms i.e NBPDC and SBPDCL 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, BSHPC 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. NBPDC and SBPDCL".*

SBPDCL 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 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)
<b>1</b>	<b>Central Sector Stations</b>	<b>1,892.39</b>	<b>1,612.04</b>	<b>3,504.43</b>
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
<b>14</b>	<b>State Generating Stations</b>	<b>521</b>	<b>443</b>	<b>964</b>
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
<b>20</b>	<b>IPP</b>	<b>140.4</b>	<b>119.6</b>	<b>260</b>
21	GMR Kamalanga Energy	140.4	119.6	260
22	Adani Enterprises Limited	-	0	0
<b>23</b>	<b>JV projects</b>	<b>333.72</b>	<b>284.28</b>	<b>618</b>
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
<b>27</b>	<b>Renewable</b>	<b>120.96</b>	<b>103.04</b>	<b>224</b>
28	SECI	5.4	4.6	10

S. No.	Name of The Source	SBPDCL (FY 2018-19)	NBPDCL (FY 2018-19)	Bihar (FY 2018-19)
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
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 Cluster Pvt Ltd	0.54	0.46	1
49	Bihar Distillers and Bottlers Pvt Ltd	1.62	1.38	3
<b>50</b>	<b>Grand Total</b>	<b>3,007.85</b>	<b>2,562.40</b>	<b>5,570.43</b>

SBPDCL 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 BERG 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.

SBPDCL 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)
<b>1</b>	<b>Central Sector Stations</b>	<b>1,892.39</b>	<b>12,362.89</b>
2	Talcher – I ( 2 x 500 MW)	224.91	1,758.64
3	Farakka – I & II (1600 MW)	274.75	2,045.80
4	Farakka – III (500 MW)	58.32	438.75
5	Kahalgaon – I (840 MW)	191.65	1,457.27
6	Kahalgaon – II (1500 MW)	40.34	351.20
7	Barh-II	571.86	4,332.35
8	Korba	-	-
9	Rangit – HEP	11.34	72.22
10	Teesta – HEP	58.55	376.53
11	Chukha	43.20	353.58
12	Tala	140.45	667.93
13	Barh Stage-I (3 X 660 MW)	277.02	508.61
<b>14</b>	<b>State Generating Stations</b>	<b>520.56</b>	<b>1,866.62</b>
15	KBUNL 1	118.80	449.47
16	KBUNL 2	142.56	518.86
17	Small Hydro (BSHPCL)	5.40	3.35
18	Barauni Stage I	118.80	421.91
19	Barauni Stage II	135.00	473.04
<b>20</b>	<b>IPP</b>	<b>140.40</b>	<b>1,095.25</b>
21	GMR Kamalanga Energy	140.40	1,095.25
22	Adani Enterprises Limited	-	-



S. No.	Power Purchase Sources	Share Allocation (MW)	Energy (MU)
<b>23</b>	<b>JV projects</b>	<b>333.54</b>	<b>538.78</b>
24	Nabinagar Railway (4 X 250 MW)	54.00	301.29
25	Nabinagar Stage-I (3 X 660 MW)	279.54	237.50
26	Nabinagar JV (3 X 660 MW) Stage-II	-	-
<b>27</b>	<b>Renewable</b>	<b>120.96</b>	<b>359.88</b>
28	SECI	5.40	11.23
29	ACME Magadh	5.40	9.26
30	ACME Nalanda	8.10	13.54
31	Sunmark	5.40	9.29
32	Avantika	2.70	4.49
33	AZURE	5.40	9.11
34	Udipta Energy & Equipment Pvt Ltd	2.70	4.49
35	Glatt	1.62	2.70
36	Welspun 2	8.10	13.81
37	Welspun 1	5.40	9.24
38	Alpha Infraprop	10.80	18.66
39	Welspun 3	8.10	13.99
40	Response Renewabe Energy	5.40	8.99
41	New Swadeshi Sugar Mill,Narkatiaganj	3.78	17.68
42	Harinagar Sugar Mills,Harinagar	5.94	35.39
43	Bharat SugarMills,Sidhiwalia, Gopalganj	5.94	33.95
44	Lauriya Sugar Mill	10.80	50.48
45	Sugauli Sugar Mill	10.80	50.14
46	Hasanpur Sugar Mills,Samastipur	5.40	25.07
47	Riga Sugar Company Ltd,Sitamarhi	1.62	7.52
48	Siddhashram Rice Mill Cluster Pvt Ltd	0.54	3.07
49	BDBPL	1.62	7.77
<b>50</b>	<b>Open Market Purchase</b>	-	-
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	-	-
<b>63</b>	<b>Sub Total Power Purchase</b>	<b>3,007.85</b>	<b>16,223.44</b>
64	Open Market Purchase		476.95

S. No.	Power Purchase Sources	Share Allocation (MW)	Energy (MU)
65	Purchase of Power from other DISCOM		314.54
66	Net Power Purchase	3,007.85	17,014.94

SBPDCL has requested to approve the aforementioned power purchase quantity for the period of FY 2018-19.

### Commission's Analysis

SBPDCL has considered 54% 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. SBPDCL has computed the energy availability (MU) from each station by applying the PLF assumed on its share of power allocations.

SBPDCL has also considered power availability from the following new stations during FY 2018-19.

S. No.	Station	CoD	Allocation to BSP(H)CL (MW)	SBPDCL (MW) Share (54%)
1	Barh Stage – I Unit – II (660 MW)	January, 2019	513.00	277.02
2	Nabinagar Stage – I Unit –I (660 MW)	February, 2019	517.82	279.62
3	Nabinagar Railway Unit –III (250 MW)	July, 2019	25.00	13.50
	Nabinagar Railway Unit –IV (250 MW)	July, 2019	25.00	13.50

SBPDCL 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 BERCL, 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 166 dated 28.02.2018 that PPA was signed on 25.09.2017 for 25 MW for a period of 2 years. Out of this 13.5 MW and 99.14 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 average PLF during FY 2017-18) estimates availability of 1708 MU from this station for FY 2018-19 and hence 922 MU (54% of 1708) is considered for SBPDCL.

Based on allocation of power from various generating stations to Bihar, share of power to SBPDCL 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 SBPDCL for FY 2018-19**

S. No.	Power Purchase Sources	Share Allocation (MW)	Projected by Petitioner (MU)	Considered by the Commission
<b>1</b>	<b>Central Sector Stations</b>	<b>1,892.39</b>	<b>12,362.89</b>	<b>12462.02</b>
2	Talcher – I ( 2 x 500 MW)	224.91	1,758.64	1758.64
3	Farakka – I & II (1600 MW)	274.75	2,045.80	2045.8
4	Farakka – III (500 MW)	58.32	438.75	438.75
5	Kahalgaon – I (840 MW)	191.65	1,457.27	1457.27
6	Kahalgaon – II (1500 MW)	40.34	351.20	351.2
7	Barh-II	571.86	4,332.35	4332.35
8	Korba	13.5		99.14
9	Rangit – HEP	11.34	72.22	72.22
10	Teesta – HEP	58.55	376.53	376.53
11	Chukha	43.20	353.58	353.58
12	Tala	140.45	667.93	667.93
13	Barh Stage-I (3 X 660 MW)	277.02	508.61	508.61
<b>14</b>	<b>State Generating Stations</b>	<b>520.56</b>	<b>1,866.62</b>	<b>3301.59</b>
15	KBUNL 1	118.80	449.47	449.47
16	KBUNL 2	142.56	518.86	518.86
17	Small Hydro (BSHPCL)	5.40	3.35	3.35
18	Barauni Stage I	118.80	421.91	641.07
19	Barauni Stage II	135.00	473.04	1688.84
<b>20</b>	<b>IPP</b>	<b>140.40</b>	<b>1,095.25</b>	<b>1095.25</b>
21	GMR Kamalanga Energy	140.40	1,095.25	1095.25
<b>22</b>	<b>JV projects</b>	<b>333.54</b>	<b>538.78</b>	<b>538.79</b>
23	Nabinagar Railway (4 X 250 MW)	54.00	301.29	301.29
24	Nabinagar Stage-I (3 X 660 MW)	279.54	237.50	237.5
25	Nabinagar JV (3 X 660 MW) Stage-II	-	-	-
<b>26</b>	<b>Renewable</b>	<b>120.96</b>	<b>359.88</b>	<b>359.87</b>
<b>27</b>	<b>SECI</b>	<b>5.40</b>	<b>11.23</b>	<b>11.23</b>
28	ACME Magadh	5.40	9.26	9.26
29	ACME Nalanda	8.10	13.54	13.54
30	Sunmark	5.40	9.29	9.29
31	Avantika	2.70	4.49	4.49
32	AZURE	5.40	9.11	9.11
33	Udipta Energy & Equipment Pvt Ltd	2.70	4.49	4.49
34	Glatt	1.62	2.70	2.7
35	Welspun 2	8.10	13.81	13.81
36	Welspun 1	5.40	9.24	9.24
37	Alpha Infracorp	10.80	18.66	18.66
38	Welspun 3	8.10	13.99	13.99
39	Response Renewabe Energy	5.40	8.99	8.99
40	New Swadeshi Sugar	3.78	17.68	17.68

S. No.	Power Purchase Sources	Share Allocation (MW)	Projected by Petitioner (MU)	Considered by the Commission
	Mill, Narkatiaganj			
41	Harinagar Sugar Mills, Harinagar	5.94	35.39	35.39
42	Bharat Sugar Mills, Sidhiwalia, Gopalganj	5.94	33.95	33.95
43	Lauriya Sugar Mill	10.80	50.48	50.48
44	Sugauli Sugar Mill	10.80	50.14	50.14
45	Hasanpur Sugar Mills, Samastipur	5.40	25.07	25.07
46	Riga Sugar Company Ltd, Sitamarhi	1.62	7.52	7.52
47	Siddhashram Rice Mill Cluster Pvt Ltd	0.54	3.07	3.07
48	BDBPL	1.62	7.77	7.77
49	<b>Open Market Purchase</b>	-	-	<b>922.00</b>
50	Jindal			922
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	<b>Sub Total Power Purchase</b>	<b>3,007.85</b>	<b>16,223.44</b>	<b>18679.52</b>
64	Open Market Purchase		476.95	
65	<b>Purchase of Power from other DISCOMs</b>		314.54	
66	<b>Net Power Purchase</b>	<b>3,007.85</b>	<b>17,014.94</b>	<b>18679.52</b>

## 6.10 Energy Balance

### Petitioner's Submission

SBPDCL 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	Quantity
1	Energy sales	MU	12,467.86
2	Less: Energy supplied to DF area	MU	734.89

S. No.	Particulars	Unit	Quantity
3	Less: Sales to Nepal	MU	0.00
4	Less: UI	MU	0.00
5	Energy sale excluding DF area and Nepal	MU	11,732.97
<b>6</b>	<b>Distribution loss</b>	<b>%</b>	<b>22.00%</b>
7	Distribution loss	MU	3,309.30
8	Energy required (3+5)	MU	15,042.27
9	Add: Energy to DF area including loss for DF area	MU	734.89
10	Energy required at Distribution periphery (7+8)	MU	15,777.16
11	Add: Sales to Nepal	MU	0.00
12	Total energy required (9+10)	MU	15,777.16
<b>13</b>	<b>State Transmission loss</b>	<b>%</b>	<b>3.92%</b>
14	State Transmission loss	MU	643.70
15	Add: UI sales	MU	0.00
<b>16</b>	<b>Energy required at State Transmission periphery</b>	<b>MU</b>	<b>16,420.86</b>
17	Power Purchase from CGS , SGS and others	MU	17,014.94
18	UI	MU	0
<b>19</b>	<b>Losses in Regional Transmission System (excluding state generating stations)</b>	<b>%</b>	<b>2.26%</b>
20	Losses in Regional Transmission system (MU)	MU	297.04
21	Power Purchase from SGS, others	MU	3,574.65
22	Energy available at State Transmission Periphery	MU	16,420.86
23	<b>Surplus energy (22-16)</b>		<b>0</b>

### 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	12,467.86	12284.74
2	Less: Energy supplied to DF area	MU	734.89	0
3	Less: Sales to Nepal	MU	0.00	0
4	Less: UI	MU	0.00	0
5	Energy sale excluding DF area and Nepal	MU	11,732.97	12284.74
<b>6</b>	<b>Distribution loss</b>	<b>%</b>	<b>22.00%</b>	<b>22.00%</b>
7	Distribution loss	MU	3,309.30	3464.93
8	Energy required (3+5)	MU	15,042.27	15749.67
9	Add: Energy to DF area including loss for DF area	MU	734.89	0
10	Energy required at Distribution periphery (7+8)	MU	15,777.16	15749.67
11	Add: Sales to Nepal	MU	0.00	0
12	Total energy required (9+10)	MU	15,777.16	15749.67

S. No.	Particulars	Unit	Projected by Petitioner for FY 2018-19	Considered by Commission for FY 2018-19
13	<b>State Transmission loss</b>	%	<b>3.92%</b>	<b>3.92%</b>
14	State Transmission loss	MU	643.70	642.58
15	Add: UI sales	MU	0.00	0
<b>16</b>	<b>Energy required at State Transmission periphery</b>	<b>MU</b>	<b>16,420.86</b>	<b>16392.24</b>
17	Power Purchase from CGS , SGS and others	MU	17,014.94	18,679.52
18	UI	MU	0	0
19	Power purchase from CGS, IPPs and JVs	MU	13440.29	15,018.06
20	<b>Losses in Regional Transmission System (excluding state generating stations)</b>	%	<b>2.26%</b>	<b>2.26%</b>
21	Losses in Regional Transmission system (MU)	MU	297.04	339.41
22	Net Power Purchase from CGS etc	MU	0.00	14678.65
23	Power Purchase from SGS, others	MU	3,574.65	3,661.46
24	Energy available at State Transmission Periphery	MU	16,420.86	18,340.11
25	<b>Surplus energy (24-16)</b>		<b>0</b>	<b>1,947.87</b>

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 and observing the minimum technical scheduling 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 SBPDCL for FY 2018-19**

S. No.	Power Purchase Sources	Share Allocation (MW)	Provided by Petitioner (MU)	Approved based on Merit order for FY 2018-19
<b>1</b>	<b>Central Sector Stations</b>	<b>1,892.39</b>	<b>12,362.89</b>	<b>11343.98</b>
2	Talcher – I ( 2 x 500 MW)	224.91	1,758.64	1758.64
3	Farakka – I & II (1600 MW)	274.75	2,045.80	1125.19
4	Farakka – III (500 MW)	58.32	438.75	241.32
5	Kahalgaon – I (840 MW)	191.65	1,457.27	1457.27
6	Kahalgaon – II (1500 MW)	40.34	351.20	351.20
7	Barh-II	571.86	4,332.35	4332.35
8	Korba	13.5		99.14
9	Rangit – HEP	11.34	72.22	72.22
10	Teesta – HEP	58.55	376.53	376.53
11	Chukha	43.20	353.58	353.58
12	Tala	140.45	667.93	667.93
13	Barh Stage-I (3 X 660 MW)	277.02	508.61	508.61
<b>14</b>	<b>State Generating Stations</b>	<b>520.56</b>	<b>1,866.62</b>	<b>2446.49</b>
15	KBUNL 1	118.80	449.47	0.00
16	KBUNL 2	142.56	518.86	113.23
17	Small Hydro (BSHPCL)	5.40	3.35	3.35
18	Barauni Stage I	118.80	421.91	641.07
19	Barauni Stage II	135.00	473.04	1688.84
<b>20</b>	<b>IPP</b>	<b>140.40</b>	<b>1,095.25</b>	<b>1095.25</b>
21	GMR Kamalanga Energy	140.40	1,095.25	1095.25
<b>22</b>	<b>JV projects</b>	<b>333.54</b>	<b>538.78</b>	<b>538.79</b>
23	Nabinagar Railway (4 X 250 MW)	54.00	301.29	301.29
24	Nabinagar Stage-I (3 X 660 MW)	279.54	237.50	237.50
25	Nabinagar JV (3 X 660 MW) Stage-II	-	-	-
<b>26</b>	<b>Renewable</b>	<b>120.96</b>	<b>359.88</b>	<b>359.87</b>
27	SECI	5.40	11.23	11.23
28	ACME Magadh	5.40	9.26	9.26
29	ACME Nalanda	8.10	13.54	13.54
30	Sunmark	5.40	9.29	9.29
31	Avantika	2.70	4.49	4.49
32	AZURE	5.40	9.11	9.11
33	Udipta Energy & Equipment Pvt ltd	2.70	4.49	4.49
34	Glatt	1.62	2.70	2.70



S. No.	Power Purchase Sources	Share Allocation (MW)	Provided by Petitioner (MU)	Approved based on Merit order for FY 2018-19
35	Welspun 2	8.10	13.81	13.81
36	Welspun 1	5.40	9.24	9.24
37	Alpha Infraprop	10.80	18.66	18.66
38	Welspun 3	8.10	13.99	13.99
39	Response Renewabe Energy	5.40	8.99	8.99
40	New Swadeshi Sugar Mill,Narkatiaganj	3.78	17.68	17.68
41	Harinagar Sugar Mills, Harinagar	5.94	35.39	35.39
42	Bharat SugarMills, Sidhiwalia, Gopalganj	5.94	33.95	33.95
43	Lauriya Sugar Mill	10.80	50.48	50.48
44	Sugauli Sugar Mill	10.80	50.14	50.14
45	Hasanpur Sugar Mills, Samastipur	5.40	25.07	25.07
46	Riga Sugar Company Ltd, Sitamarhi	1.62	7.52	7.52
47	Siddhashram Rice Mill Cluster Pvt Ltd	0.54	3.07	3.07
48	BDBPL	1.62	7.77	7.77
49	<b>Open Market Purchase</b>	-	-	<b>922.00</b>
50	Jindal			922.00
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	<b>Sub Total Power Purchase</b>	<b>3,007.85</b>	<b>16,223.44</b>	<b>16706.38</b>
64	Open Market Purchase		476.95	
65	<b>Purchase of Power from other DISCOMs</b>		314.54	
66	<b>Net Power Purchase</b>	<b>3,007.85</b>	<b>17,014.94</b>	<b>16706.38</b>

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	12,467.86	12284.74
2	Less: Energy supplied to DF area	MU	734.89	0
3	Less: Sales to Nepal	MU	0.00	0
4	Less: UI	MU	0.00	0
5	Energy sale excluding DF area and Nepal	MU	11,732.97	12284.74
<b>6</b>	<b>Distribution loss</b>	<b>%</b>	<b>22.00%</b>	<b>22.00%</b>
7	Distribution loss	MU	3,309.30	3464.93
8	Energy required (3+5)	MU	15,042.27	15749.67
9	Add: Energy to DF area including loss for DF area	MU	734.89	0
10	Energy required at Distribution periphery (7+8)	MU	15,777.16	15749.67
11	Add: Sales to Nepal	MU	0.00	0
12	Total energy required (9+10)	MU	15,777.16	15749.67
<b>13</b>	<b>State Transmission loss</b>	<b>%</b>	<b>3.92%</b>	<b>3.92%</b>
14	State Transmission loss	MU	643.70	642.58
15	Add: UI sales	MU	0.00	0
<b>16</b>	<b>Energy required at State Transmission periphery</b>	<b>MU</b>	<b>16,420.86</b>	<b>16392.24</b>
17	Power Purchase from CGS , SGS and others	MU	17,014.94	16,706.38
18	Power purchase from CGS, IPPs and JVs	MU	13440.29	13,900.02
19	<b>Losses in Regional Transmission System (excluding state generating stations)</b>	<b>%</b>	<b>2.26%</b>	<b>2.26%</b>
20	Losses in Regional Transmission system (MU)	MU	297.04	314.14
21	Net Power Purchase from CGS etc	MU	0.00	13585.88
22	Power Purchase from SGS, others	MU	3,574.65	2,806.36
23	Energy available at State Transmission Periphery	MU	16,420.86	16,392.24
24	<b>Surplus energy (23-16)</b>		0	0.00

### 6.11 Renewable Power Purchase Obligation

SBPDCL 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.

SBPDCL 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	12,467.86
2	% of RPO Obligation	%	9.25%
	Solar	%	3.25%
	Non-Solar	%	6.00%
3	MUs required as per RPO for the year	MU	1,153.28
	Solar	MU	405.21
	Non-Solar	MU	748.07
4	Solar Energy to be procured during the year	MU	405.21
5	Non-Solar Energy to be procured during the year	MU	748.07

SBPDCL 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 Re 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	12284.74
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	1136.34
(i)	Solar	MU	399.24
(ii)	Non-Solar	MU	737.10
4	Solar Energy projected during the year	MU	128.80
5	Non-Solar Energy projected during the year	MU	231.07
6	Balance Solar to be procured	MU	270.44
7	Balance Non-solar to be procured	MU	506.03

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 30<sup>th</sup> 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 31<sup>st</sup> 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

SBPDCL is directed to put forth more efforts to procure the balance non-solar energy required to meet the RPO requirement or other-wise 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

SBPDCL 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 1.21 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 2.6 INR /kWh
- (v) The total cost of power purchase per unit has been calculated to be 4.36 INR/kWh inclusive of all charges.

SBPDCL 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 2018-19)								
		Share Allocation (MW)	Energy (MU)	Fixed Charge rate (INR/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	1,892.39	12,362.89	1.30	1,603.85	2.49	3,075.95	22.57	4,702.38	3.80
2	Talcher – I ( 2 x 500 MW)	224.91	1,758.64	0.90	157.47	1.60	282.19	9.50	449.16	2.55
3	Farakka – I & II (1600 MW)	274.75	2,045.80	0.98	200.85	2.82	577.93	10.19	788.98	3.86
4	Farakka – III (500 MW)	58.32	438.75	1.77	77.62	2.84	124.73	3.85	206.20	4.70
5	Kahalgaon – I (840 MW)	191.65	1,457.27	1.00	145.11	2.49	363.29	0.32	508.72	3.49
6	Kahalgaon – II (1500 MW)	40.34	351.20	0.87	30.73	2.43	85.36	0.06	116.14	3.31
7	Barh-II	571.86	4,332.35	1.97	853.27	2.93	1,267.87	(1.42)	2,119.71	4.89
8	Korba	-	-	-	-	-	-	-	-	-
9	Rangit – HEP	11.34	72.22	1.77	12.77	1.96	14.12	0.02	26.91	3.73
10	Teesta - HEP	58.55	376.53	0.92	34.48	1.16	43.68	0.09	78.25	2.08
11	Chukha	43.20	353.58	-	-	2.29	80.97	(0.03)	80.94	2.29
12	Tala	140.45	667.93	-	-	2.16	144.27	-	144.27	2.16
13	Barh Stage-I (3 X 660 MW)	277.02	508.61	1.80	91.55	1.80	91.55	-	183.10	3.60
14	State Generating Stations	520.56	1,866.62	0.72	133.95	3.65	681.81	-	815.77	4.37
15	KBUNL 1	118.80	449.47	1.41	63.29	3.41	153.13	-	216.41	4.81
16	KBUNL 2	142.56	518.86	1.36	70.57	3.22	167.07	-	237.64	4.58
17	Small Hydro (BSHPCL)	5.40	3.35	0.30	0.10	2.49	0.83	-	0.93	2.79
18	Barauni Stage I	118.80	421.91	-	-	4.10	172.98	-	172.98	4.10
19	Barauni Stage II	135.00	473.04	-	-	3.97	187.80	-	187.80	3.97
20	IPP	140.40	1,095.25	1.95	213.35	1.13	123.42	55.45	392.22	3.58
21	GMR Kamalanga Energy	140.40	1,095.25	1.95	213.35	1.13	123.42	55.45	392.22	3.58
22	Adani Enterprises Limited	-	-	-	-	-	-	-	-	-
23	JV projects	333.54	538.78	2.05	110.35	1.90	102.63	-	212.98	3.95
24	Nabinagar Railway (4 X 250 MW)	54.00	301.29	2.24	67.60	1.99	59.88	-	127.48	4.23
25	Nabinagar Stage-I (3 X 660 MW)	279.54	237.50	1.80	42.75	1.80	42.75	-	85.50	3.60

S. No.	Power Purchase Sources	Ensuing Year (FY 2018-19)								
		Share Allocation (MW)	Energy (MU)	Fixed Charge rate (INR/MU)	Fixed charge (INR. Cr.)	Energy Rate (INR/kWh)	Energy Charge (INR Cr)	Other charges	Total Charges (INR Cr)	Avg. Tariff Rate (Rs/kWh)
26	Nabinagar JV (3 X 660 MW) Stage-II	-	-	-	-	-	-	-	-	-
27	Renewable	120.96	359.88	-	-	3.94	141.87	-	141.87	3.94
28	SECI	5.40	11.23	-	-	5.62	6.32	-	6.32	5.62
29	ACME Magadh	5.40	9.26	-	-	8.73	8.08	-	8.08	8.73
30	ACME Nalanda	8.10	13.54	-	-	8.73	11.82	-	11.82	8.73
31	Sunmark	5.40	9.29	-	-	7.02	6.52	-	6.52	7.02
32	Avantika	2.70	4.49	-	-	7.69	3.46	-	3.46	7.69
33	AZURE	5.40	9.11	-	-	8.39	7.64	-	7.64	8.39
34	Udipta Energy & Equipment Pvt Ltd	2.70	4.49	-	-	7.98	3.59	-	3.59	7.98
35	Glatt	1.62	2.70	-	-	7.02	1.89	-	1.89	7.02
36	Welspun 2	8.10	13.81	-	-	8.64	11.93	-	11.93	8.64
37	Welspun 1	5.40	9.24	-	-	8.70	8.04	-	8.04	8.70
38	Alpha Infraprop	10.80	18.66	-	-	8.56	15.97	-	15.97	8.56
39	Welspun 3	8.10	13.99	-	-	8.56	11.98	-	11.98	8.56
40	Response Renewabe Energy	5.40	8.99	-	-	7.02	6.31	-	6.31	7.02
41	New Swadeshi Sugar Mill,Narkatiaganj	3.78	17.68	-	-	-	-	-	-	-
42	Harinagar Sugar Mills,Harinagar	5.94	35.39	-	-	5.34	18.90	-	18.90	5.34
43	Bharat SugarMills,Sidhiwalla, Gopalganj	5.94	33.95	-	-	5.04	17.11	-	17.11	5.04
44	Lauriya Sugar Mill	10.80	50.48	-	-	-	-	-	-	-
45	Sugauli Sugar Mill	10.80	50.14	-	-	-	-	-	-	-
46	Hasanpur Sugar Mills,Samastipur	5.40	25.07	-	-	0.01	0.03	-	0.03	0.01
47	Riga Sugar Company Ltd,Sitamarhi	1.62	7.52	-	-	-	-	-	-	-
48	Siddhashram Rice Mill Cluster Pvt Ltd	0.54	3.07	-	-	7.41	2.28	-	2.28	7.41
49	BDBPL	1.62	7.77	-	-	-	-	-	-	-
50	Open Market Purchase	-	-	-	-	-	-	-	-	-
51	IEX/PXIL	-	-	-	-	-	-	-	-	-
52	DB Power	-	-	-	-	-	-	-	-	-

S. No.	Power Purchase Sources	Ensuing Year (FY 2018-19)								
		Share Allocation (MW)	Energy (MU)	Fixed Charge rate (INR/MU)	Fixed charge (INR. Cr.)	Energy Rate (INR/kWh)	Energy Charge (INR Cr)	Other charges	Total Charges (INR Cr)	Avg. Tariff Rate (Rs/kWh)
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	-	-	-	-	-	-	-	-	-
<b>63</b>	<b>Sub Total Power Purchase</b>	<b>3,007.85</b>	<b>16,223.44</b>	<b>1.27</b>	<b>2,061.50</b>	<b>2.54</b>	<b>4,125.68</b>	<b>78.03</b>	<b>6,265.21</b>	<b>3.86</b>
64	Transmission charges	-	-	-	-	-	-	-	851.21	-
65	PGCIL	-	-	-	-	-	-	-	407.92	-
66	POSOCO & SLDC Charges	-	-	-	-	-	-	-	7.31	-
67	BSPTCL charges	-	-	-	-	-	-	-	328.30	-
68	BGCL	-	-	-	-	-	-	-	107.67	-
<b>69</b>	<b>Total Power Purchase</b>	<b>3,007.85</b>	<b>16,223.44</b>	<b>1.27</b>	<b>2,061.50</b>	<b>2.54</b>	<b>4,125.68</b>	<b>78.03</b>	<b>7,116.42</b>	<b>4.39</b>
<b>70</b>	<b>Purchase from NBPDCCL</b>		476.95			4.36	208.00		208.00	4.36
<b>71</b>	<b>Open Market Purchase</b>		314.54			3.00	94.36		94.36	3.00
<b>72</b>	<b>Net Power Purchase</b>	<b>3,007.85</b>	<b>17,014.94</b>	<b>1.21</b>	<b>2,061.50</b>	<b>2.60</b>	<b>4,428.05</b>	<b>78.03</b>	<b>7,418.78</b>	<b>4.36</b>



**Commission's Analysis**

The Power Purchase quantum (MU) for FY 2018-19 is considered based on the energy requirement of SBPDCL 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 5.25. 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)
<b>1</b>	<b>Central Sector Stations</b>	<b>11343.98</b>	<b>1.49</b>	<b>1692.81</b>	<b>2.26</b>	<b>2562.79</b>	<b>0.00</b>	<b>4255.61</b>	<b>3.75</b>
2	Talcher – I ( 2 x 500 MW)	1758.64	0.94	165.25	1.71	301.54	0.00	466.78	2.65
3	Farakka – I & II (1600 MW)	1125.19		205.77	2.86	321.32	0.00	527.09	4.68
4	Farakka – III (500 MW)	241.32		81.00	2.88	69.54	0.00	150.54	
5	Kahalgaon – I (840 MW)	1457.27	1.04	151.74	2.42	352.23	0.00	503.98	3.46
6	Kahalgaon – II (1500 MW)	351.20	0.93	32.71	2.35	82.52	0.00	115.22	3.28
7	Barh-II	4332.35	2.06	890.96	2.42	1046.50	0.00	1937.46	4.47
8	Korba	99.14	1.42	14.08	1.15	11.40	0.00	25.48	2.57
9	Rangit – HEP	72.22	1.78	12.89	1.83	13.22	0.00	26.11	3.61
10	Teesta – HEP	376.53	0.92	34.66	1.16	43.68	0.00	78.33	2.08
11	Chukha	353.58	0.00	0.00	2.29	80.96	0.00	80.96	2.29
12	Tala	667.93	0.00	0.00	2.16	144.27	0.00	144.27	2.16
13	Barh Stage-I (3 X 660 MW)	508.61	2.04	103.76	1.88	95.62	0.00	199.38	3.92
<b>14</b>	<b>State Generating Stations</b>	<b>2446.49</b>	<b>3.46</b>	<b>845.50</b>	<b>2.46</b>	<b>602.19</b>	<b>0.00</b>	<b>1447.69</b>	<b>5.92</b>
15	KBUNL 1	0.00		66.52	3.44	0.00	0.00	66.52	
16	KBUNL 2	113.23		159.29	2.71	30.69	0.00	189.98	16.78
17	Small Hydro (BSHPCL)	3.35			2.49	0.83	0.00	0.83	2.49
18	Barauni Stage I	641.07	1.21	77.57	2.79	178.86	0.00	256.43	4.00
19	Barauni Stage II	1688.84	3.21	542.12	2.32	391.81	0.00	933.93	5.53
<b>20</b>	<b>IPP</b>	<b>1095.25</b>	<b>1.95</b>	<b>213.26</b>	<b>1.10</b>	<b>120.08</b>	<b>55.45</b>	<b>388.79</b>	<b>3.55</b>
21	GMR Kamalanga Energy	1095.25	1.95	213.26	1.10	120.08	55.45	388.79	3.55
<b>22</b>	<b>JV projects</b>	<b>538.79</b>	<b>2.05</b>	<b>110.24</b>	<b>1.91</b>	<b>102.71</b>	<b>0.00</b>	<b>212.95</b>	<b>3.95</b>
23	Nabinagar Railway (4 X 250 MW)	301.29	2.24	67.49	1.99	59.96	0.00	127.45	4.23
24	Nabinagar Stage-I (3 X 660 MW)	237.50	1.80	42.75	1.80	42.75	0.00	85.50	3.60
25	Nabinagar JV (3 X 660 MW) Stage-II	-							

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)
26	<b>Renewable</b>	<b>359.87</b>	<b>0.00</b>	<b>0.00</b>	<b>6.29</b>	<b>226.47</b>	<b>0.00</b>	<b>226.47</b>	<b>6.29</b>
27	SECI	11.23	-	-	5.85	6.57	-	6.57	5.85
28	ACME Magadh	9.26	-	-	8.73	8.08	-	8.08	8.73
29	ACME Nalanda	13.54	-	-	8.73	11.82	-	11.82	8.73
30	Sunmark	9.29	-	-	7.02	6.52	-	6.52	7.02
31	Avantika	4.49	-	-	7.69	3.45	-	3.45	7.69
32	AZURE	9.11	-	-	8.39	7.64	-	7.64	8.39
33	Udipta Energy & Equipment Pvt Ltd	4.49	-	-	7.98	3.58	-	3.58	7.98
34	Glatt	2.70	-	-	7.02	1.90	-	1.90	7.02
35	Welspun 2	13.81	-	-	8.64	11.93	-	11.93	8.64
36	Welspun 1	9.24	-	-	8.7	8.04	-	8.04	8.70
37	Alpha Infraprop	18.66	-	-	7.87	14.69	-	14.69	7.87
38	Welspun 3	13.99	-	-	8.56	11.98	-	11.98	8.56
39	Response Renewabe Energy	8.99	-	-	7.02	6.31	-	6.31	7.02
40	New Swadeshi Sugar Mill,Narkatiaganj	17.68	-	-	4.57	8.08	-	8.08	4.57
41	Harinagar Sugar Mills,Harinagar	35.39	-	-	5.34	18.90	-	18.90	5.34
42	Bharat Sugar Mills,Sidhiwalia, Gopalganj	33.95	-	-	5.04	17.11	-	17.11	5.04
43	Lauriya Sugar Mill	50.48	-	-	5.34	26.96	-	26.96	5.34
44	Sugauli Sugar Mill	50.14	-	-	5.34	26.77	-	26.77	5.34
45	Hasanpur Sugar Mills,Samastipur	25.07	-	-	5.97	14.97	-	14.97	5.97
46	Riga Sugar Company Ltd,Sitamarhi	7.52	-	-	5.84	4.39	-	4.39	5.84
47	Siddhashram Rice Mill Cluster Pvt Ltd	3.07	-	-	7.41	2.27	-	2.27	7.41
48	BDBPL	7.77	-	-	5.8	4.51	-	4.51	5.80
49	<b>Open Market Purchase</b>	<b>922.00</b>	<b>2.08</b>	<b>191.78</b>	<b>1.01</b>	<b>93.12</b>	<b>0.00</b>	<b>284.90</b>	<b>3.09</b>

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)
50	Jindal India power Limited	922.00	2.08	191.78	1.01	93.12	0.00	284.90	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	<b>Sub Total Power Purchase</b>	<b>16706.38</b>	<b>1.828</b>	<b>3053.59</b>	<b>2.219</b>	<b>3707.36</b>	<b>55.45</b>	<b>6816.40</b>	<b>4.080</b>
63	Solar REC to meet RPO (270.44)				1.00	27.05		27.05	
64	Non Solar REC to meet RPO (506.03)				1.00	50.60		50.60	
65	<b>Total Power Purchase Cost (62+63+64)</b>	<b>16706.38</b>	<b>1.828</b>	<b>3053.59</b>	<b>2.266</b>	<b>3785.01</b>	<b>55.45</b>	<b>6894.05</b>	<b>4.127</b>

### 6.13 Transmission Charges

#### Petitioner's Submission

SBPDCL 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.

SBPDCL 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**

<b>(Rs. Crore)</b>		
<b>S. No.</b>	<b>Particulars</b>	<b>Transmission Charge</b>
1	PGCIL Charge	407.92
2	POSOCO & ELDC Charges	7.31
3	BSPTCL charges	328.30
4	BGCL Charges	107.67
<b>5</b>	<b>Total Transmission Purchase</b>	<b>851.21</b>

#### 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. 455.70 Crore and Rs. 2.68 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 SBPDCL and Rs. 549.41 crore to NBPDC in their power purchase sharing ratio of 54:46 respectively. Accordingly, the Commission has considered Rs.644.96 crore towards BSPTCL transmission charges for FY 2018-19 and included the same in the Power purchase cost of SBPDCL for FY 2018-19.

**C. Bihar Grid Company Limited (BGCL) Transmission Charges**

The Commission has approved total transmission charges of BGCL at Rs. 276.24 crore for FY 2018-19 in BGCL tariff order dated 07.03.2018. The Commission has allocated Rs.149.17 crore to SBPDCL and Rs. 127.07 crore to NBPDC in their power purchase sharing ratio of 54:46 respectively. Accordingly, the Commission has considered Rs. 149.17 crore towards BGCL transmission charges for FY 2018-19 and included the same in the Power purchase cost of SBPDCL 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 SBPDCL and Rs. 1.97 crore is allocated to NBPDC in their power purchase sharing ratio of 54 : 46 respectively. Accordingly, the Commission has considered Rs. 2.31 crore towards SLDC charges for FY 2018-19 and included the same in the Power purchase cost of SBPDCL 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)			
Sl. No.	Particulars	Projected for FY 2018-19	Approved by the Commission for FY 2018-19
1	PGCIL Charge + ULDC	407.92	455.70
2	POSOCO	7.31	2.68
3	BSPTCL charges	328.30	644.96
4	SLDC Charges		2.31
5	BGCL Charges	107.67	149.17
6	<b>Total Transmission Charges</b>	<b>851.21</b>	<b>1254.82</b>

**6.14 Total Power Purchase Cost**

The Commission approves the power purchase cost to SBPDCL 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	6567.57	6816.40
2	PGCIL Charges + POSOCO	415.232	458.38
3	BSPTCL charges	328.30	644.96
4	SLDC charges	-	2.31
5	BGCL Charges	107.62	149.17
6	<b>Power purchase cost</b>	<b>7468.78</b>	<b>8071.22</b>

Power Purchase cost	: Rs. 6816.40 Crore
PGCIL Charges	: Rs. 458.38 Crore
Total	: Rs. 7274.78 Crore
Energy purchased (Excluding PGCIL Losses)	: 16392.24 MU
Average Power Purchase Cost	: 4.44/ 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 BERG 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	6816.40
2	Transmission charges	1254.82
3	Power purchase cost (1+2)	8071.22
4	Less: Rebate @ 1% on 3	80.71
5	<b>Net Power Purchase cost (3-4)</b>	7990.51
6	Cost of RECs to meet RPO	77.65
7	<b>Net Power Purchase cost (5+6)</b>	<b>8068.16</b>

### 6.16 Capital Expenditure

#### Petitioner's submission:

SBPDCL 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 SBPDCL for FY 2018-19
1	IPDS	623.94
2	DDUGJY	1531.37
3	APL connections	404.36
	<b>Total</b>	<b>2559.67</b>

#### Commission's analysis:

The Commission has examined the capital expenditure projected by SBPDCL for FY 2018-19. The Commission had approved 'Nil' capital expenditure 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 has 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.41/17-210 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.SBC/916/2017 (Tariff) Part-II 164 dated 28.02.2018 has submitted that all un-electrified villages shall be electrified under DDUGJY scheme or from State Plan funds. The DDG scheme cost is estimated to be Rs.133.90 crore for SBPDCL.

The 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. Clarity on the scheme regarding its funding and capex will be available on completion and capitalisation of capex. 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 SBPDCL for FY 2018-19	Approved for FY 2018-19
1	IPDS	623.94	623.94
2	DDUGJY	1531.37	1531.37
3	APL connections	404.36	404.36
	<b>Total</b>	<b>2559.67</b>	<b>2559.67</b>

## 6.17 Capitalisation

### Petitioner's submission:

SBPDCL has submitted that capitalisation of investment is considered at 80% of opening capex and 20% of new investment would capitalise year on year. SBPDCL 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 SBPDCL for FY 2018-19
1	Opening CWIP	5148.50
2	New Investment	2559.67
<b>3</b>	<b>Less: Capitalisation (4+5)</b>	<b>4624.90</b>
4	Opening CWIP	3699.92
5	New Investment	924.98
<b>6</b>	<b>Closing CWIP (1+2-3)</b>	<b>3083.27</b>
<b>7</b>	<b>Funding</b>	
<b>8</b>	<b>CWIP Capitalisation (9+10+11)</b>	<b>3699.92</b>
9	Grant	1570.08
10	Equity	1123.08
11	Loan	1006.76
<b>12</b>	<b>New Investment (13+14+15)</b>	<b>924.98</b>
13	Grant	392.52
14	Equity	280.77
15	Loan	251.69
<b>16</b>	<b>Total Capitalisation (8+12)</b>	<b>4624.90</b>
<b>17</b>	<b>Total Grant (9+13)</b>	<b>1962.60</b>
<b>18</b>	<b>Total Equity (10+14)</b>	<b>1403.85</b>
<b>19</b>	<b>Total Loan (11+15)</b>	<b>1258.45</b>

### Commission's analysis:

SBPDCL 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 72% and capitalisation against new investment works out to around 36%.

The Commission has considered opening CWIP at Rs.5148.45 crore for FY 2018-19 based on the closing CWIP considered in review for FY 2017-18 (RE).

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.4624.90 crore for FY 2018-19.

The Petitioner i.e. SBPDCL vide letter no.SBC/916/2017 (Tariff) Part-II 164 dated 28.02.2018 has submitted that all un-electrified villages shall be electrified under DDUGJY scheme or from State Plan funds. The DDG scheme cost is estimated to be Rs.133.90 crore for SBPDCL.

However, the NBPDC vide letter no.COM/NB/74/17 (PART) 186 dated 07.03.2018 has clarified 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.

In view of the above, the funding pattern of APL connections is provisionally considered, as submitted by the petitioner, 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 scheme-wise capitalisation

and funding of capitalisation at Rs.4624.90 Crore for FY 2018-19 as detailed in the following table.

**Table 6.46: Scheme wise funding of capitalization considered for FY 2018-19**

(Rs. Crore)

Sl. No.	Planned Scheme	Funding of Capitalisation			
		Grant	Equity	Loan	Total
1	BRGF Phase-I		271.82		271.82
2	BRGF Phase-II		501.88		501.88
3	BRGF Phase-II Part C		71.67		71.67
4	BRGF RE portion		130.49		130.49
5	IPDS	336.92	56.15	168.46	561.54
6	DDUGJY	826.94	137.82	413.47	1378.23
7	RGGVY X plan	191.18		21.24	212.42
8	RGGVY XI plan	195.72		21.75	217.47
9	RGGVY XII plan	159.66		17.74	177.40
10	R-APDRP Part A			67.47	67.47
11	R-APDRP Part B			369.75	369.75
12	APDRP			5.72	5.72
13	NABARD Phase VIII	8.32			8.32
14	NABARD Phase XI	8.40			8.40
15	MP/CM LAD	16.73			16.73
16	Deposit scheme	0.37			0.37
17	Internal resources		126.40		126.40
18	ADB			27.29	27.29
19	APL connection - State Plan	218.36	109.18	36.39	363.93
20	State Plan		57.36		57.36
21	ACA State plan			15.19	15.19
22	Burnt DTR State Plan			35.05	35.05
23	<b>Total</b>	<b>1962.60</b>	<b>1462.78</b>	<b>1199.52</b>	<b>4624.90</b>

The Commission has considered the opening CWIP, 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 SBPDCL for FY 2018-19	Approved for FY 2018-19
1	Opening CWIP	3155.29	5148.50	5148.45
2	New Investment	--	2559.67	2559.67
3	<b>Less: Capitalisation (4+5)</b>	<b>1577.64</b>	<b>4624.90</b>	<b>4624.90</b>

Sl. No.	Particulars	Approved for FY 2018-19 in MYT order dated 21.03.2016	Projected by SBPDCL for FY 2018-19	Approved for FY 2018-19
4	Opening CWIP	1577.64	3699.92	3699.92
5	New Investment	--	924.98	924.98
<b>6</b>	<b>Closing CWIP (1+2-3)</b>	<b>1577.65</b>	<b>3083.27</b>	<b>3083.27</b>
<b>7</b>	<b>Funding</b>			
<b>8</b>	<b>CWIP Capitalisation (9+10+11)</b>	<b>1577.64</b>	<b>3699.92</b>	<b>3699.92</b>
9	Grant	1319.94	1570.08	1570.08
10	Equity	102.10	1123.08	1170.22
11	Loan	155.60	1006.76	959.62
<b>12</b>	<b>New Investment (13+14+15)</b>	<b>--</b>	<b>924.98</b>	<b>924.98</b>
13	Grant	--	392.52	392.52
14	Equity	--	280.77	292.56
15	Loan	--	251.69	239.90
<b>16</b>	<b>Total Capitalisation (8+12)</b>	<b>1577.64</b>	<b>4624.90</b>	<b>4624.90</b>
<b>17</b>	<b>Total Grant (9+13)</b>	<b>1319.94</b>	<b>1962.60</b>	<b>1962.60</b>
<b>18</b>	<b>Total Equity (10+14)</b>	<b>102.10</b>	<b>1403.85</b>	<b>1462.78</b>
<b>19</b>	<b>Total Loan (11+15)</b>	<b>155.60</b>	<b>1258.45</b>	<b>1199.52</b>

#### 6.18 Interest during Construction (IDC)

##### Petitioner's submission

SBPDCL 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

SBPDCL 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	1541.93	18.27	1560.20
2	Buildings	64.54	5.74	70.29
3	Hydraulic works	0.40	0.33	0.72
4	Other civil works	70.13	53.13	123.26
5	Plant and Machinery	2464.97	1138.89	3603.85
6	Lines and Cable net work	6074.13	3405.98	9480.11
7	Vehicles	2.99	0.51	3.50
8	Furniture and Fixtures	3.70	0.44	4.14
9	Office equipment	4.68	1.62	6.30
10	Spare Units/Service Units	11.11	--	11.11
11	Assets taken over from licensees pending final valuation	3.23	--	3.23
12	Total	10241.82	4624.90	14866.72

**Commission's analysis:**

The Commission has adopted the opening GFA for FY 2018-19 based on the closing GFA approved (Rs.10241.86 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 SBPDCL for FY 2018-19	Approved for FY 2018-19
1	Opening GFA	13058.71	10241.82	10241.86
2	Additions during the year	1577.64	4624.90	4624.90
3	Add : Employee cost capitalised	15.05	--	--
4	Add: IDC	10.11	--	--
5	<b>Closing GFA (1 to 4)</b>	<b>14661.51</b>	<b>14866.72</b>	<b>14866.76</b>

**6.20 Depreciation****Petitioner's submission:**

SBPDCL has submitted that depreciation is computed annually on straight line method by applying weighted average rate of depreciation on the average GFA. SBPDCL 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. SBPDCL 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 SBPDCL for FY 2018-19
1	Opening GFA	8699.89
2	Additions during the year	4606.63
3	IDC	--
4	<b>Closing GFA (1+2+3)</b>	<b>13306.52</b>
5	<b>Average GFA (1+4)/2</b>	<b>11003.21</b>
6	Weighted average rate of depreciation	5.46%
7	<b>Gross Depreciation (5*6)</b>	<b>600.26</b>
8	Opening Grants	4308.91
9	Grants during the year	1954.85
10	<b>Total Grants (8+9)</b>	<b>6263.75</b>
11	<b>Average Grants (8+10)/2</b>	<b>5286.33</b>
12	Weighted average rate of Depreciation	6.08%
13	<b>Depreciation for GFA on Grants (11*12)</b>	<b>321.46</b>
14	<b>Depreciation for GFA on Loans (7-13)</b>	<b>278.80</b>

**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 5.46% on GFA and 6.08% 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 4.18% (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 SBPDCL.

Regulation 23 of the BEREC (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.8699.88 Crore and closing grants at Rs.5510.16 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 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 SBPDCL for FY 2018-19	Approved for FY 2018-19
1	Opening depreciable GFA	11541.35	8699.89	8699.93
2	Additions during the Year	1577.64	4606.63	4606.63
3	Employee cost capitalised	15.05	--	--
4	IDC	10.11	--	--
5	<b>Closing GFA (1+2+3+4)</b>	<b>13144.15</b>	<b>13306.52</b>	<b>13306.56</b>



Sl. No.	Particulars	Approved for FY 2018-19 in MYT order dated 21.03.2016	Projected by SBPDCL for FY 2018-19	Approved for FY 2018-19
6	<b>Average GFA (1+5)/2</b>	<b>12342.75</b>	<b>11003.21</b>	<b>11003.25</b>
7	Weighted average rate of depreciation	4.63%	5.46%	4.18%
8	<b>Gross Depreciation (6*7)</b>	<b>571.47</b>	<b>600.26</b>	<b>460.03</b>
9	Opening Grants	10706.96	4308.91	5510.16
10	Grants during the year	1319.94	1954.85	1962.60
11	<b>Total Grants (9+10)</b>	<b>12026.91</b>	<b>6263.75</b>	<b>7472.76</b>
12	<b>Average Grants (9+11)/2</b>	<b>11366.94</b>	<b>5286.33</b>	<b>6491.46</b>
13	Weighted average rate of depreciation	4.63%	6.08%	4.18%
14	<b>Depreciation for GFA on Grants (12*13)</b>	<b>526.29</b>	<b>321.46</b>	<b>271.40</b>
15	<b>Depreciation for GFA on Loans (8-14)</b>	<b>45.18</b>	<b>278.80</b>	<b>188.63</b>

The Commission approves depreciation at Rs.188.63 crore for FY 2018-19 as given in the table above.

#### 6.21 Interest on Loans

##### Petitioner's submission:

SBPDCL 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 9.95%. SBPDCL 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 SBPDCL for FY 2018-19
1	Amount of total assets at the beginning	7169.27
2	Less: assets created from grant at beginning	3016.23
3	Additions during the year	3237.43
4	Less: Additions through Grants	1368.39
5	Net Assets	6022.08
6	Less: Normative repayment	278.80
7	Amount of Debt	5743.28
8	Average debt	6456.28
9	Interest on Loan (%)	9.95%
10	<b>Interest on Loan</b>	<b>642.69</b>

##### Commission's analysis:

The Commission has examined the computation of interest on loan of the Petitioner. The Petitioner has submitted that it has considered 9.95% 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
<b>1</b>	<b>Opening Balance</b>	<b>814.37</b>
	REC Loans (RGGVY) 11.5%	287.85
	PFC Loans (R-APDRP) 9%	177.26
	REC Loans (R-APDRP Part-B) 10.4%	349.26
<b>2</b>	<b>Addition during the year</b>	<b>2108.68</b>
	REC Loans (RGGVY) 11.5%	287.84
	PFC Loans (R-APDRP) 9%	177.26
	DDUGJY	1294.32
	REC Loans (R-APDRP Part-B) 10.4%	349.26
<b>3</b>	<b>Repayment of loans</b>	--
	REC Loans (RGGVY) 11.5%	--
	PFC Loans (R-APDRP) 9%	--
	PFC Loans (APDRP)	--
<b>4</b>	<b>Closing balance</b>	<b>2253.68</b>
	REC Loans (RGGVY) 11.5%	432.84
	PFC Loans (R-APDRP) 9%	177.26
	DDUGJY	1294.32
	REC Loans (R-APDRP Part-B) 10.4%	349.26
<b>5</b>	<b>Average Loans (1+4)/2</b>	<b>1534.025</b>
<b>6</b>	<b>Interest on Loans</b>	<b>152.70</b>
	REC Loans (RGGVY) 11.5%	40.84
	PFC Loans (R-APDRP) 9%	15.95
	REC Loans (R-APDRP) Part-B 10.4%	36.32
	Bank loan DDUGJY & IPDS	59.59
<b>7</b>	<b>Weighted average rate of interest</b>	<b>9.95%</b>

The Commission has examined the computation of weighted average rate of interest projected by the Petitioner for FY 2018-19 and observed that the Petitioner has depicted wrong values in the table in respect of addition to loans and repayment of loans for FY 2018-19, however, the closing balance shown is after repayment of loans as shown hereunder:

Sl. No.	Particulars	FY 2018-19
<b>1</b>	<b>Opening Balance</b>	<b>814.37</b>
	REC Loans (RGGVY) 11.5%	287.85
	PFC Loans (R-APDRP) 9%	177.26
	REC Loans (R-APDRP Part-B) 10.4%	349.26

Sl. No.	Particulars	FY 2018-19
<b>2</b>	<b>Addition during the year</b>	<b>2108.68</b>
	REC Loans (RGGVY) 11.5%	287.84
	PFC Loans (R-APDRP) 9%	177.26
	DDUGJY	1294.32
	REC Loans (R-APDRP Part-B) 10.4%	349.26
<b>3</b>	<b>Repayment of loans</b>	<b>320.11</b>
	REC Loans (RGGVY) 11.5%	142.85
	PFC Loans (R-APDRP) 9%	177.26
	PFC Loans (APDRP)	--
<b>4</b>	<b>Closing balance</b>	<b>2253.68</b>
	REC Loans (RGGVY) 11.5%	432.84
	PFC Loans (R-APDRP) 9%	177.26
	DDUGJY	1294.32
	REC Loans (R-APDRP Part-B) 10.4%	349.26
<b>5</b>	<b>Average Loans (1+4)/2</b>	<b>1534.025</b>
<b>6</b>	<b>Interest on Loans</b>	<b>152.70</b>
	REC Loans (RGGVY) 11.5%	40.84
	PFC Loans (R-APDRP) 9%	15.95
	REC Loans (R-APDRP) Part-B 10.4%	36.32
	Bank loan DDUGJY & IPDS	59.59
<b>7</b>	<b>Weighted average rate of interest</b>	<b>9.95%</b>

Further, the addition to loans during FY 2018-19 is not in commensurate with the capital investment plan of Rs.2559.67 crore projected by the Petitioner. The capex plan includes IPDS, DDUGJY and APL connections for FY 2018-19 and funding these schemes is through Grants 60%, Equity 30% and Loan 10%. The loan works out Rs.255.97 crore (2559.67 x 10%) for FY 2018-19, however the Petitioner has projected loans for FY 2018-19 at Rs.2108.68 crore. In view of inconsistency in value of projected loans, the Commission provisionally considers the weighted average rate of interest at 5.35% 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.2322.48 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	4624.90
Less: Grants	1962.60
Net capitalisation	2662.30
Debt @70%	1863.61
Equity @30%	798.69

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 1<sup>st</sup> April of control period shall be computed by deducting the cumulative repayment as approved by the Commission (basis as mentioned below) up to 31<sup>st</sup> 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 @5.35% (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 SBPDCL for FY 2018-19	Approved for FY 2018-19
1	<b>Opening loan balance</b>	1434.14		2322.48
2	Additions during the year	155.60		1863.61
3	Normative Repayment	45.18		188.63

4	Closing Loans (1+2-3)	1544.56		3997.45
5	Average Loans $\{(1+4)/2\}$	1489.36	6456.28	3159.96
6	Interest rate	8.20%	9.95%	5.35%
7	Interest Charges (5*6)	122.13	642.69	169.06

The Commission approves interest on loans at Rs.169.06 crore for FY 2018-19 as given in the table above.

## 6.22 Other Finance Charges

### Petitioner's submission:

SBPDCL has submitted that finance charges represent Discount to consumers for timely payment of bills (Rebate), power factor rebate, interest to suppliers/contractors, etc. SBPDCL 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 SBPDCL for FY 2018-19
Estimated expenses in FY 2017-18		136.07
Escalation %		10%
Other Finance charges estimated for FY 2018-19		149.67

### Commission's analysis:

The Commission has considered other finance charges at Rs.19.06 Crore in review for FY 2017-18 and the same is considered as base year 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 SBPDCL for FY 2018-19	Approved for FY 2018-19	
1	Base other finance charges	57.12	136.07	19.06	

2	Escalation considered	10.00%	10.00%	10.00%
3	Increase (1x2)	5.71	13.61	1.91
4	Other finance charges (1+3)	62.83	149.67	20.97

The Commission approves other finance charges at Rs.20.97 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:

SBPDCL has submitted that at present strength of employees in FY 2017-18 is 5736 and recruitment of employees is in pipeline and the total manpower requirement is estimated at 5973 by the end of FY 2018-19.

SBPDCL has submitted that employee cost is projected considering recruitment plan and increase in cost by 10%. The 7<sup>th</sup> 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 5% of salary. SBPDCL 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 SBPDCL for FY 2018-19
1	Salaries & Allowances	
(i)	Existing employees	349.41
(ii)	New employees	38.82
(iii)	Total	388.23
2	Contribution to terminal benefits	24.97
3	<b>Total Employee cost</b>	<b>413.20</b>

#### 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:*

$$EMP_n = (EMP_b * CPI \text{ inflation}) + Provision$$

*Where:*

*EMP<sub>n</sub> : Employee expense for the year n*

*EMP<sub>b</sub> : 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 7<sup>th</sup> 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 7<sup>th</sup> 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.340.78 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 SBPDCL for FY 2018-19	Approved for FY 2018-19
1	Employee cost	285.92	413.20	340.78

Sl. No.	Particulars	Approved for FY 2018-19 in MYT order dated 21.03.2016	Projected by SBPDCL for FY 2018-19	Approved for FY 2018-19
2	Inflationary index	5.25%	--	3.24%
3	Inflationary increase	15.01	--	11.04
4	<b>Employee Cost (1+3)</b>	<b>300.93</b>	<b>413.20</b>	<b>351.82</b>
5	Less: Capitalisation	15.05	--	--
6	<b>Total Employee Cost (4-5)</b>	<b>285.88</b>	<b>413.20</b>	<b>351.82</b>

The Commission approves net employee cost at Rs.351.82 crore for FY 2018-19 as given in the table above.

### 6.23.2 Repairs and Maintenance (R&M) Expenses

#### Petitioner's submission:

SBPDCL 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. SBPDCL 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	4282	4845	6855
R & M expenses	68.86	71	97
Percentage of R&M to GFA	1.61%	1.46%	1.41%
Average percentage of R&M to GFA	1.48%		

SBPDCL 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 SBPDCL for FY 2018-19	
1	Opening GFA	6854.91	
2	Percentage of R&M to opening GFA	1.48%	
2	R&M expenses	151.45	

#### 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 n<sup>th</sup> year*

*GFAn : Opening Gross Fixed Assets for n<sup>th</sup> 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 1.53% (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 approved closing GFA at Rs.10241.86 Crore in review for FY 2017-18 and the same is considered as opening GFA for FY 2018-19.

The Commission 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 SBPDCL for FY 2018-19	Approved for FY 2018-19
1	Opening GFA	13058.71	10241.82	10241.86
2	'K' factor	1.50%	1.48%	1.53%
3	<b>R &amp; M expenses</b>	<b>195.88</b>	<b>151.45</b>	<b>156.70</b>

The Commission approves R&M expenses at Rs.156.70 crore for FY 2018-19 as given in the table above.

### 6.23.3 Administration and General (A&G) Expenses

#### Petitioner's submission

SBPDCL has submitted that as per regulation 22.3 Administration and General expenses shall be computed as per the norm escalated by WPI. SBPDCL 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	1.55
2	Insurance	3.47
3	Telephone, Postage & Telex charges	3.99
4	Consultancy	0.29
5	Legal and Audit fees	2.71
6	Fees & Subscription	2.95
7	Conveyance & Travel	11.16
8	Electricity and water charges	6.20
9	Freight	0.77
10	Books and periodicals	0.02
11	Advertisements	1.20
12	Franchisee commission	12.03
13	Franchisee incentive	0.40
14	Entertainment	0.46
15	ATP Machine expense	1.07
16	Printing & stationery	1.85
17	Home guard & Security	5.92

Sl. No.	Particulars	Projected by FY for FY 2018-19
18	Meter Reading & bills dist.	10.87
19	Commission others	0.05
20	Computer billing	5.42
21	Compensation	0.80
22	Misc. expenses	2.13
23	Training & seminar	0.08
24	Survey expenses	0.70
25	Contract labour	5.42
	<b>Total</b>	<b>81.53</b>

### 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:*

$$A\&G_n = (A\&G_b * WPI \text{ inflation}) + Provision$$

Where:

*A&G<sub>n</sub> : A&G expense for the year n*

*A&G<sub>b</sub> : 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.56.62 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 SBPDCL for FY 2018-19	Approved for FY 2018-19
1	Base A&G expenses	49.20	--	56.62
2	WPI Inflationary index %	2.63%	--	--
3	Inflationary increase (1*2)	1.29	--	--
4	<b>A&amp;G expenses (1+3)</b>	<b>50.50</b>	<b>81.53</b>	<b>56.62</b>

The Commission approves A&G expenses at Rs.56.62 crore for FY 2018-19 as given in the table above.

#### 6.23.4 Allocation of Holding Company Expenses

##### Petitioner's submission

SBPDCL 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 SBPDCL for FY 2018-19
Holding company expenses considered for FY 2017-18 (RE)	5.99
Escalation % considered	10.00%
Increase considered	0.60
Total	6.59

##### 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 SBPDCL for FY 2018-19	Approved for FY 2018-19
Holding company expenses allocated	7.56	6.59	6.59

The Commission approves holding company expenses at Rs.6.59 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 SBPDCL for FY 2018-19	Approved for FY 2018-19
1	Employee cost	285.88	413.20	351.82
2	R&M expenses	195.88	151.45	156.70
3	A&G Expenses	50.50	81.53	56.62
4	Holding company expenses	7.56	6.59	6.59
5	Total O& M cost (1+2+3+4)	<b>539.81</b>	<b>652.77</b>	<b>571.73</b>
6	Less: Expenses capitalised	15.05	--	--
7	Net O&M expenses (5-6)	<b>524.77</b>	<b>652.77</b>	<b>571.73</b>

The Commission approves net O&M expenses at Rs.571.73 crore for FY 2018-19 as given in the table above.

### 6.24 Return on Equity

#### Petitioner's submission:

SBPDCL 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 SBPDCL for FY 2018-19
1	Amount of total assets at the beginning	3072.55
2	Less: Assets created from grant at beginning	1292.67
3	Additions during the year	1387.47
4	Less: Additions through grants	586.45
5	Net Assets	2580.89
6	Average equity	2826.72
7	Amount of equity eligible for return	2826.72
8	Rate of return on equity	16.00%
9	<b>Return on Equity</b>	<b>452.27</b>

**Commission's analysis**

The Commission has examined the computation of RoE claim of SBPDCL.

The Petitioner has claimed RoE at Rs.452.27 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.638.06 Crore to the end of 31.03.2016 on which RoE @14% shall be allowed.

Further, the Commission has considered closing equity at Rs.774.54 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.4624.90 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	4624.90
Less: Grants	1962.60
Net capitalisation	2662.30
Debt @70%	1863.61
Equity @30%	798.69

The Commission, in view of the above Regulations, for the purpose of computation of Return on Equity, has considered equity addition at Rs.798.69 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 SBPDCL for FY 2018-19	Approved for FY 2018-19
1	Equity as on 31.3.2016			638.06

Sl. No.	Particulars	Approved for FY 2018-19 in MYT order dated 21.03.2016	Projected by SBPDCL for FY 2018-19	Approved for FY 2018-19
2	Rate of return on equity			14%
3	Return on equity (1*2)			89.33
	<b>Equity with effect from 1.4.2016</b>			
4	Opening equity			774.54
5	Addition during the year			798.69
6	Closing equity (4+5)			1573.23
7	Average Equity (4+6)/2		2826.72	1173.89
8	Rate of Return on Equity %	15.50%	16.00%	15.50%
9	<b>Return on Equity (7*8)</b>	<b>100.65</b>	<b>452.27</b>	<b>181.95</b>
10	<b>Total Return on equity (3+9)</b>	<b>100.65</b>	<b>452.27</b>	<b>271.28</b>

The Commission approves return on equity at Rs.271.28 crore for FY 2018-19 as given in the table above.

#### 6.25 Interest on Security Deposit

##### Petitioner's submission:

SBPDCL 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 SBPDCL for FY 2018-19
Opening balance	477.74
Additions during the year	59.50
Closing security deposit	537.24
Average security deposit	507.49
Rate of Interest	7.75%
Interest on security deposit	39.33

##### 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.477.74 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.59.50 crore during FY 2018-19 as projected by the Petitioner. The RBI rate 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 projected for FY 2018-19**

(Rs. Crore)				
Sl. No.	Particulars	Approved for FY 2018-19 in MYT order dated 21.03.2016	Projected by SBPDCL for FY 2018-19	Approved for FY 2018-19
1	Opening Security Deposit from consumers	433.16	477.74	477.74
2	Addition during the year	40.00	59.50	59.50
3	Closing Security Deposit from consumers	473.16	537.24	537.24
4	Average Security Deposit from consumers	453.16	507.49	507.49
5	Rate of interest (RBI Rate) %	7.50%	7.75%	6.00%
6	<b>Interest on Security Deposit from consumers</b>	<b>33.99</b>	<b>39.33</b>	<b>30.45</b>

**The Commission approves interest on consumer security deposit at Rs.30.45 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.10241.86 crore for FY 2018-19 (Table 6.46). The opening GFA approved includes assets revalued of Rs.1478.84 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	10241.86
2	Less: Assets revalued	1478.84
3	Original cost of GFA	8763.02
4	% of Appropriation to Contingency Reserve	0.50%
<b>5</b>	<b>Contingency reserve (3* 4)</b>	<b>43.82</b>

**The Commission approves contribution to contingency reserve at Rs.43.82 crore for FY 2018-19.**

## **6.27 Interest on working capital**

### **Petitioner’s submission:**

SBPDCL 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.

SBPDCL 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 SBPDCL for FY 2018-19
1	Two months equivalent expected revenue	1600.59
2	Maintenance spares @40% of R&M expenses for one month	5.05
3	<b>Less:</b>	
	(i) Power purchase cost, transmission charges and load dispatch charges of one month	618.23
	(ii) Depreciation, return on equity and contribution to contingency reserve for one month	121.85
	(iii) Security Deposits from consumers	42.29
	(iv) Grant received from the State Govt. For power purchase and other O&M expenses	--
4	Net working capital	823.27
5	Interest rate	14.75%
6	Interest on working capital	121.43

### 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 SBPDCL 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.537.24 Crore in Table 6.101 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 considered for FY 2018-19**

(Rs. Crore)				
Sl. No.	Particulars	Approved for FY 2018-19 in MYT order dated 21.03.2016	Projected by SBPDCL for FY 2018-19	Approved for FY 2018-19
1	O&M expenses (1 month)	44.98	--	--
2	Two months equivalent expected revenue	1801.83	1600.59	1538.11
3	Maintenance spares @40% of R&M expenses for one month	6.53	5.05	5.22
<b>4</b>	<b>Sub-total (1+2+3)</b>	<b>1853.35</b>	<b>1605.64</b>	<b>1543.33</b>
	<b>Less:</b>			
5	(i) Power purchase cost, transmission charges and load dispatch charges of one month	838.88	618.23	672.35
	(ii) Depreciation, return on equity and contribution to contingency reserve	33.95	121.85	83.95
	(iii) Security Deposits from consumers	473.17	42.29	537.24
	(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))	<b>1052.16</b>	<b>782.37</b>	<b>1293.54</b>
7	<b>Net working capital requirement (4-6)</b>	<b>801.19</b>	<b>823.27</b>	<b>249.79</b>
8	Rate of interest %	14.75%	14.75%	13.70%
9	<b>Interest on working capital (7*8)</b>	<b>118.18</b>	<b>121.43</b>	<b>34.22</b>

The Commission approves interest on working capital at Rs.34.22 crore for FY 2018-19 as given in the table above.

## 6.28 Non-Tariff Income

### Petitioner's submission:

SBPDCL 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 SBPDCL for FY 2018-19
1	Interest on advances to suppliers/contractors	5.50
2	Interest from Banks	9.86
3	Delayed payment surcharge from consumers	99.19
4	Income from trading	6.47



Sl. No.	Particulars	Projected by SBPDCL for FY 2018-19
5	Misc. Receipts	13.46
6	Rebate and Discount received	0.44
7	Incentive for timely payment of power purchase bills	31.68
8	Meter Rent/Service line rental	66.89
9	<b>Total</b>	<b>233.49</b>
10	Less: Interest on funding of principal of DPS	81.28
11	<b>Net Non tariff income</b>	<b>152.21</b>

#### Commission's analysis:

The Commission has approved non-tariff income at Rs.123.22 crore (excluding rebate on payment of power purchase bills) as per the audited annual accounts of SBPDCL 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.135.54 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 1040750 during FY 2018-19 out of which KJY, DS-I and DS-II connections are at 838839. The Commission has considered supervision charges, etc. per connection on the new connections of 201911 (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.47.04 crore towards non-tariff income for FY 2018-19 as given below:

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	277317	--	20	--	66556080	66556080
2	DS-I	364724	--	20	--	87533760	87533760
3	DS-II	196798	--	20	--	47231520	47231520
4	NDS-I	7641	400	20	3056400	1833840	4890240

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
5	NDS-II	46861	400	20	18744400	11246640	29991040
6	SS	262	400	20	104800	62880	167680
7	IAS-I	134940	900	50	121446000	80964000	202410000
8	IAS-II	548	900	50	493200	328800	822000
9	PWW	637	900	50	573300	382200	955500
10	LTIS-I	10105	1500	50	15157500	6063000	21220500
11	LTIS-II	698	1500	500	1047000	4188000	5235000
12	HTS-I	213	3000	1000	639000	2556000	3195000
13	HTS-II	6	3000	3000	18000	216000	234000
14	HTS-III	--	3000	15000	--	--	--
15	HTSS	--	3000	3000	--	--	--
16	RT	--	--	--	--	--	--
	<b>Total</b>	<b>1040750</b>			<b>161279600</b>	<b>309162720</b>	<b>470442320</b>

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 SBPDCL for FY 2018-19	Approved for FY 2018-19
1	Base Non-tariff income	296.45	152.21	135.54
2	Rate of Increase	10.00%	--	10.00%
3	Increase in non-tariff income	29.64	--	13.56
4	<b>Sub-total</b>	<b>326.09</b>	<b>152.21</b>	<b>149.10</b>
5	Additional income due to release of new connections	--	--	47.04
6	<b>Total non-tariff income</b>	<b>326.09</b>	<b>152.21</b>	<b>196.14</b>

The Commission approves nontariff income at Rs.196.14 crore for FY 2018-19 as given in the table above.

## 6.29 Revenue from sale of power at existing tariff

### Petitioner's submission

SBPDCL 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	MU	Revenue (Rs. Crore)	Average Rs/kwh
KJ	620.64	159.14	2.56
DS – I	1869.46	571.62	3.06
DS – II	3909.13	2069.17	5.29
<b>Total</b>	<b>5399.23</b>	<b>2799.93</b>	<b>4.38</b>
NDS – I	49.79	19.64	3.95
NDS – II	1207.69	954.73	7.91
<b>Total</b>	<b>1257.48</b>	<b>974.37</b>	<b>7.75</b>
SS – I	19.10	15.12	7.92
SS – II	15.94	13.56	8.50
<b>Total</b>	<b>35.04</b>	<b>28.68</b>	<b>8.18</b>
IAS – I	544.39	139.33	2.56
IAS – II	152.81	124.68	8.16
<b>Total</b>	<b>697.20</b>	<b>264.01</b>	<b>3.79</b>
<b>PWW</b>	<b>134.87</b>	<b>126.56</b>	<b>9.38</b>
LT – I	347.93	275.77	7.93
LT – II	169.88	142.85	8.47
<b>Total</b>	<b>517.81</b>	<b>418.62</b>	<b>8.08</b>
HT – I	647.10	544.45	8.41
HT – II	352.62	286.76	8.13
HT – III	187.81	145.82	7.76
HTSS	940.05	448.02	4.77
<b>Total</b>	<b>2127.57</b>	<b>1425.06</b>	<b>6.70</b>
RT	563.61	451.67	8.01
DF	734.89	349.07	4.75
<b>Grand Total</b>	<b>12467.71</b>	<b>6837.98</b>	<b>5.48</b>

### 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.

However, the corresponding compensatory component (of Revenue to DISCOM) required for reducing the approved Tariff as not been considered by the Petitioner in the revenue gap projected for FY 2018-19.

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 Gaya 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., 2 months of FY 2017-18 and 10 months of FY 2018-19.

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				
<b>KJ</b>										
Unmetered	45474	11369	25.04	350.00	/connection/month		19.10	0.00	19.10	7.63
Metered (0-50)	1404361	351090	595.60	10.00	/connection/month	5.75	16.85	342.47	359.32	6.03
<b>Total</b>	<b>1,449,835</b>	<b>362,459</b>	<b>620.64</b>				<b>35.95</b>	<b>342.47</b>	<b>378.42</b>	<b>6.10</b>
<b>DSI (Rural)</b>										
Unmetered	37968	42104	34.17	500.00	/connection/month	0.00	22.78	0.00	22.78	6.67
<b>Metered</b>							<b>50.52</b>	<b>1078.73</b>	<b>1129.26</b>	
First 50 Units	1581360	1789417	1139.85	20.00	per kW Per month	5.75	42.95	655.41	698.36	6.13
51 - 100 Units	167438	189468	151.78	20.00	per kW Per month	6.00	4.55	88.56	93.10	6.13
Above 100 Units	111625	126312	543.66	20.00	per kW Per month	6.25	3.03	334.76	337.80	6.21
<b>Total</b>	<b>1,898,391</b>	<b>2,147,300</b>	<b>1,869.46</b>				<b>73.31</b>	<b>1078.73</b>	<b>1152.04</b>	<b>6.16</b>
<b>DSII</b>										
1-100 U/Month	343995	761387	515.81	40.00	per kW Per month	5.75	36.55	296.59	333.14	6.46
101 - 200 U/Month	619191	1370496	1349.04	40.00	per kW Per month	6.50	65.78	821.15	886.93	6.57
201 -300 U/Month	343995	761387	1547.43	40.00	per kW Per month	7.25	36.55	1029.01	1065.55	6.89
above 300 U/Month	68839	152413	555.49	40.00	per kW Per month	8.00	7.32	407.22	414.53	7.46
<b>Total</b>	<b>1,376,020</b>	<b>3,045,683</b>	<b>3,967.77</b>				<b>146.19</b>	<b>2553.97</b>	<b>2700.16</b>	<b>6.81</b>
<b>NDS-I (Rural)</b>										
Unmetered	1000	447	0.25	550.00	/connection/month	0.00	0.66	0.00	0.66	25.95
Metered										
1-100 U/Month	29330	33046	17.43	30.00	per kW Per month	6.00	1.19	10.46	10.57	6.07
101 - 200 U/Month	27418	37021	22.90	30.00	per kW Per month	6.50	1.33	13.24	13.38	5.84
above 200 U/Month	5682	7487	9.21	30.00	per kW Per month	7.00	0.27	5.42	5.45	5.92
<b>Total</b>	<b>63,430</b>	<b>7,8001</b>	<b>49.79</b>				<b>3.45</b>	<b>29.12</b>	<b>30.06</b>	<b>6.04</b>
<b>NDS-II</b>										
upto 0.5 kW	4668	7018	6.29	100.00	per kW Per month	6.00	0.84	3.78	4.62	7.34
<b>Above 0.5 kW</b>										
1-100U/m	136890	518871	639.39	180.00	per kW Per month	6.00	112.08	383.63	495.71	7.75
101-200 U/m	127968	581291	512.89	180.00	per kW Per month	6.50	125.56	325.70	451.26	8.80
above 200 U/m	26519	117558	73.38	180.00	per kW Per month	7.00	25.39	46.59	71.99	9.81

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				
<b>Total</b>	<b>296,045</b>	<b>1,224,738</b>	<b>1,231.96</b>				<b>263.87</b>	<b>759.71</b>	<b>1023.58</b>	<b>8.31</b>
<b>IAS_I</b>										
Unmetered	190737	444692	476.67	800.00	per HP Per month	0.00	572.48	0.00	572.48	12.01
metered	111991	261099	67.72	30.00	per HP Per month	5.25	12.60	35.56	48.16	7.11
<b>Total</b>	<b>302,728</b>	<b>705,791</b>	<b>544.39</b>				<b>585.08</b>	<b>35.56</b>	<b>620.64</b>	<b>11.40</b>
<b>IAS_II</b>										
Unmetered	1967	21655	78.39	2100.00	per HP Per month	0.00	73.18	0.00	73.18	9.34
metered	2573	28323	74.42	200.00	per HP Per month	6.20	9.12	46.14	55.26	7.42
<b>Total</b>	<b>4,540</b>	<b>49,978</b>	<b>152.81</b>				<b>82.30</b>	<b>46.14</b>	<b>128.44</b>	<b>8.40</b>
<b>PWW</b>	<b>2419</b>	<b>33987</b>	<b>90.62</b>	<b>350.00</b>	<b>Per kW per month</b>	<b>7.50</b>	<b>14.27</b>	<b>83.91</b>	<b>98.18</b>	<b>10.83</b>
<b>Total</b>	<b>2,419</b>	<b>33,987</b>	<b>91</b>				<b>14.27</b>	<b>83.91</b>	<b>98.18</b>	<b>10.83</b>
<b>SS</b>										
<b>Metered</b>	<b>956</b>	<b>5188</b>	<b>19.10</b>	<b>50.00</b>	<b>Per kW per month</b>	<b>7.00</b>	<b>0.31</b>	<b>14.86</b>	<b>15.17</b>	<b>7.94</b>
<b>Unmetered</b>	<b>510</b>	<b>3544</b>	<b>10.63</b>	<b>3750.00</b>	<b>Per kW per month</b>	<b>0.00</b>	<b>15.95</b>	<b>0.00</b>	<b>15.95</b>	<b>15.00</b>
<b>Total</b>	<b>1,466</b>	<b>8,732</b>	<b>29.73</b>				<b>16.26</b>	<b>14.86</b>	<b>31.11</b>	<b>10.47</b>
<b>LTIS</b>										
<b>LTIS-I</b>	<b>41520</b>	<b>430562</b>	<b>300.80</b>	<b>160.00</b>	<b>Per kW per month</b>	<b>6.05</b>	<b>82.67</b>	<b>202.20</b>	<b>284.87</b>	<b>9.47</b>
<b>LTIS - II</b>	<b>3554</b>	<b>184346</b>	<b>185.19</b>	<b>200.00</b>	<b>Per kW per month</b>	<b>6.05</b>	<b>44.24</b>	<b>124.49</b>	<b>168.73</b>	<b>9.11</b>
<b>Total</b>	<b>45,074</b>	<b>614,908</b>	<b>485.99</b>				<b>126.91</b>	<b>326.69</b>	<b>453.60</b>	<b>9.33</b>
<b>HTS-I</b>	<b>1598</b>	<b>337466</b>	<b>680.93</b>	<b>300.00</b>	<b>Per kVA per month</b>	<b>6.20</b>	<b>134.99</b>	<b>469.09</b>	<b>604.07</b>	<b>8.87</b>
<b>HTS-II</b>	<b>116</b>	<b>175049</b>	<b>352.62</b>	<b>300.00</b>	<b>Per kVA per month</b>	<b>6.15</b>	<b>70.02</b>	<b>240.96</b>	<b>310.98</b>	<b>8.82</b>
<b>HTS-III</b>	<b>4</b>	<b>43800</b>	<b>180.94</b>	<b>300.00</b>	<b>Per kVA per month</b>	<b>6.10</b>	<b>17.52</b>	<b>122.64</b>	<b>140.16</b>	<b>7.75</b>
<b>HTS-IV</b>	<b>0</b>	<b>0</b>	<b>0.00</b>	<b>300.00</b>	<b>Per kVA per month</b>	<b>6.05</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>#DIV/0!</b>
<b>HTSS</b>	<b>16</b>	<b>121041</b>	<b>899.95</b>	<b>700.00</b>	<b>Per kVA per month</b>	<b>3.70</b>	<b>112.97</b>	<b>369.98</b>	<b>482.95</b>	<b>5.37</b>
<b>Total</b>	<b>1,734</b>	<b>677,356</b>	<b>2,114.44</b>				<b>335.50</b>	<b>1202.66</b>	<b>1538.16</b>	<b>7.27</b>
<b>RTS</b>	<b>15</b>	<b>153180</b>	<b>591.79</b>	<b>280.00</b>	<b>Per kVA per month</b>	<b>6.35</b>	<b>57.19</b>	<b>417.54</b>	<b>474.73</b>	<b>8.02</b>
<b>DF</b>	<b>0</b>	<b>0</b>	<b>734.89</b>			<b>3.63</b>	<b>0.00</b>	<b>266.77</b>	<b>266.77</b>	<b>3.63</b>
<b>Total</b>	<b>15</b>	<b>153,180</b>	<b>1,326.68</b>				<b>57.19</b>	<b>684.31</b>	<b>741.50</b>	<b>5.59</b>
<b>Grand Total</b>	<b>5,441,697</b>	<b>9,102,113</b>	<b>12,484.28</b>				<b>1740.28</b>	<b>7158.11</b>	<b>8898.39</b>	<b>7.13</b>

**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 SBPDCL for FY 2018-19
1	Purchase of power	6567.57
2	PGCIL & Other transmission charges	415.24
3	BSPTCL transmission charges	328.30
4	BGCL Transmission charges	107.67
5	SLDC charges	-
<b>6</b>	<b>O &amp; M Expenses</b>	
	a. Employee expenses	413.20
	b. R&M expenses	151.45
	c. A&G expenses	81.53
	d. Holding company expenses allocated	6.59
7	Depreciation	278.80
8	Interest & Finance charges	792.37
9	Interest on working capital	121.43
10	Return on equity	452.27
11	Interest on Security Deposit	39.33
12	Contingency reserve	--
<b>13</b>	<b>Total Revenue requirement (1 to 12)</b>	<b>9755.74</b>
14	Less: Non-tariff income	152.21
<b>15</b>	<b>Net Revenue requirement (13 - 14)</b>	<b>9603.53</b>

**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 SBPDCL for FY 2018-19	Approved for FY 2018-19
1	<b>Total Purchase of power (a to g)</b>	<b>10066.55</b>	<b>7418.78</b>	<b>8068.16</b>
	a. Purchase of power	9094.87	6359.57	6816.40

Sl. No.	Particulars	Approved for FY 2018-19 in MYT order dated 21.03.2016	Projected by SBPDCL for FY 2018-19	Approved for FY 2018-19
	b. PGCIL & Other transmission charges	545.07	407.92	458.38
	c. BSPTCL transmission charges	426.61	328.30	644.96
	d. BGCL transmission charges	--	107.67	149.17
	e. SLDC Charges	--	7.31	2.31
	f. Purchase from NBPDCCL	--	208.00	--
	g. Less: 1% Rebate	--	--	(80.71)
	h. RE purchases to meet RPO	--	--	77.65
2	<b>O &amp; M Expenses (a+b+c+d)</b>	<b>539.81</b>	<b>652.77</b>	<b>571.73</b>
	a. Employee expenses	285.88	413.20	351.82
	b. R&M expenses	195.88	151.45	156.70
	c. A&G expenses	50.50	81.53	56.62
	d. Holding company expenses allocated to SBPDCL	7.56	6.59	6.59
3	Depreciation	45.18	278.80	188.63
4	Interest charges	122.13	642.69	169.06
5	Other finance charges	62.83	149.67	20.97
6	Return on equity	100.65	452.27	271.28
7	Income Tax	--	--	--
8	Interest on Security Deposit	33.99	39.33	30.45
9	Contingency Reserve	57.90	--	43.82
10	Interest on working capital	118.18	121.43	33.60
11	<b>Less: IDC</b>	<b>10.11</b>	<b>--</b>	<b>--</b>
12	<b>Total Revenue requirement (1 to 11)</b>	<b>11137.10</b>	<b>9755.74</b>	<b>9397.70</b>
13	<b>Less: Non-tariff income</b>	<b>326.09</b>	<b>152.21</b>	<b>196.14</b>
14	Less: Power purchase cost disallowed due to higher T&D loss	1763.02	--	--
15	<b>Net Revenue requirement (12-13-14)</b>	<b>9047.98</b>	<b>9603.53</b>	<b>9201.56</b>

### 6.31 Trued up net Revenue Surplus of FY 2016-17

The Commission had arrived at net revenue Surplus of Rs.0.14 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.0.14 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**

Particulars	Amount (Rs. Crore)
Revenue Surplus approved in true up for FY 2016-17	0.14
Interest for FY 2016-17 (SBI PLR @ 14.75%) for 6 months	0.01
Interest for FY 2017-18 (SBI PLR @ 14.05%) for 1 year	0.02
Interest for FY 2018-19 (SBI PLR @ 14.00%) for 6 months	0.01
<b>Total surplus with carrying cost/interest</b>	<b>0.18</b>

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	<b>Total ARR requirement (1+2)</b>	<b>7039.03</b>	<b>9201.38</b>	<b>16240.41</b>
4	<b>Less: Revenue from Existing tariff</b>	5950.03	8898.39	14848.42
5	<b>Less: Revenue from sale of power-Nepal</b>	731.23	0.00	731.23
6	<b>Net Gap / (Surplus) before subsidy (3-4-5)</b>	<b>357.77</b>	<b>302.99</b>	<b>660.76</b>

From the above table, 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	<b>Total revenue requirement</b>	<b>7039.03</b>	<b>9201.38</b>	<b>16240.41</b>
4	Revenue with existing Tariff	6681.26	8898.39	15579.65
5	<b>Gap</b>	<b>357.77</b>	<b>302.99</b>	<b>660.76</b>

**Table 6.81: Consolidated revenue with approved tariff and approved consolidated revenue Gap/(Surplus) for FY 2018-19**

Sl. No.	Particulars	(Rs. Crore)		
		NBPDCL	SBPDCL	Total
1	Net ARR (including past period gap)	<b>7039.03</b>	<b>9201.38</b>	<b>16240.41</b>
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
<b>5</b>	<b>Total revenue (2+3+4+5)</b>	<b>6933.56</b>	<b>9362.82</b>	<b>16296.38</b>
<b>6</b>	<b>Gap after tariff revision (1-6)</b>	<b>105.47</b>	<b>(161.44)</b>	<b>(55.97)</b>

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  $\pm 20\%$  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 NBPDCCL

### 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%
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%

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
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 NBPDC

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## 7. Government Grant/Revenue Subsidy

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### 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 19<sup>th</sup> 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 NBPDCCL has received Rs. 1513.66 Crore.

Accordingly, the Commission has considered Rs.2320.37 Crore for SBPDCL and Rs. 1513.66 Crore for NBPDCCL while truing up of the ARR of 2016-17 of the DISCOMs. The Commission while approving ARR of FY 2016-17 of SBPDCL and NBPDCCL 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		NBPDCCL		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
<b>Total Resource gap grant</b>	<b>2320.34</b>	<b>2320.34</b>	<b>1513.66</b>	<b>1513.66</b>	<b>3834.00</b>	<b>3834.00</b>

### 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 (NBPDCCL) that SBPDCL is receiving a sum of Rs. 148.88 Crore per month and NBPDCCL 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. DISCOM 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 NBPDC and SBPDCL together has decided to increase the overall average tariff rate by 5% during FY 2018-19.

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## 8. Voltage-wise Cost of Supply

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### 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 10<sup>th</sup> 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 10<sup>th</sup> 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
	<b>Total</b>			<b>12,467.71</b>	<b>14,031.56</b>	<b>1,563.85</b>

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
	<b>Total</b>			<b>10,131.00</b>	<b>11,113.14</b>	<b>982.14</b>

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
	<b>Total</b>	<b>12467.71</b>	<b>1563.85</b>	<b>14031.56</b>	<b>2983.38</b>	<b>17014.94</b>

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
<b>Total</b>		<b>10,131.00</b>	<b>982.14</b>	<b>11,113.14</b>	<b>2,044.69</b>	<b>13,157.84</b>

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
<b>Total</b>		<b>12,467.71</b>	<b>17,014.94</b>	<b>4.36</b>	<b>7,416.30</b>	<b>5.95</b>

NBPDCL 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 NBPDCCL**

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
<b>Total</b>		<b>10,131.00</b>	<b>13,157.84</b>	<b>4.37</b>	<b>5,748.73</b>	<b>5.67</b>

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	NBPDCCL
		(Rs. Cr)	(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	<b>Network Cost per unit sale of energy (Distribution + Transmission) (INR/kWh)</b>	<b>2.44</b>	<b>1.79</b>

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 10<sup>th</sup> 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 NBPDCCL 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
<b>19</b>	<b>Total</b>	<b>12284.74</b>	<b>9815.90</b>	<b>22100.64</b>

Sl. No.	Voltage and Category	Sales Approved for SBPDCL (MU)	Sales Approved for NBPDCCL (MU)
A	<b>220/132 KV</b>		
	HT Industry (HTS-III)	180.94	65.95
	Railway Traction	591.79	65.80
	Nepal	-	1,188.89
	<b>Sub – Total</b>	<b>772.73</b>	<b>1,320.64</b>
B	<b>33 KV</b>		
	HTS-II	358.62	114.45
	HTSS	899.95	167.79
	<b>Sub – Total</b>	<b>1,258.57</b>	<b>282.24</b>
C	<b>11 KV</b>		
	HTS-I	719.84	534.90
	<b>Sub-Total</b>	<b>719.84</b>	<b>534.90</b>
D	<b>LT</b>		
	Domestic, Non-Domestic, Agriculture and Others	9,533.60	7678.12
	<b>Total (A+B+C+D)</b>	<b>12,284.74</b>	<b>9815.90</b>

#### 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)
<b>Total</b>	<b>(A+B+C+D)</b>			

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
<b>Total</b>				<b>12284.74</b>	<b>15099.81</b>	<b>2815.07</b>

#### Technical Losses for NBPDC

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
<b>Total</b>				<b>9815.90</b>	<b>12034.25</b>	<b>2218.35</b>

**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
	<b>Total</b>	<b>12284.74</b>	<b>2815.07</b>	<b>15099.81</b>	<b>1292.43</b>	<b>16392.24</b>

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 NBPDC**

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
	<b>Total</b>	<b>9815.9</b>	<b>2218.35</b>	<b>12034.25</b>	<b>426.85</b>	<b>12461.10</b>

Note: The commercial losses are obtained by reducing the sales + technical losses from the energy input at state periphery ( $12461.10 - 12034.25 = 426.85$ ). 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	<b>Net Power Purchase (MU)</b>	<b>16392.32</b>	<b>12461.10</b>	<b>28853.42</b>
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
	<b>Total</b>	<b>12284.74</b>	<b>16392.24</b>		<b>7438.21</b>	<b>6.05</b>

#### 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
	<b>Total</b>	<b>9815.9</b>	<b>12461.10</b>		<b>5654.40</b>	<b>5.76</b>

### 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
<b>14</b>	<b>Total (1 to 12)</b>	<b>807.46</b>	<b>1329.54</b>	<b>2137</b>
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
<b>18</b>	<b>Total cost (14 to 17)</b>	<b>1485.91</b>	<b>2125.98</b>	<b>3611.89</b>
19	Energy Sales (MU)	9815.9	12284.74	22100.64
20	Network Cost per unit sale of energy (Distribution + Transmission) (Rs./kWh)	<b>1.51</b>	<b>1.73</b>	<b>1.63</b>

### 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 NBPDC**

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	NBPDC	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.

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## 9. Tariff Principles, Design and Tariff Schedule

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### 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 28<sup>th</sup> 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  $\pm 20\%$  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  $\pm 20\%$  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 existing LTIS, 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 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
<b>LT Tariff</b>	<b>LT Tariff</b>
<p><b>1. Rebate for prompt payment</b></p> <p>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.</p>	<p><b>Rebate for prompt payment</b></p> <p>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.</p> <p>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.</p>
<p><b>2. Rebate for Online Payment</b></p> <p>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.</p>	<p><b>Rebate for Online Payment</b></p> <p>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, online payment rebate shall be applicable if the consumer makes the payment within due date in full.</p> <p>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.</p>
<p><b>3. Shunt Capacitor Installation</b> Para 8(e)</p>	<p><b>Shunt Capacitor Installation</b> Para 9.3.7</p>

<p>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.</p> <p><b>Power Factor Surcharge</b></p> <table border="1"> <tr> <td>(i) For each fall of 0.01 in power factor upto 0.80</td> <td>One percent on demand and energy charge (Actual Recorded)</td> </tr> <tr> <td>(ii) For each fall of 0.01 in power factor Below 0.80</td> <td>1.5 (one and half) percent on demand and energy charge (Actual Recorded)</td> </tr> </table> <p><b>Power Factor Rebate</b></p> <table border="1"> <tr> <td>(i) For each increase of 0.01 in 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 0.01 in power Factor below 0.95</td> <td>1.0 (one) percent on demand and energy charges. (Actual Recorded)</td> </tr> </table>	(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)	(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 below 0.95	1.0 (one) percent on demand and energy charges. (Actual Recorded)	<ul style="list-style-type: none"> <li>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.</li> </ul>
(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)								
(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 below 0.95	1.0 (one) percent on demand and energy charges. (Actual Recorded)								
<p><b>HT Tariff</b></p> <p><b>4. Rebate for prompt payment</b> 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.</p>	<p><b>HT Tariff</b></p> <p><b>Rebate for prompt payment</b> 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 HT category</p> <p>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</p>								
<p><b>5. Rebate for Online Payment</b></p> <p>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.</p>	<p><b>Rebate for Online Payment</b></p> <p>To motivate the consumers to make online payment of the bills through online web 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.</p>								
<p><b>6. Exceeding Contract Demand</b> 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</p>	<p><b>3. Exceeding Contract Demand</b> 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</p>								

<p>drawal as per their contract. In case the consumer does not respond to the notice within 30 days 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.</p>	<p>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.</p> <p>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.</p>
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### **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	NBPDCCL		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%
<b>Total</b>	<b>7047.39</b>		<b>9201.56</b>		<b>16248.95</b>	
Revenue with Existing Tariff	NBPDCCL		SBPDCL		Total	
Fixed charges with existing tariff (Rs. Crore)	1229.89		1740.28		2970.17	
Total ARR (Rs. Crore)	<b>7047.39</b>		<b>9201.56</b>		<b>16248.95</b>	
% 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
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, NBPDC/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** the 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  $\pm 20$  % 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  $\pm 20\%$  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 NBPDC 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 NBPDCCL 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 1<sup>st</sup> 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 1<sup>st</sup> 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	<b>Unmetered</b>	Rs.350 / connection / per month	X
2	<b>Metered</b>	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	<b>Unmetered Upto 2Kw</b>	Rs.500 / connection / per month	X	
2	<b>Metered (load upto 2 kW)</b>	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	<b>Metered (Contract demand up to 70 kW)</b>	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 (Paise/ 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 (Paise/ 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**

<b>Demand charge Rs./ kVA / Month of billing demand</b>	<b>Energy charges (Paise / kVAh)</b>
300	All units – 665
<p>The billing demand shall be the maximum demand recorded during the month or 85% of the contract demand whichever is higher.</p> <p>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.</p>	

**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**

<b>Demand charge Rs./ kVA / Month of billing demand</b>	<b>Energy charges (Paise / kVAh)</b>
300	All units – 660
<p>The billing demand shall be the maximum demand recorded during the month or 85% of the contract demand whichever is higher.</p> <p>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.</p>	

**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

<b>Demand charge Rs./ kVA / Month of billing demand</b>	<b>Energy charges (Paise / kVAh)</b>
300	All units – 655
<p>The billing demand shall be the maximum demand recorded during the month or 85% of the contract demand whichever is higher.</p> <p>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.</p>	

#### 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

<b>Demand charge Rs./ kVA / Month of billing demand</b>	<b>Energy charges (Paise / kVAh)</b>
300	All units – 650
<p>The billing demand shall be the maximum demand recorded during the month or 85% of the contracted demand whichever is higher.</p> <p>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.</p>	

#### 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 6.40 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**

<b>Demand charge Rs./ kVA / Month of billing demand</b>	<b>Energy charges (Paise / kVAh)</b>
700	All units – 415
<p>The billing demand shall be the maximum demand recorded during the month or the contract demand whichever is higher.</p> <p>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.</p> <p>If the power is availed at 11 kV a surcharge of five (5) % will be charged extra on demand and energy charges.</p>	



## 8.0 Railway Traction Service (RTS)

Applicable to Railway Traction loads only.

### Tariff rates at 132 kV

Demand charge Rs. / kVA / Month of billing demand	Energy charges (Paise / kVAh)
280	All units - 680
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.	

### 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 from 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:**

Sl. No.	Category / class	Rate	
(i)	Single Phase meter	Rs. 200.00	Cost of material, as required, will be borne by the consumer
(ii)	Three Phase meter	Rs. 400.00	
(iii)	Three Phase meter with CT	Rs. 500.00	
(iv)	Trivector and special type meter	Rs. 600.00	
(v)	High tension metering equipment	Rs. 1200.00	

**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
(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 initial 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 BERG (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:

$$\text{FPPCA (Paise kwh)} = \frac{\text{Qc(Rc}_2\text{-Rc}_1\text{)+Qo(Ro}_2\text{-Ro}_1\text{)+Qpp(Rpp}_2\text{-Rpp}_1\text{)+Vz+A}}{(\text{Qpg}_1\text{+Qpp}_1\text{+Qpp}_2\text{)x[1-L/100]}} \times 100$$

**Where,**

$$\begin{aligned} \text{Qc} &= \text{Quantity of coal consumed during the adjustment period in Metric Tons (MT)} \\ &= (\text{SHR x QPg}) (1+\text{TSL})\text{x}1000 / \text{GCV, or actual whichever is less} \end{aligned}$$

Rc <sub>1</sub>	=	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 <sub>2</sub>	=	Weighted average actual rate of the coal supplied ex-power station coal yard for the adjustment period in Rs. / MT
Q <sub>o</sub>	=	Actual Quantity of oil (in KL) consumed during the adjustment period or normative oil consumption as per Tariff order whichever is less.
Ro <sub>1</sub>	=	Weighted average base rate of oil ex-power station (Rs./KL) approved by the Commission for the adjustment period.
Ro <sub>2</sub>	=	Weighted average actual rate of oil ex-power station supplied (Rs. / KL) during the adjustment period.
Q <sub>pp</sub>	=	Total power purchased from different sources (kWh) = Q <sub>pp2</sub> +Q <sub>pp3</sub>
Q <sub>pp1</sub>	=	Q <sub>pp3</sub> (1-TL/100) in kWh.
TL	=	Transmission loss (CTU) (in percentage terms).
Q <sub>pp2</sub>	=	Power purchase from sources with delivery point within the state transmission or distribution system (in kWh)
Q <sub>pp3</sub>	=	Power purchase from sources on which CTU transmission loss is applicable (in kWh)
R <sub>pp1</sub>	=	Average rate of power purchase as approved by the Commission (Rs. / kWh)
R <sub>pp2</sub>	=	Average rate of power purchased during the adjustment period (Rs. / kWh)
Q <sub>pg</sub>	=	Own power generation (kWh)
Q <sub>pg1</sub>	=	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  $Q_c$ ,  $R_{c1}$ ,  $R_{c2}$ ,  $Q_o$ ,  $R_{o1}$ ,  $R_{o2}$ ,  $Q_{pg}$  and  $Q_{pg1}$  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 24<sup>th</sup> 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 NBPDC 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%
6	Depreciation	90%	10%

Sl. No.	Particulars	Wire Business	Retail Supply
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	<b>Less: IDC</b>	0.00	0.00	0.00
15	<b>Total cost (1 to 14)</b>	<b>16685.48</b>	<b>1559.21</b>	<b>15126.27</b>
16	<b>Less: Non-tariff income</b>	436.53	43.65	392.88
17	<b>Net cost (15 - 16)</b>	<b>16248.95</b>	<b>1515.56</b>	<b>14733.39</b>

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	<b>Wheeling charges for 33 kV voltage level (item 3÷1)</b>	<b>Ps./kWh</b>	<b>27</b>

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	<b>Wheeling charges for 11 kV voltage level (item 6÷4)</b>	<b>Ps./kWh</b>	<b>31</b>

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 20<sup>th</sup> 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:

$$\text{Monthly Transmission charges} = \text{ATC} / \text{SAC} \times 12$$

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

$$\text{Monthly Transmission charges} = 1470.61 / 5836 \times 12$$

$$= 209991 / \text{MW} / \text{Month}$$

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 terms 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%)

Drawl / Injection	Transmission (220/132 kV)	33 KV	11 KV
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 BERG “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	<b>Average power purchase rate (Rs./kWh)</b>	4.59

2. Calculation of cross subsidy surcharge

$$S = T - [C / (1 - L/100) + D + R]$$

3. (a) for 132 kV consumers

$$= 8.54 - [(4.59 / (1 - 3.92) + 0.51 + 0)] = \text{Rs.}3.26/\text{kWh}$$

(b) for 33kV consumers

$$= 9.25 - [(4.59 / (1 - 3.92) \times (1 - 5\%) + (0.51 + 0.27) + 0)] = \text{Rs.}3.45/\text{kWh}$$

(c) for 11kV consumers

$$= 9.35 - [(4.59 / (1 - 3.92) \times (1 - 5\%) \times (1 - 6\%) + (0.51 + 0.27 + 0.31) + 0)] = \text{Rs.}2.92/\text{kWh}$$

(d) for HTSS consumers

$$= 5.88 - [(4.59 / (1 - 3.92) \times (1 - 5\%) + (0.51 + 0.27) + 0)] = \text{Rs.}0.00/\text{kWh}$$

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<sup>st</sup> 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.

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## 12. Directives

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### 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 uncomplained 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 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> quarter of FY 2018-19 in the prescribed formats by 15<sup>th</sup> July 2018, 15<sup>th</sup> October, 2018, 15<sup>th</sup> January, 2019 and 15<sup>th</sup> 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 15<sup>th</sup> July 2018, 15<sup>th</sup> October, 2018, 15<sup>th</sup> January, 2019 and 15<sup>th</sup> 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 NBPDC 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)**.

Certificate 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 &amp; LT Feeders to be furnished



Name of the DISCOM:  
Report for quarter ending:  
Directive – 3: Energy Accounting

Format – 2(B)

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:  
Report for quarter ending:  
Directive – 3: Energy Accounting

Format – 2(C)

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:  
Report for quarter ending:  
Directive – 1: Performance of DISCOMs –Revenue Billing and collection efficiency  
Name of Circle:

Format – 3(A)

Sl. 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 _____
<b>A</b>	<b>Domestic</b>				
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				
	<b>Subtotal</b>				
3	DS-II(Demand Based)				
	1-100 U/Month				
	101 - 200 U/Month				
	201 -300 U/Month				
	above 300 U/Month				
	<b>Subtotal</b>				
<b>B</b>	<b>NON-DOMESTIC SERVICES</b>				
1	NDS - I				
	Metered				
	1-100 U/Month				

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 _____
	101 - 200 U/Month				
	above 200 U/Month				
	<b>Subtotal</b>				
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				
	<b>Subtotal</b>				
<b>C</b>	<b>Street Light Services</b>				
	SS-I Metered				
	SS-II (Un-metered)				
	<b>Subtotal</b>				
<b>D</b>	<b>IAS</b>				
	IAS-I Unmetered				
	IAS-I Metered				
	IAS-II Metered				
	<b>Subtotal</b>				
<b>E</b>	<b>PWW</b>				
<b>F</b>	<b>Low tension industrial</b>				
	LTIS-I (Demand based)				
	LTIS-II (Demand based)				
	<b>Subtotal</b>				
<b>G</b>	<b>High Tension Supply</b>				
	HTS - I				
	HTS - II				
	HTS - III				
	HTS - IV				
	HTSS				
	<b>Subtotal</b>				
<b>H</b>	<b>Railways</b>				
	RTS (132kV)				
	RTS (25kV)				
	<b>Subtotal</b>				
<b>I</b>	<b>DF (Sales)</b>				
<b>J</b>	<b>Nepal</b>				
<b>K</b>	<b>Other bilateral sales (Please specify)</b>				
	<b>Grand Total</b>				

**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:

Name of circle	Name of Division	Name of Section	Meters installed at the beginning of quarter		Meters installed during the quarter		Meters installed at the end of quarter	
			Single Phase	3 Phase	Single Phase	3 Phase	Single Phase	3 Phase

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						
<b>Total</b>						

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)



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## 13. Renewable Purchase Obligation

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### 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 8<sup>th</sup> 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 16<sup>th</sup> 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)**

<b>From Renewable Sources</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>	<b>2014-15</b>	<b>2015-16</b>
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**

<b>From Renewable Sources</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
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) (2<sup>nd</sup> Amendment) Regulations, 2017, substituting the existing 1<sup>st</sup> 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**

<b>From Renewable Sources</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>
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 24<sup>th</sup> 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
<b>Bagasse based Generation</b>			
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
<b>Biomass based Generation</b>			
9	M/s Bihar distillers & Bottlers Pvt Ltd	3-6 MW	January, 2017
10	Siddhashram Rice Mill Cluster Pvt Ltd	1 MW	
<b>MSW based Generation</b>			
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
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	Srikhinda
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
<b>Solar PV Projects</b>			

S. No.	RE Projects Developers	Quantum in MW	CoD
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 Glasstt 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 1<sup>st</sup> May 2017 to 31<sup>st</sup> 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 section 62 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 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.

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 19<sup>th</sup> 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**

<b>Habitation / Non-habitation</b>	<b>Category</b>	<b>Revenue (INR/ month)</b>
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/-**  
**(R.K.Choudhary)**  
Member

**Sd/-**  
**(Rajeev Amit)**  
Member

**Sd/-**  
**(S.K.Negi)**  
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<sup>th</sup> 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 NBPDC, 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, NBPDC 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 NBPDC 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 NBPDC 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, BEREC 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, BEREC 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, BEREC 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
<b>Member of the Committee</b>			
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
<b>Officer of the Utilities</b>			
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.
<b>Officer of the BERC</b>			
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 Sherghati on 01.02.2018****Case No. 41 of 2017****Appearance on behalf SBPDCL and DF**

1.	Shri Subhash Kumar	EEE/S/Sherghati/SBPDCL
2.	Shri Binod Kumar	AEE(Commercial), SBPDCL, Patna
3.	Shri Anand Kumar	Asst. Manager, India Power Corp. Ltd. Gaya
4.	Shri Kshitiz Suman	DY. Manager, India Power Corp. Ltd. Gaya
5.	Shri Kshitiz Suman	DY. Manager (Legal), India Power Corp. Ltd. Gaya

**Appearance on behalf of Stakeholders**

1.	Shri Talkeshwar Choudhary	Prakhand Pramukh, Vill- Gopalpur, P.O+P.S- Sherghati Dist- Gaya
2.	Shri Dilip Kumar	Social Worker, Vill+P.O- Srirampur, Sherghati, Gaya
3.	Shri Arvind Kumar	Block Chairman, JDU, Sherghati, Gaya
4.	Shri Manish Kr. Verma	Domestic Consumer, Vill- Patej, P.O- Navgarh, P.S- Aamash, Shgerghati, Gaya
5.	Shri Sunil Singh	Consumer, Roushanganj, Block Bankey Bazar, Gaya
6.	Shri Mitilesh Prasad	Vill- Afzalpur, P.O- B.T Bazar, PS- Sherghati, Gaya
7.	Shri Mithilesh Saw	Vill- Bihargai, Block- Bankebazar, Gaya
8.	Smt. Archana Yadvendu	Prakhand Pramukh, Vill- Bazipur, P.O+P.S- Amash, Gaya
9.	Smt. Sanju Devi	Mukhiya, Vill- Barheta, Block- Bankey Bazar, Gaya
10.	Shri Raju Pd. Agrawal	Agrawal Automobiles, Maulanachak Sherghati
11.	Shri Ram Lakhan Paswan	Ward Counsellor, Moh- Chakkar, Ward No. 3, PO+PS- Sherghati, Gaya
12.	Shri Khuram Khan	Mukhiya, Vill- Muranya, PO- Lououra, PS- Amash, Gaya
13.	Smt. Chandrawati Devi	Mukhiya, Menka Panchyat, Block- Bankey Bazar, Gaya
14.	Shri Jay Prakash Manjhi	Mukhiya, Saukala, Anchal- Amash, Gaya
15.	Shri Dashrath Bhuiya	Vill+PO- Barki Chilmi, Anchal- Amash, Gaya
16.	Shri Anirudh Das	Mukhiya, Goita Panchyat, Bankey Bazar, Gaya
17.	Smt. Sangeeta Devi	Mukhiya, Saifganj, Banke Bazar Gaya
18.	Md. Ayub Ali	Zila Parisad, At- Khajuriya, PO- Tilaya, P.S- Bankebazar, Gaya
19.	Shri Sanjay Paswan	Saifganj Tola, Panchmahal, Gaya
20.	Shri Kailash Sharma	Advocate, Bar Association Sherghati, Gaya
21.	Shri Sujeet Kumar Pal	Mukhiya, Grampanchayat- Kulawan, Gaya
22.	Shri Rajiv Kumar	Consumer, Vill- Ghaghar, P.O- Sherghati, Gaya
23.	Shri Ajit Sharma	Consumer, Vill- Sakserabagh, Panchmahal, Gaya
24.	Shri Prabhunath Thakur	Vill- Pakardih, P.S- Imamganj, Gaya

25.	Shri Arvind Kr. Mishra	Mukhiya, Vill- Amash, Gaya
26.	Shri Ajmat Khan	Vill- Dumrawa, PO+PS- Bankebazar, Gaya
27.	Shri Abrar Mansoor	Businessman, Lodi Shaheed, Sherghati, Gaya
28.	Shri Ram Kishore Prasad	Consumer, Gaya
29.	Shri Mahadev Rai	Vill+PO- Pananiya, Bankebazar, Gaya
30.	Shri Shiv Barat Yadav	Former Mukhiya, Vill- Kachaindi, Sherghati, Gaya
31.	Shri Manoj Kumar	Vill- Gopalpur, PO- Sherghati, Gaya
32.	Smt. Kumari Usha	Vill- Paraswan Khurd, Bankebazar, Gaya
33.	Shri Kausal Kumar	Member Zila Parisad, Bankebazar, Gaya
34.	Shri Arvind Kumar	Block Chairman, Sherghati Puranichatti Sherghati, Gaya
35.	Shri Lalan Singh	Mukhiya, Vill- Pambumuir, Mohpur, Gaya
36.	Shri Vinod Kr. Gupta	Secretary, Sherghati Chamber of Commerce, Gaya
37.	Shri Parmanand Mani	Mukhiya, Vill- Gopalpur, PO+PS- Sherghati, Gaya
38.	Shri Jairaj Singh	Farmer, Gopalpur, Sherghati, Gaya
39.	Sri Anil Choudhary	Puranichakki, Sherghati, Gaya
40.	Shri Vijay Kumar	Sirsa Rausanganj, Sherghati, Gaya
41.	Shri Surendra Singh	Vill- Tairup, P.S- Lutua, Bankebazar, Sherghati, Gaya
42.	Smt. Ruby Devi	Mukhiya, Baital Panchayat, Bankebazar, Sherghati, Gaya
43.	Md. Attaullah Khan	Sherghati, Gaya
44.	Shri Saryu Prasad	Gurua Bazar, Sherghati, Gaya
45.	Shri Rajendra Yadav	Gurua, Sherghati, Gaya
46.	Shri Suresh Choudhary	Vill+PO- Rajan, Gurua, Sherghati, Gaya
47.	Shri Ritesh Kr. Das	Vill+PO- Rajan, Gurua, Sherghati, Gaya
48.	Shri Pramod Kr. Sinha	Mukhiya, Naiyee Bazar, Sherghati, Gaya
49.	Shri Sudhir Kumar	Advocate, Nayee Bazar, Vill+PO- Rajan, Gurua, Sherghati, Gaya
50.	Shri Pappu Kr. Mehata	Nayee Bazar, Sherghati, Gaya
51.	Shri Brijnandan Pathak	Secretary Vidyut Upbhokta Sangharh Samittee, L. S. Lane, Gurudwara Road, Gaya
52.	Shri Praduman Prasad	Vill- Irki, PO- Itwan, Mohanpur, Gaya
53.	Shri Shridhar Narayan Yadav	Uppramukh, Block- Mohanpur, Ambatri, Sherghati, Gaya
54.	Shri Umashankar Thakur	Prakhand Pramukh, Mohanpur, Vill- Kenari, Irwa, Mohanpur, Sherghati, Gaya
55.	Shri Bashist Kr. Sharma	Consumer, Vill- Dharhara, Mohanpur, Gaya

**List of participants who attended the public hearing at Sasaram on 02.02.2018****Case No. 41 of 2017****Appearance on behalf SBPDCL**

1.	Shri Ram Naresh Choudhary	ESE/Sasaram, Elec. Supply Div.
2.	Shri Purushottam Prasad	EEE (Comml.), SBPDCL, Patna
3.	Shri Sanjay Kr. Sharma	EEE/ESD/Dehri
4.	Shri Prabhat Kr. Ranjan	EEE/ESD/Sasaram
5.	Shri Viswajeet Kr. Sinha	AEE/Sasaram/Urban
6.	Shri Niraj	A.M.E/Dehri
7.	Shri Md. Aftab Alam Chisty	JLM/Sasaram
8.	Shri Pramod Kumar	H/C/ESD/Sasaram (R)
9.	Shri Sheo Ratan Paswan	Correspondence Clerk / ESD /Sasaram
10.	Shri C. Thejeswar Reddy	Consultant, PWC

**Appearance on behalf of Stakeholders**

1.	Shri Ajay Gupta	Director, Om Shivam Rice Mill Pvt. Ltd., Sasaram
2.	Shri Sunil Kumar	Director, Shree Hanuman Jee Modern Rice Mill Pvt. Ltd., Sasaram
3.	Shri Surendra Kesarwani	General Manager, JVL Oils and Foos Pahleza Rohtas
4.	Shri Ajit Pandey	JVL Oils and Foos Pahleza Rohtas
5.	Shri Ramesh Pd. Sinha	Consumer, Behind D. M. Colony Ward No. 11 Sheo Colony Fazalganj, Sasaram
6.	Shri Ram Nath Singh	Director, Model ITI Atiganj, Sasaram
7.	Shri Anil Kumar	Sri Bhagwan Jee Modern Rice Mill, Majhim, Paruhar, Rohtas
8.	Shri Pradeep Kumar	Managing Director, Gupta Ji Brother's Rice Mill Pvt. Ltd. Bank (Akhorigola) Rohtas
9.	Shri Sunil Kr. Sah	Chanda Mini Rice Mill, Rohtas
10.	Shri Harinath Choudhary	Consumer, Karan Sarai, Rohtas
11.	Shri Radheshyam Gupta	Sasaram Food In (Ltd.), Anmra Talab, Sasaram
12.	Shri Rajeshwar Singh	Consumer, Panchasheel Colony, Sasaram
13.	Shri Firoz Akhthar	Consumer, Sasaram, Rohtas
14.	Shri Deobrat Harsh	Consumer, 282 Gaurakshini, Sasaram, Rohtas
15.	Shri Arinjay Kr. Singh	Vill- Amatha, PO- Alampur, Shivnagar, Rohtas

**List of participants who attended the public hearing at Rajgir on 03.02.2018****Case No. 41 of 2017****Appearance on behalf SBPDCL**

1.	Shri Narendra Kumar	CE (Commercial), SBPDCL, Patna
2.	Shri Purushottam Prasad	EEE (Comml.), SBPDCL, Patna
3.	Shri Binod Kumar	AEE (Com), SBPDCL, Patna
4.	Shri Indrajeet Kumar	Elec. Executive Engineer, Electrical Supply Div., Rajgir
5.	Shri Sarvesh Kr. Singh	A.E (Rev), Electrical Supply Div., Rajgir
6.	Shri Intazar Ahmad	A.E.E/S, Rajgir
7.	Shri Satymanyu Kumar	JEE (Rev.), Electrical Supply Div., Rajgir
8.	Shri C. Thejeswar Reddy	Consultant, PWC

**Appearance on behalf of Stakeholders**

1.	Shri Saryu Prasad	Vill+PO- Silaw, Nalanda
2.	Shri Jairam Prasad	Nalanda District Cold Storage Owners Association, Asha Nagar Biharshariff, Nalanda
3.	Shri Vijay Kumar	Chairman, Nalanda District Cold Storage Owners Association, Ravi Shankar Cold Storage Biharshariff, Nalanda
4.	Shri Shashi Kant Mehta	Director, Shreejan Cold Storage, Deep Nagar, Nalanda
5.	Shri Haribansh Prasad	Secretary, Nalanda District Cold Storage Owners Association, Biharshariff, Nalanda
6.	Shri Barun Kumar	RTI Worker, At- Nouli, PO- Nahub, Rajgir, Nalanda
7.	Shri Arun Kumar	Vice-chairman, Nalanda District Cold Storage Owners Association, Ravi Shankar Cold Storage Biharshariff, Nalanda
8.	Shri S. P. Singh	RTI Worker, Rajgir, Nalanda
9.	Shri Dinesh Pd. Gupta	Pawapur Rice Mills Nalanda, Pawapuri Giriak Nalanda
10.	Shri Ajay Kumar Choudhary	Consumer, Jarepur Giriak, Nalanda
11.	Shri Satyadev Kumar	Consumer
12.	Shri Vinod Prasad	Consumer, AT+PO- Lahuar, Rajgir, Nalanda
13.	Smt.Ahilya Devi	Consumer, Panchrukhiya Kuaa, Rajgir, Nalanda
14.	Shri Damodar Sharma	Advocate, Rajgir, Nalanda
15.	Shri Guddu Kumar	Kalyani Nagar, Rajgir, Nalanda



**List of participants who attended the public hearing at Patna on 20.02.2018****Case No. 41 of 2017****Appearance on behalf SBPDCL**

1.	Shri Arvind Kumar	G.M (Rev.), SBPDCL, Patna
2.	Shri Narendra Kumar	Chief Engineer (Comml.), SBPDCL, Patna
3.	Md. Zishan Ansari	Accts. Officer, SBPDCL, Patna
4.	Shri Binod Kumar	AEE (Comml.), SBPDCL, Patna
5.	Shri Anurag Hingle	Consultant, SBPDCL, Patna
6.	Shri Alok Kumar	Consultant, SBPDCL, Patna
7.	Shri Mukesh Kumar	AEE/IC BSPHCL, Patna
8.	Shri C. Thejeswar Reddy	Consultant, PWC

**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 Sevalal, 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 कार्यों के बारे में बताया। उन्होंने कहा कि अन्य कार्यों 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 नहीं किया गया तो अगले कुछ वर्षों में कोल्ड स्टोर एवं राइस मिल्स बन्द हो जायेंगे जिसका विस्तृत विवरण निम्नलिखित है :-
3. **कोल्ड स्टोर की समस्या एवं सुझाव:-** 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 हैं। उस समय उन्हें नियमित लाईन नहीं मिलती है जिसके कारण वैकल्पिक व्यवस्था स्वरूप जेनरेटर चलाकर कोल्ड स्टोर के तापक्रम को बनाये रखते हैं जिस पर काफी खर्च होता है। इसके अतिरिक्त फिक्सड चार्ज के रूप में एक बड़ी राशि उस समय के लिए भी देना पड़ता है जब कोल्ड स्टोर चालू नहीं रहता है। उक्त दोनों कारणों से कोल्ड स्टोर में रखे जाने वाले आलू का मूल्य कभी-कभी इतना ज्यादा हो जाता है कि किसान अपना आलू कोल्ड स्टोर में ही छोड़ देते हैं क्योंकि उनके आलू के मूल्य से सस्ता आलू बाजार में दूसरे राज्य से आ जाता है। इसलिए कोल्ड स्टोरेज के मालिक चाहते हैं 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 सकें।

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 क्षतिपूर्ति 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 हैं परंतु इसमें क्वालिटी पावर नहीं मिल पाता है। जिसके कारण वे 33 केभीए लाइन से कनेक्शन लेते हैं। 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 हैं जबकि कन्ट्रैक्ट 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 हैं। कुछ बन्द हो गये एवं कुछ बन्द होने के कगार पर हैं। 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 डि्यूटी 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 नहीं 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 नग्न्य 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 एग्री 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 अग्रेतर आवश्यक कार्रवाई करेगी।

आर० के० चौधरी  
सदस्य

राजीव अमित  
सदस्य

एस० के० 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				
<b>KJ</b>										
Unmetered	36776	3056	17.57	350.00	/connection/month		15.45	0.00	15.45	8.79
Metered (0-50)	1135742	94393	417.97	10.00	/connection/month	5.75	13.63	240.33	253.96	6.08
<b>Total</b>	<b>1,172,518</b>	<b>97,449</b>	<b>435.54</b>				<b>29.07</b>	<b>240.33</b>	<b>269.41</b>	<b>6.19</b>
<b>DSI (Rural)</b>										
Unmetered	30673	32460	26.67	500.00	/connection/month		18.40	0.00	18.40	6.90
<b>Metered</b>							<b>38.95</b>	<b>767.39</b>	<b>806.34</b>	
First 50 Units	1277545	1379560	811.70	20.00	per kW Per month	5.75	33.11	466.73	499.84	6.16
51 - 100 Units	135269	146071	107.32	20.00	per kW Per month	6.00	3.51	62.36	65.87	6.14
Above 100 Units	90179	97381	387.77	20.00	per kW Per month	6.25	2.34	238.30	240.64	6.21
<b>Total</b>	<b>1,533,667</b>	<b>1,655,472</b>	<b>1,333.46</b>				<b>57.36</b>	<b>767.39</b>	<b>824.75</b>	<b>6.19</b>
<b>DSII</b>										
1-100 U/Month	294797	621481	421.00	40.00	per kW Per month	5.75	29.83	242.08	271.91	6.46
101 - 200 U/Month	530635	1118666	1,101.09	40.00	per kW Per month	6.50	53.70	667.95	721.65	6.55
201 -300 U/Month	294797	621481	1,263.01	40.00	per kW Per month	7.25	29.83	836.09	865.92	6.86
above 300 U/Month	58993	124407	453.39	40.00	per kW Per month	8.00	5.97	330.85	336.83	7.43
<b>Total</b>	<b>1,179,222</b>	<b>2,486,034</b>	<b>3,238.49</b>				<b>119.33</b>	<b>2076.97</b>	<b>2196.30</b>	<b>6.78</b>
<b>NDS-I (Rural)</b>										
Unmetered	880	374	0.21	550.00	/connection/month		0.58	0.00	0.58	27.24
Metered							2.34	24.28	26.62	#DIV/0!
1-100 U/Month	25797	27681	14.60	30.00	per kW Per month	6.00	1.00	8.76	9.76	6.68
101 - 200 U/Month	24115	31011	19.19	30.00	per kW Per month	6.50	1.12	11.02	12.14	6.33
above 200 U/Month	4997	6272	7.71	30.00	per kW Per month	7.00	0.23	4.50	4.72	6.13
<b>Total</b>	<b>55,789</b>	<b>65,338</b>	<b>41.71</b>				<b>2.92</b>	<b>24.28</b>	<b>27.20</b>	<b>6.52</b>
<b>NDS-II</b>										
upto 0.5 kW	3929	5624	5.05	100.00	per kW Per month	6.00	0.67	3.03	3.70	7.34
<b>Above 0.5 kW</b>							210.78	605.49	816.27	#DIV/0!
1-100U/m	115222	415794	512.57	180.00	per kW Per month	6.00	89.81	307.54	397.35	7.75
101-200 U/m	107712	465814	411.16	180.00	per kW Per month	6.50	100.62	260.79	361.41	8.79

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				
above 200 U/m	22321	94205	58.83	180.00	per kW Per month	7.00	20.35	37.16	57.51	9.78
<b>Total</b>	<b>249,184</b>	<b>981,436</b>	<b>987.60</b>				<b>211.45</b>	<b>608.52</b>	<b>819.97</b>	<b>8.30</b>
<b>IAS_I</b>										
Unmetered	105717	241922	273.33	800.00	per HP Per month	0.00	311.44	0.00	311.44	11.39
metered	62071	142044	38.84	30.00	per HP Per month	5.25	6.86	20.39	27.25	7.02
<b>Total</b>	<b>167,788</b>	<b>383,966</b>	<b>312.17</b>				<b>318.30</b>	<b>20.39</b>	<b>338.69</b>	<b>10.85</b>
<b>IAS_II</b>										
Unmetered	1906	20900	81.82	2100.00	per HP Per month	0.00	70.63	0.00	70.63	8.63
metered	2493	27335	66.24	200.00	per HP Per month	6.20	8.80	41.07	49.87	7.53
<b>Total</b>	<b>4,399</b>	<b>48,235</b>	<b>148.06</b>				<b>79.43</b>	<b>41.07</b>	<b>120.50</b>	<b>8.14</b>
<b>PWW</b>	1782	25031	63.81	350.00	Per kW per month	7.50	10.51	59.08	69.60	10.91
<b>Total</b>	<b>1,782</b>	<b>25,031</b>	<b>63.81</b>				<b>10.51</b>	<b>59.08</b>	<b>69.60</b>	<b>10.91</b>
<b>SS</b>										
<b>Metered</b>	454	2462	9.06	50.00	Per kW per month	7.00	0.15	7.05	7.19	7.94
<b>Unmetered</b>	378	2631	11.83	3750.00	Per kW per month		11.84	0.00	11.84	10.01
<b>Total</b>	<b>832</b>	<b>5,093</b>	<b>20.89</b>				<b>11.99</b>	<b>7.05</b>	<b>19.03</b>	<b>9.11</b>
<b>LTIS</b>										
<b>LTIS-I</b>	31415	325675	216.76	160.00	Per kW per month	6.05	62.53	145.71	208.24	9.61
<b>LTIS - II</b>	3179	164902	165.64	200.00	Per kW per month	6.05	39.58	111.35	150.92	9.11
<b>Total</b>	<b>34,594</b>	<b>490,577</b>	<b>382.40</b>				<b>102.11</b>	<b>257.06</b>	<b>359.16</b>	<b>9.39</b>
<b>HTS-I</b>	1385	292485	562.06	300.00	Per kVA per month	6.20	116.99	387.20	504.19	8.97
<b>HTS-II</b>	110	170383	334.38	300.00	Per kVA per month	6.15	68.15	228.49	296.65	8.87
<b>HTS-III</b>	4	43800	172.31	300.00	Per kVA per month	6.10	17.52	116.79	134.31	7.79
<b>HTS-IV</b>	0	0	-	300.00	Per kVA per month	6.05	0.00	0.00	0.00	#DIV/0!
<b>HTSS</b>	16	121041	810.39	700.00	Per kVA per month	3.70	112.97	333.16	446.13	5.51
<b>Total</b>	<b>1,515</b>	<b>627,709</b>	<b>1,879.14</b>				<b>315.64</b>	<b>1065.64</b>	<b>1381.28</b>	<b>7.35</b>
<b>RTS</b>	15	151380	563.61	280.00	Per kVA per month	6.35	56.52	397.66	454.17	8.06
<b>Sale to Nepal</b>	0	0	-			5.60	0.00	0.00	0.00	#DIV/0!
<b>Total</b>	<b>15</b>	<b>151,380</b>	<b>563.61</b>				<b>56.52</b>	<b>397.66</b>	<b>454.17</b>	<b>8.06</b>
<b>DF</b>			<b>1421.98</b>			<b>3.11</b>		<b>441.67</b>	<b>44.67</b>	<b>3.11</b>
<b>Grand Total</b>	<b>4,401,305</b>	<b>7,017,720</b>	<b>10828.86</b>				<b>1314.61</b>	<b>6007.10</b>	<b>7321.72</b>	<b>6.76</b>