

# **Bihar Electricity Regulatory Commission**



**Case No. 16 of 2022 (NBPDCCL)  
and  
Case No. 17 of 2022 (SBPDCL)**

## **Tariff Order**

**True up for FY 2021-22,  
Annual Performance Review for FY 2022-23,  
Annual Revenue Requirement (ARR) and Determination of Retail  
Tariff for FY 2023-24**

**for  
North Bihar Power Distribution Company Limited (NBPDCCL)  
South Bihar Power Distribution Company Limited (SBPDCL)**

**Issued on 23<sup>rd</sup> March, 2023  
(With effect from 1<sup>st</sup> April, 2023)**

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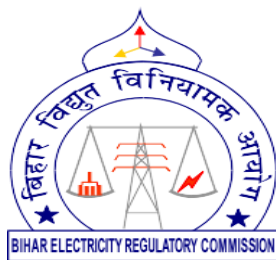
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**ABBREVIATIONS**

A&G	Administration and General Expenses
ACT	Electricity Act. 2003
ARR	Aggregate Revenue Requirement
BERC	Bihar Electricity Regulatory Commission
BSHPC	Bihar State Hydro Power Corporation
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
CTU	Central Transmission Utility
CWIP	Capital Work in Progress
DISCOM	Distribution Company
FC	Fixed Charges
FPPCA	Fuel and Power Purchase Cost Adjustment
FY	Financial Year
GFA	Gross Fixed Asset
KBUNL	Kanti Bijlee Utpadan Nigam Limited
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
NBPDCCL	North Bihar Power Distribution Company Limited
NFA	Net Fixed Asset
NHPC	National Hydro Power Corporation
NTPC	National Thermal Power Corporation
O&M	Operation and Maintenance
PLF	Plant Load Factor
R&M	Repairs and Maintenance
RE	Revised Estimates
RoE	Return on Equity
SAC	State Advisory Committee
SBPDCL	South Bihar Power Distribution Company Limited
SERC	State Electricity Regulatory Commission
TPS	Thermal Power Station



## **BIHAR ELECTRICITY REGULATORY COMMISSION**

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### **Case No. 16 of 2022 (NBPDCL) & Case No. 17 of 2022 (SBPDCL)**

#### **In the matter of:**

Petitions for approval of Truing-up for FY 2021-22, Annual Performance Review (APR) for FY 2022-23, Aggregate Revenue Requirement (ARR) and determination of Retail Tariff for sale of electricity to the consumers for the Financial Year 2023-24 in the State of Bihar filed by North Bihar Power Distribution Company Limited (NBPDCL) and South Bihar Power Distribution Company Limited (SBPDCL).

and

North Bihar Power Distribution Company Limited (NBPDCL)

South Bihar Power Distribution Company Limited (SBPDCL) ..... **Petitioners**

#### **Present**

Shri Shishir Sinha - Chairman

Shri S. C. Chaurasia - Member

#### **Order**

**Date: 23<sup>rd</sup> March, 2023**

In accordance with the BERC (Distribution Multi Year Tariff) Regulations 2021, the North Bihar Power Distribution Company Limited (NBPDCL) and South Bihar Power Distribution Company Limited (SBPDCL) have filed petitions on 15<sup>th</sup> November, 2022 for Truing-up for FY 2021-22,

Annual Performance Review (APR) for FY 2022-23 and for determination of Aggregate Revenue Requirement (ARR) and Retail Tariff for sale of electricity to the consumers for the FY 2023-24.

The Commission, in exercise of the powers vested in it under Sections 61, 62 and 86 of the Electricity Act, 2003 (EA, 2003) and all other powers enabling it in this behalf, and after taking into consideration all the submissions made by petitioners and stakeholders and material on record has approved the Truing-up for FY 2020-21, Annual Performance Review (APR) for FY 2021-22 and determined the ARR and Retail Tariff for sale of electricity to the consumers for the Financial Year 2023-24.

### **1. Background**

The two Discoms in the State of Bihar namely North Bihar Power Distribution Company Limited (NBPDCCL) & South Bihar Power Distribution Company Limited (SBPDCL) came into existence on 1<sup>st</sup> November, 2012 after restructuring of erstwhile Bihar State Electricity Board vide Notification No. 17 dated 30<sup>th</sup> October, 2012 issued by Energy Department, Government of Bihar, Discoms (NBPDCCL and SBPDCL).

### **2. Common order for SBPDCL & NBPDCCL**

The Commission, considering the common issues, common Tariff structure for both the Discoms, similarities in Tariff format and nature of major comments & suggestions received from consumers and stakeholders, had issued common Tariff Order for both the Discoms (NBPDCCL and SBPDCL) for FY 2023-24 in order to obviate duplication of work and to present a holistic power scenario of the entire state at one place.

### **3. Regulatory Provision**

The Tariff orders are being passed 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, Regulations 2021.

### **4. Filing of Tariff Petitions**

NBPDCCL and SBPDCL had filed petitions on 15<sup>th</sup> November, 2022 for True up of ARR for FY 2021-22, APR for FY 2022-23 and determination of ARR and Retail Tariff for FY 2023-24. The Commission admitted the respective Tariff petitions on 23<sup>rd</sup> December, 2022 as Case No. 16 of 2022 and Case No.17 of 2022 for NBPDCCL and SBPDCL respectively.

**5. Public Notice and Consultation Process**

The Section 64(3) of the Electricity Act, 2003, read with Regulation 12.9 and 12.10 of the BERC (Multi Year Distribution Tariff) Regulations 2021, provides for giving adequate opportunities to all stakeholders and general Public for making comments, suggestions and objections on the Tariff Petitions. Accordingly, the Commission directed the two Discoms (NBPDCCL & SBPDCL) to publish public notices showing the contents of the ARR and Tariff Petitions in an abridged form in the leading newspapers having wide circulations in the State of Bihar and invite comments, suggestions and objections thereon. Accordingly, the Discoms (NBPDCCL and SBPDCL) issued their respective public notices of their Tariff Petitions in abridged versions in various newspapers and the same were also uploaded on the websites of the Commission and the respective Discoms. The last date of submission of comments, suggestions and objections was fixed as 18<sup>th</sup> January, 2023.

The Commission, in order to ensure transparency in the Tariff determination process and for providing convenient opportunity to wide section of stakeholders and general Public for offering their comments, suggestions and objections on the Tariff Petitions conducted Public hearings at Arwal on 24.01.2023, Purnea on 21.02.2023 and Patna on 28.02.2023 & 01.03.2023. The proposals of the Discoms were also placed before the State Advisory Committee (SAC) in its meeting held on 16<sup>th</sup> February, 2023 wherein various aspects of the Petitions were discussed by the Committee. The Commission took the views, comments and suggestions of the SAC on the Tariff Petitions of the Discoms in the meeting of the Committee.

The Commission, after taking into consideration the facts presented by the Discoms in their Petitions 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 Discoms to those comments, suggestions and objections, has Trued up the ARRs for FY 2021-22, reviewed the APRs for FY 2022-23, approved ARRs and determined the common Tariff for retail sale of electricity for FY 2023-24 for the Discoms in their respective jurisdictions.

**6. True up for FY 2021-22**

The ARRs for FY 2021-22 as claimed by the two Discoms vide their Tariff Petitions and approved by the Commission in True up after careful examination of the claims based on

the Audited Annual Accounts in accordance with laid down norms and exercising prudence check are as under:

(Rs. Crore)

Name of the Discom	Claimed by the Discoms in true up for FY 2021-22				Approved by the Commission in true up for FY 2021-22			
	ARR	Past period trued up Gap with carrying cost	Revenue from sale of power	Net Gap claimed	ARR approved by the Commission	Past period trued up Gap with carrying cost	Revenue from sale of power and subsidy	Net Gap/ (Surplus) approved
1	2	3	4	5=(2+3-4)	6	7	8	9=(6+7+8)
NBPDCCL	9989.36	-1424.67	8670.50	-105.81	9930.71	-1424.67	8670.51	-164.47
SBPDCL	11508.50	1894.91	10129.63	3273.78	11199.46	1894.91	10129.66	2964.71
<b>Total</b>	<b>21497.86</b>	<b>470.24</b>	<b>18800.13</b>	<b>3167.97</b>	<b>21130.17</b>	<b>470.24</b>	<b>18800.17</b>	<b>2800.24</b>

The Commission after True up exercise of the ARR of FY 2021-22 of both Discoms has approved combined ARR of Rs.21130.17 Crore and gap of Rs.2800.24 Crore as against the claim of combined ARR of Rs.21497.86 Crore and combined revenue gap of Rs.3167.97 Crore. The revenue gap of FY 2021-22 along with carrying cost shall be carried forward to the ARR of FY 2023-24 as per the regulatory provisions.

#### 7. Annual Performance Review (APR) for FY 2022-23

The two Discoms have projected a revised combined net ARR of Rs.26972.97 crore with a revenue gap of Rs.5519.58 crore for FY 2022-23, whereas the Commission after examination and prudence check has revised the combined ARR of Rs.24246.30.59 crore with total revenue gap of Rs.2783.70 crore after considering the revenue from sale of power of FY 2022-23 and past period trued up gap of FY 2020-21 as under:

(Rs. Crore)

Name of the Discom	Claimed by the Discoms in review for FY 2022-23				Approved by the Commission in review for FY 2022-23			
	ARR	Past period trued up Gap with carrying cost	Revenue from sale of power	Net Gap claimed	ARR approved by the Commission	Past period trued up Gap with carrying cost	Revenue from sale of power	Net Gap/ (Surplus) approved
1	2	3	4	5=(2+3-4)	6	7	8	9=(6+7+8)
NBPDCCL	12398.15	400.89	9935.95	2863.09	11163.03	399.33	9940.21	1622.15
SBPDCL	14574.82	-166.26	11752.07	2656.49	13083.56	-165.61	11756.40	1161.55
<b>Total</b>	<b>26972.97</b>	<b>234.63</b>	<b>21688.02</b>	<b>5519.58</b>	<b>24246.59</b>	<b>233.72</b>	<b>21696.61</b>	<b>2783.70</b>

However, the Commission in accordance with the Regulation 14.1 (f) of BERC (Multi Year Distribution Tariff) Regulations 2021, has not considered to carry forward this revenue gap of Rs.2783.70 Crore of FY 2022-23 in the proposed ARR of FY 2023-24 as the gap arrived in review for FY 2022-23 is based on estimates submitted by the petitioners and may vary with reference to audited accounts for FY 2022-23 while Truing-up.

#### 8. Aggregate Revenue Requirement (ARR) for FY 2023-24

Net ARR approved, past period true-up gap / surplus revenue from existing tariff and net gap projected by Discoms and the same approved for FY 2023-24 are as detailed below:

Name of the Discom	Claimed by the Discoms in ARR for FY 2023-24				Approved by the Commission in ARR for FY 2023-24			
	ARR	Past period trued up Gap with carrying cost	Revenue from sale of power	Net Gap claimed	ARR approved by the Commission	Past period trued up Gap with carrying cost	Revenue from sale of power	Net Gap/ (Surplus) approved
1	2	3	4	5=(2+3-4)	6	7	8	9=(6+7+8)
NBPDCCL	14006.88	426.84	10753.00	3680.72	11741.75	379.14	10752.92	1367.96
SBPDCL	16334.53	4870.10	12446.30	8758.33	13932.05	4548.14	12446.13	6034.06
<b>Total</b>	<b>30341.41</b>	<b>5296.94</b>	<b>23199.30</b>	<b>12439.05</b>	<b>25673.79</b>	<b>4927.28</b>	<b>23199.05</b>	<b>7402.02</b>

The NBPDCCL and SBPDCL have proposed net ARR of Rs.14006.88 Core and Rs.16334.53 Crore respectively for FY 2023-24 with a revenue gap of Rs.3680.72 crore (including revenue gap with carrying cost of FY 2021-22) for NBPDCCL and Rs.8758.33 Crore for the SBPDCL. Thus, Discoms have proposed total revenue gap of Rs.12439.05 crore for FY 2023-24 and proposed recovery of Revenue gap by increasing tariff.

The Commission, after thorough examination of their proposals and prudence check has approved the ARR of Rs.11741.75 crore with revenue gap of Rs.1367.96 Crore for NBPDCCL and ARR of Rs.13932.05 Crore with revenue gap of Rs.6034.06 crore for SBPDCL after considering the revenue from sale of power of FY 2023-24 and Trued-up gap of FY 2021-22 including carrying cost. Thus, the combined Revenue Gap approved is at Rs.7402.02 Crore for FY 2023-24 for both DISCOMs.

#### 9. Approved Retail Tariff for FY 2023-24

The DISCOMs on the basis of their projected revenue gap have proposed an overall increase of around 53% in the Tariff for FY 2023-24.

The Commission, while determining tariff has taken care of provisions of Electricity



Act, 2003 (Section-61-g) and other additional provisions, directions/ guidelines of MoP, GoI time to time mandating to determine cost reflective tariff.

The Commission, based on the approved revenue gap in DISCOMs and after taking all facts, views and circumstances into account, has decided to increase tariff by 24.10% uniformly across all the categories of consumers. The Commission has also considered increase in fixed charges across all the categories of consumers.

The Commission has also taken the following decisions after due deliberations along with consultations during State Advisory Committee (SAC) meeting:

1. The proposal of the Discoms for merging of 2<sup>nd</sup> and 3<sup>rd</sup> slabs under DS-I, DS-II, NDS-I and NDS-II is accepted.
2. Implementation of kVAh tariff for NDS (commercial) consumers is not accepted by the Commission.
3. Increase in contract demand for billing from existing 75% to 85% proposed by the Discoms is not accepted.
4. Withdrawal of load factor incentive for HTSS consumers not accepted and decided to continue the existing load factor rebated for all HT industrial categories.
5. Rebate of 1% of the total monthly Bill of last Quarter to post-paid rural consumers making offline payment of their bills consistently shall be allowed.

#### 10. Open Access charges

The Commission has determined the wheeling charges for FY 2023-24 as given below:

1. Wheeling charges at 33kV voltage level: 48 paisa/kWh
2. Wheeling charges at 11kV voltage level: 52 paisa/kWh

To encourage the consumers to avail power under open access from other sources, the Commission in terms of the revised Tariff policy, 2016, has reduced the cross-subsidy surcharge to 20% of average billing rate of the relevant HT category for FY 2023-24 as given below:

Sl. No	HT category	Rs/kWh
1	For 132kV consumers	2.00
2	For 33kV consumers (other than HTSS)	2.51
3	For 11kV consumers (other than HTSS)	2.62
4	For HTSS consumers (33kV & 11kV)	0.00

**11. Power Purchase Cost and Average Cost of Supply**

The Average Power Purchase cost for both DISCOMs for FY 2023-24 is arrived at Rs.5.82/kWh while the average cost of Supply (ACoS) for both DISCOMs for FY 2023-24 is arrived at Rs.8.30/kWh for FY 2023-24.

**12. Compliance of Directives**

The Commission has reviewed the directives issued in its Tariff Orders and noted that some of the directives have been complied and some are partially attended. Accordingly, the Commission has decided to drop the directives that are fully or substantially complied with and has further directed the DISCOMs to comply the pending directives along with new ones added in the present Order. The Commission will monitor the compliance of the directives quarterly.

**13. General**

The Commission has been determining the Retail Tariff without considering the Government subsidy from FY 2017-18 onwards. Accordingly, the Commission has approved the retail tariff for FY 2023-24 also without considering Government Subsidy. The Government of Bihar has been announcing direct subsidy to consumers. If the State Government announces any direct subsidy to any category of consumers after the pronouncement of retail Tariff for FY 2023-24 by the Commission, the DISCOMs shall immediately bring the same to the notice of the Commission intimating the tariff rate at which the DISCOMs proposes to bill the energy charges for such category of consumers and also ensure adequate publicity of the same. Further, 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 in the electricity bill to be served to the consumers.

The DISCOMs shall, ensure implementation of the order from the effective date after issuance of a Notice, within a week in at least two daily newspapers having wide circulation in the various parts of State in such a font which is clearly visible and compliance of the same shall be submitted to the Commission by the DISCOMs.

**This Order shall be effective from 1st April, 2023 and shall remain in force till 31<sup>st</sup> March, 2024 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, BSPTCL, NBPDCL, SBPDCL, Department of Energy of Government of Bihar, Central Electricity regulatory Commission and Central Electricity Authority.

**Pronounced in the open Court on the day of 23<sup>rd</sup> March, 2023.**

**Sd/-**  
**(Shri S C Chaurasia)**  
**Member**

**Sd/-**  
**(Shri Shishir Sinha)**  
**Chairman**

## 1.Introduction

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### 1.1. Bihar Electricity Regulatory Commission (BERC)

The Bihar Electricity Regulatory Commission (herein after 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.

Section 82(1) of the Electricity Act 2003 specifies that the State Electricity Regulatory Commission established by the State Government under Section 17 of the 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:

- i). 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;
- ii). 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;
- iii). Facilitate intra-state transmission and wheeling of electricity;
- iv). Issue licenses to persons seeking to act as transmission licensees, distribution licensees and electricity traders with respect to their operations within the State;
- v). 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

- vi). sources, a percentage of the total consumption of electricity in the area of a distribution licensee;
- vii). Adjudicate upon the disputes between the licensees, and generating companies and to refer any dispute for arbitration;
- viii). Levy fee for the purposes of this Act;
- ix). Specify State Grid Code consistent with the Indian Electricity Grid Code specified with regard to grid standards;
- x). Specify or enforce standards with respect to quality, continuity and reliability of service by licensees;
- xi). Fix the trading margin in the intra-state trading of electricity, if considered, necessary; and
- xii). Discharge such other functions as may be assigned to it under this Act.

### **1.3. Brief history and Profile of DISCOMs**

Discoms (North Bihar Power Distribution Company Limited (NBPDCCL) and South Bihar Power Distribution Company Limited (SBPDCL) have been formed under the 'Bihar State Electricity Reforms Transfer Scheme 2012' duly segregating the Distribution business of the Bihar State Electricity Board.

The Discoms/South Bihar Power Distribution Company Limited and North Bihar Power Distribution Company Limited (SBPDCL and NBPDCCL) are companies registered under the Companies Act 1956 and are subsidiary companies of Bihar State Power (Holding) Company Limited (BSPHCL)

Discoms have the universal obligation to supply electricity to all the consumers of the State. The table below presents status of key data relating to power supply by the Discoms in Bihar as on 31<sup>st</sup> March, 2022.

**Table 1.1: Existing Distribution infrastructure as on 31<sup>st</sup> March, 2022**

Sl. No	Particulars	Unit	SBPDCL	NBPDCCL
1	Number of electrified villages	No	18521	20552
2	Number. of Consumers	No	6536456	11382947
3	Number. of Capacity of 33/11kV Substations	No/MVA	596/9654.376	606/9742
4	No. of Capacity of 11/0.4 kV 3 phase Transformers	No/MVA	132543/10291.946	11435.54
5	Length of 33kV Line	CKM	8767.80	9631
6	Length of 11kV Line	CKM	59388.82	75410
7	Length of LT Line	CKM	141039.59	276276

#### 1.4. Admission of Current Petition and Public Hearing Process

Discoms have filed the current petitions on 15.11.2022 for Truing-up of FY 2021-22, Annual Performance Review for FY 2022-23 and Annual Revenue Requirement (ARR) and determination of Tariff for Retail sale of Electricity for FY 2023-24 Under Section 62 of the Electricity Act 2003 read with Bihar Electricity Regulatory Commission (Multi Year Distribution Tariff) Regulations, 2021. The Commission is issuing the combined order for ARR and Tariff (Case No. 16 of 2022 (NBPDCCL) and 17 of 2022 (SBPDCL) for FY 2023-24.

The Commission admitted the aforesaid Petitions filed by Discoms on 23.12.2022. In accordance with Section 64 of EA 2003 and Regulation 11(10) of Bihar Electricity Regulatory Commission (Multi Year Distribution Tariff) Regulations, 2021, the Commission directed the Discoms to publish the Tariff Petition in an abridged form in at least two daily newspapers, one in English and the other in Hindi, having wide circulation in the State of Bihar inviting objections and suggestions from the stakeholders on Tariff Petition. Discoms were also directed to publish the schedule for Public Hearing along with the Public notice inviting comments/suggestions/objections. The Public notice was issued in the following newspapers as given below.

Table 1.2: Details of Publication of Public Notice

Sl. No	Name of utility	Name of News Paper	Language	Date of Publication
1	NBPDCCL	Prabhat Khabar, Muzaffarpur	Hindi	28.12.2022
2		Prabhat Khabar, Patna	Hindi	28.12.2022
3		Dainik Jagran, Patna	Hindi	28.12.2022
4		Dainik Jagran, Bhagalpur	Hindi	28.12.2022
5		Dainik Bhaskar, Patna	English	05.01.2023
6		Dainik Bhaskar, Bhagalpur	English	05.01.2023
7		Hindustan, Patna	English	05.01.2023
8		Hindustan, Muzaffarpur	English	05.01.2023
9		Prabhat Khabar, Muzaffarpur	Hindi	13.01.2023
10		Prabhat Khabar, Patna	Hindi	13.01.2023
11		Dainik Jagran, Patna	Hindi	13.01.2023
12		Dainik Jagran, Bhagalpur	Hindi	13.01.2023
13		Dainik Bhaskar, Patna	English	13.01.2023
14		Dainik Bhaskar, Bhagalpur	English	13.01.2023
15		Hindustan, Patna	English	13.01.2023
16		Hindustan, Muzaffarpur	English	13.01.2023
1	SBPDCL	Hindustan-Muzaffarpur	Hindi	28.12.2022
2		Dainik Bhaskar- Bhagalpur	Hindi	28.12.2022
3		Hindustan-Patna	Hindi	28.12.2022
4		Hindustan- Gaya	Hindi	06.01.2023
5		Hindustan- Patna	Hindi	06.01.2023
6		Hindustan- Bhagalpur	Hindi	06.02.2023

The Tariff Petitions were also placed on the website of the Discoms (NBPDCCL and SBPDCL) for inviting objections and suggestions on the petitions and copies of the Petitions along with annexures were also made available for sale in the Office of the Chief Engineer (Commercial), NBPDCCL, 3<sup>rd</sup> Floor, Vidyut Bhawan-I, Bailey Road, Patna and Chief Engineer (Commercial), SBPDCL, 2<sup>nd</sup> Floor, Vidyut Bhawan-I, Bailey Road, Patna. The interested stakeholders were asked to file their comments/objections/suggestions on the Petition on or before 18<sup>th</sup> January, 2023.

On preliminary verification of the Petition, the Commission vide Letter No. BERC-Case No.16/2022/1094 dated 07.12.2022 (NBPDCCL) and Letter No BERC-Case No.17/2022/1095 dated 07.12.2022 (SBPDCL) directed the Petitioner to submit the additional information/clarification data on the Tariff Petition filed by them. NBPDCCL and SBPDCL submitted the replies vide Letter No.NB/COM/TP-23-24/26/2022-587 dated 16.12.2022 and Letter No.SBC-1742/2022 (Part-I)-745 dated 16.12.2022 respectively.

The Commission, informed the Discoms vide Letter No- BERC-Tariff Case No 16/2022-25 dated 05.01.2023 regarding the dates of Technical Validation session with the representative of Discoms. Accordingly Technical Validation session was conducted on 07.02.2023 and 08.02.2023 with the officers of the DISCOMs and officers of the Commission and carried out the necessary corrections wherever necessary.

On further careful examination of this tariff petitions, and due discussions during technical validation sessions, the petitioners (NBPDC & SBPDCL) were directed to submit some more data/ clarification vide Letter No-BERC-Tariff (Corr)-05/21-211 dated 15.02.2023.

Discoms have replied vide the following letters

NBPDC –Letter No-131 dated 27.02.2023

SBPDCL-Letter No-215 dated 27.02.2023

All the additional information/ clarifications were taken on record for consideration and determination of ARR and the retail tariff.

The Commission has received all together several written objections/ suggestions from consumers and other stakeholders The Commission directed the Discoms to submit the replies/ responses to these suggestions/ objections of the stakeholders with a copy to the Commission. The Discoms have submitted the replies/ responses to the Commission as per the details mentioned below:

**Table 1.3: Reply to Stakeholder's Comments/ Suggestions/ Objections**

Sl. No	Name of Persons/ Stake Holders/ Organization which raised objection	Name of Organization	Letter No and date through which Objections sent to DISCOMs	Letter No and date of Reply received from DISCOMs
1	Mohan Prasad	Vidyuth Upaboktha Morcha, Patna	Letter No-BERC-Case No-16 & 17/2022/18 dated 27.01.2023	Letter No-181 SC/1742/2022 (Part-III) Dated 15.02.2023
2	Reliance Jio	Reliance Jio Infocomm Ltd		
3	Aditya Vijay Jain	Bojpur Chamber of Commerce & Industry		
4	Secretary	Bihar Industries & Association		
5	Secretary	Bharatiya Communist Party		
6	Nand Sharma	Stakeholder		
7	Mohan Prasad	Vidyuth Upaboktha Morcha, Patna		
8	Prof. Pramod Kumar	Stakeholder		



Sl. No	Name of Persons/ Stake Holders/ Organization which raised objection	Name of Organization	Letter No and date through which Objections sent to DISCOMs	Letter No and date of Reply received from DISCOMs
	Sharma			
9	Ram Bhajan Singh Yadav & Others	Vidyuth Upaboktha Mahasangh, Patna		
10	Satyanarayan Sah & Others	Group of Consumers		
11	Bhuwan Agarwal	North – Eastern Bihar Chamber of Commerce & Industry		
12	Sajjan Sharma	North Bihar Chamber of Commerce & Industry		
13	Bharati Airtel Ltd	Airtel		
14	Shailender Singh Tarkar	Stake Holder		
15	Shri Jogendra Behra	Indian Energy Exchange (IEX)	Letter No-BERC-Case No-16&17/2022/81 dated 07.02.2023	Letter No-NB/Com/TP-23-24/42/2022 (Part-129) dated 27.02.2023
16	Director General	Digital Infrastructure Providers Association		
17	Shri Rahul Ranjan Pathak	Vidyuth Upabokhta Sangarsh Samithi		
18	Shri Pradeep Mehta	Jan Sangarsh Morcha		
19	Shri. Chirag Paswan	Member of Parliament	Letter No-BERC-Tariff (Corr)-05/2021-249 dated 01.03.2023	Letter No 253 SBC-1742/2022 (Part-II) dated 14.03.2023
				Letter No-NB/COM/TP-23-24/42/2022Part-151 dated 16.03.2023
20	Shri. Nand Sharma	Stakeholder	Letter No-BERC Tariff (Corr)-05/2021-250 dated 01.03.2023	Letter No 253 SBC-1742/2022 (Part-II) dated 14.03.2023
21	Anil Kumar Sinha	Bihar Industries Association		
22	Shri. Rajiv Ranjan Kumar	Akhilya Nharat Grahak Panchayat		
23	Shri. Santosh Kumar	Gram Swaraj Sangh Bihar		
24	Individual Objector	Nandi Grace School		
25	Secretary	Chamber of Commerce, Gopalganj		
26	Secretary General	North Western BCCI		
27	Joint Secretary	BCCI		
28	President	Bihar Gas Manufacturers Association		
29	General secretary	Purnea Chamber of Commerce		
29	Reliance	Reliance Jio Infocom Ltd		
30	Shri Ashok Kumar Jeevarjika	Bijili Upabokhta Sangarsh samiti		
31	S.K. Patwari	Patwari Stels Pvt Ltd		
32	Shri Ram Bhajan Singh Shri Anish Ankur	Vidyuth Upbhokta Mahasangh , Bihar		

Sl. No	Name of Persons/ Stake Holders/ Organization which raised objection	Name of Organization	Letter No and date through which Objections sent to DISCOMs	Letter No and date of Reply received from DISCOMs
33	Citizen Forum	Patna		
34	Shri. Rajendra Kumar	Bhojpur, Patna		
35	Rupesh Kumar Singh	Bihar Industries Association	Letter No-BERC-Tariff (Corr)-05/2021-262 dated 02.03.2023	Letter No-NB/COM/TP-23-24/42/2022Part-152 dated 16.03.2023
36	Rupesh Kumar Dungarwal	Gulabagh, Purnea		
37	Saraswati devi Lohia	Sriram Colony, Gulabagh, Purnea		
38	Mamata Devi	Maa Colony, Purnea		
39	Nanhaki Devi	Pologram, Purnea		

The proposal of Discoms was also placed before the State Advisory Committee (SAC) in its meeting held on 16<sup>th</sup> February, 2023 and various aspects of the petitions were discussed in the meeting. The Commission solicited the advice/ comments/ suggestions of the State Advisory Committee on the petitions. The minutes of the meeting are given in Annexure-1.

As per notification given in the Public notice, the Commission has conducted the Public hearings at Arwal/SBPDCL on 24.01.2023, Purnea/NBPDCCL on 21.02.2023 and at Patna for both Discoms on 28.02.2023 and 01.03.2023.

#### 1.5. Approach of this Order

The Commission has examined the petitions and additional information submitted by the petitioners, observed that further additional data/ information and clarifications are required for conducting detailed analysis of the petitions. The Commission directed the Discoms to submit the additional data/information and clarifications vide following letters.

##### **NBPDCCL:**

Letter No BERC-Case No.16/2022/1094 dated 07.12.2022

Letter No BERC-Case No.16/2022/25 dated 05.01.2023

Letter No BERC-Case No.16/2022/211 dated 15.02.2023

##### **SBPDCL:**

Letter No BERC-Case No.17/2022/1095 dated 07.12.2022

Letter No BERC-Case No.17/2022/24 dated 05.01.2023

Letter No BERC-Case No.17/2022/211 dated 15.02.2023

The Discoms submitted additional information/data/clarifications vide following letters:

**NBPDCCL:**

Lr. No 587 dated 16.12.2022

Lr. No 31 dated 12.01.2023

Lr, No. 131 dated 27.02.2023

**SBPDCL :-**

Lr. No 745 dated 16.12.2022

Lr. No 50 dated 11.01.2023

Lr, No, 215 dated 27.02.2023

The Commission has undertaken Truing-up for FY 2021-22, Annual performance Review (APR) for FY 2022-23 and determination of ARR and Retail Sale of Electricity for FY 2023-24 in accordance to the BERC (Multi Year Distribution Tariff) Regulations, 2021 based on the Tariff petitions and additional information submitted by the Discoms.

## **1.6. Organisation of Order**

This order is divided into Ten (10) chapters as detailed below:

- i). **First Chapter** provides introduction to Discoms
- ii). **Second Chapter** contains a summary of Tariff petitions
- iii). **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.
- iv). **Fourth Chapter** deals with the Truing up for FY 2021-22
- v). **Fifth Chapter** deals with the Annual Performance Review for FY 2022-23
- vi). **Sixth Chapter** deals with Annual Revenue Requirement for FY 2023-24
- vii). **Seventh Chapter** deals with the Voltage wise cost of supply
- viii). **Eighth Chapter** deals with the Transmission and Wheeling charges for Open Access customers
- ix). **Ninth Chapter** deals with Tariff Principles, Design and Tariff Schedule for FY 2023-24
- x). **Tenth Chapter** deals with the Directives

## 2. Summary of Petition filed for Truing up for FY 2021-22, APR for FY2022-23 and ARR for FY 2023-24

### 2.1. Petitions filed by DISCOMs

The summary of Petitions filed by DISCOMs for truing up for FY 2021-22, Annual Performance Review for FY 2022-23 and Aggregate Revenue Requirement (ARR) for FY 2023-24 and Revenue Gap projected for FY 2023-24 are as given in Tables below:

**Table 2.1 Summary of the Tariff Petition filed by NBPDC**

(Rs. Crore)

Sl. No	Particulars	FY 2021-22 (Actuals)		FY 2022-23 (Estimates)		FY 2023-24 (Projected)	
		Approved in Tariff Order Dated 26.03.2021	Now claimed in True up for FY 2021-22	Approved in Tariff Order dated 25.03.2022	Revised estimates for FY 2022-23 for APR	Approved in Tariff Order dated 25.03.2022	Projected for FY 2023-24
1	No. of consumers	11146472	11382947	11576807	11764836	11852226	12041203
2	Connected Load (KW)	10169.887	11193.198	12220.54	12422.93	12941.612	13173.64
3	Sales (MU)	11544.57	14614.40	13779.26	15646.53	15055.38	14752.43
4	Intra-state Transmission Loss %	3.00%	3.94%	3.00%	3.00%	3.00%	3.00%
5	Distribution loss (%)	15.00%	20.12%	15.00%	20.00%	15.00%	18.14%
6	Collection efficiency (%)	100.00%	94.01%	100.00%	97.50%	100.00%	98.95%
7	AT&C loss (%)	15.00%	24.27%	15.00%	22.00%	15.00%	19.00%
8	Energy required at state transmission periphery (MU)	13969.64	16128.39	16588.00	17472.00	18130.78	18474.05
9	Capital Expenditure	152.90	1469.28	1021.07	1361.62		2094.94
10	Capitalisation	921.41	5010.92	1021.07	3067.60		1599.99
11	Power Purchase Cost	5705.57	8194.23	7248.99	9337.59	8065.49	10044.95
12	Transmission including SLDC charges	1199.68	1601.89	1408.25	1549.07	1750.25	1925.26
13	O&M expenses	775.95	862.32	881.99	1041.16	930.00	1276.53
i)	Employee Cost	382.08	422.14	436.91	444.80	468.68	476.94
ii)	R&M Expenses	230.45	259.66	259.90	254.11	271.69	290.76
iii)	A&G Expenses	163.42	180.52	185.18	342.25	189.63	508.83
14	Holding Company expenses	23.99	22.55	16.99	24.81	17.40	27.29
15	Depreciation	215.39	306.79	369.30	392.52	369.30	415.13
16	Interest & other finance charges	382.90	576.66	606.26	745.48	572.83	836.32
17	Interest on working capital	24.54	41.28	33.99	55.07	38.13	68.61
18	Return on Equity	264.87	358.13	412.39	485.19	412.39	565.03
19	Interest on security deposit	19.70	8.85	19.04	22.46	19.83	23.29
20	Sharing of gains/(loss) on account of controllable factors to be passed in tariff		-315.93				
21	<b>Sub-total</b>	<b>8612.49</b>	<b>11656.77</b>	<b>10997.20</b>	<b>13653.35</b>	<b>12175.63</b>	<b>15182.41</b>
22	Less: Non-tariff income	212.92	629.33	795.60	869.54	992.48	1175.54
23	<b>Aggregate Revenue Requirement</b>	<b>8399.58</b>	<b>11027.44</b>	<b>10201.60</b>	<b>12783.81</b>	<b>11183.15</b>	<b>14006.88</b>

Sl. No	Particulars	FY 2021-22 (Actuals)		FY 2022-23 (Estimates)		FY 2023-24 (Projected)	
		Approved in Tariff Order Dated 26.03.2021	Now claimed in True up for FY 2021-22	Approved in Tariff Order dated 25.03.2022	Revised estimates for FY 2022-23 for APR	Approved in Tariff Order dated 25.03.2022	Projected for FY 2023-24
24	Less: Revenue from existing tariff	8270.57	8670.50	9939.62	9935.95		10753.00
25	Less: Revenue from surplus power		797.47		385.65		
26	Less: Excess AT&C loss subsidy received		240.61				
27	Add: Trued up revenue gap of FY 2019-20 including carrying cost	-1424.61	-1424.61				
28	Add: Trued up revenue gap of FY 2020-21 including carrying cost			399.33	399.33		
29	Add: Trued up revenue gap of FY 2021-22 including carrying cost						-125.30
30	Add: Impact of review order dated 07.11.2022 along with carrying cost						552.14
31	<b>Revenue Gap/(Surplus)</b>	<b>-1295.60</b>	<b>-105.75</b>	<b>661.31</b>	<b>2861.54</b>	<b>11183.15</b>	<b>3680.72</b>

Table 2.2 Summary of the Tariff Petition filed by SBPDCL

Sl. No	Particulars	FY 2021-22 (Actuals)		FY 2022-23 (Estimates)		FY 2023-24 (Projected)	
		Approved in Tariff Order Dated 26.03.2021	Now claimed in True up for FY 2021-22	Approved in Tariff Order dated 25.03.2022	Revised estimates for FY 2022-23 for APR	Approved in Tariff Order dated 25.03.2022	Projected for FY 2023-24
1	No. of consumers	6385591	6536456	6603641	6906353	6732954	7042852
2	Connected Load (KW)	10842.316	10983.813	12718.801	12506.607	13783.033	13558.119
3	Sales (MU)	11544.57	16759.98	16055.42	15812.13	17531.63	16654.1
4	Intra-state Transmission Loss %	3.00%	3.94%	3.00%	3.00%	3.00%	3.00%
5	Distribution loss (%)	15.00%	22.06%	15.00%	21.59%	15.00%	20.00%
6	Collection efficiency (%)	100.00%	85.21%	100.00%	88.00%	100.00%	93.75%
7	AT&C loss (%)	15.00%	33.58%	15.00%	31.00%	15.00%	25.00%
8	Energy required at state transmission periphery (MU)	16286.32	19047.83	19472.92	20789.65	21263.35	21461.47
9	Capital Expenditure	16.50	1785.93	1021.07	766.55		1914.86
10	Capitalisation	1128.81	3311.16	1021.07	3232.46		1347.65
11	Power Purchase Cost	6639.36	9683.68	8509.58	10961.52	9463.23	11791.90
12	Transmission including SLDC charges	1408.33	1907.89	1653.16	1818.48	2054.62	2260.09
13	O&M expenses	980.78	1071.76	1013.50	1132.61	1074.23	1343.48
i)	Employee Cost	602.42	654.11	624.28	656.84	673.40	704.03
ii)	R&M Expenses	236.51	247.21	249.64	252.30	258.24	301.17
iii)	A&G Expenses	141.85	170.44	139.58	223.47	142.59	338.28
14	Holding Company expenses	25.22	23.71	17.87	26.08	18.30	28.69
15	Depreciation	257.54	299.50	331.43	363.70	331.43	378.42
16	Interest & other finance charges	359.09	468.87	491.81	616.15	465.33	715.50
17	Interest on working capital	12.94	36.09	14.17	48.96	16.55	60.82
18	Return on Equity	250.95	299.82	338.21	406.87	338.21	486.02

Sl. No	Particulars	FY 2021-22 (Actuals)		FY 2022-23 (Estimates)		FY 2023-24 (Projected)	
		Approved in Tariff Order Dated 26.03.2021	Now claimed in True up for FY 2021-22	Approved in Tariff Order dated 25.03.2022	Revised estimates for FY 2022-23 for APR	Approved in Tariff Order dated 25.03.2022	Projected for FY 2023-24
19	Interest on security deposit	30.85	10.78	31.87	38.23	33.90	40.88
20	Sharing of gains/(loss) on account of controllable factors to be passed in tariff		-499.50				
21	<b>Sub-total</b>	<b>9965.08</b>	<b>13302.60</b>	<b>12401.59</b>	<b>15412.60</b>	<b>13795.80</b>	<b>17105.80</b>
22	Less: Non-tariff income	402.23	368.09	1057.22	534.02	1321.15	771.27
23	<b>Aggregate Revenue Requirement</b>	<b>9562.85</b>	<b>12934.51</b>	<b>11344.37</b>	<b>14878.58</b>	<b>12474.66</b>	<b>16334.53</b>
24	Less: Revenue from existing tariff	10046.73	10129.63	11833.38	11752.07		12446.30
25	Less: Revenue from surplus power		941.83		303.76		
26	Less: Excess AT&C loss subsidy received		484.20				
27	Add: Trued up revenue gap of FY 2019-20 including carrying cost	1894.83	1894.83				
28	Add: Trued up revenue gap of FY 2020-21 including carrying cost			-165.61	-166.26		
29	Add: Trued up revenue gap of FY 2021-22 including carrying cost						3876.98
30	Add: Impact of review order dated 07.11.2022 along with carrying cost						993.12
31	<b>Revenue Gap/(Surplus)</b>	<b>1410.96</b>	<b>3273.68</b>	<b>-654.62</b>	<b>2656.49</b>	<b>12474.66</b>	<b>8758.33</b>

## 2.2. Tariff Proposals

The Discoms have proposed the tariffs for FY 2023-24 as shown in the table below

**Table 2.3 Tariff Rates Existing (FY 2022-23) and Proposed for FY 2023-24 by Discoms for Retail Sale of Electricity**

Sl. No.	Category/Sub category of Consumers	BERC approved Tariff for FY 2022-23 (Existing tariff)			Proposed Tariff for FY 2023-24		
		Fixed charge	Energy Charge	Unit slabs	Fixed charge	Energy Charge	Unit slabs
<b>A</b>	<b>LOW TENSION SUPPLY</b>						
<b>1</b>	<b>Domestic</b>						
1.1	Kutir Jyoti	Rs.10/Month/Connection	Rs.6.10/unit	0-50 units	Rs.20/Month/Connection	Rs.8.66/unit	0-50 units
			As per DS-I or DS-II	Above 50 units		As per DS-I or DS-II	Above 50 units
1.2	DS-I (Demand based)	Rs. 20/kW or part/month	Rs.6.10/Unit	0-50	Rs. 40/kW or part/month	Rs.8.66/Unit	0-50
			Rs.6.40/Unit	51-100		Rs.9.28/Unit	51 and above
			Rs.6.70/Unit	Above 100			
1.3	DS-II (Demand based)	Rs.40/kW or part/month	Rs.6.10/Unit	1-100	Rs.100/kW or part/month	Rs.8.66/Unit	1-100
			Rs.6.95/Unit	101-200		Rs.10.35/Unit	Above 100 units
			Rs.8.05/Unit	Above 200			
1.4	DS-III (Demand based) (Optional)	Rs.40/kW or part/month	Rs.7.40/Unit	All Units	Rs.80/kW or part/month	Rs.10.51/Unit	All Units
<b>2</b>	<b>Non-Domestic</b>						
2.1	NDS-I Rural (Demand based)	Rs. 30/kW or part/month	Rs.6.40/Unit	1-100	Rs. 100/KVA or part/month	Rs.9.09/kVAh	1-100
			Rs.7.00/Unit	101-200		Rs.10.34/kVAh	Above 100 units
			Rs.7.55/Unit	Above 200			

Sl. No.	Category/Sub category of Consumers	BERC approved Tariff for FY 2022-23 (Existing tariff)			Proposed Tariff for FY 2023-24		
		Fixed charge	Energy Charge	Unit slabs	Fixed charge	Energy Charge	Unit slabs
2.2	NDS-II Contract Load upto 0.5 kW	Rs. 100/month/connection	Rs.6.35/Unit	All Units	Rs. 200 / month / connection	Rs.9.02/kVAh	All Units
2.3	NDS-II Contract demand above 0.5 kW upto 70kW (Demand based)	Rs. 180/kW or part/month	Rs.6.35/Unit	1-100	Rs. 400/kVA or part/month	Rs.9.02/kVAh	1-100
			Rs.6.85/Unit	101-200		Rs.10.38/kVAh	Above 100 units
			Rs.7.40/Unit	Above 200			
3	Irrigation and Agriculture Services						
3.1	IAS-I (Unmetered)	Rs.800/HP or part/month	-		Rs.1600/HP or part/month	-	
3.2	IAS-I(Metered)	Rs. 30/HP or part/month	Rs.5.55/Unit	All Units	Rs. 100/HP or part/month	Rs.7.88/Unit	All Units
3.3	IAS-II(Metered) (Demand based)	Rs. 240/KVA or part/month	Rs.5.90/kVAh	All Units	Rs. 500/kVA or part/month	Rs.8.38/kVAh	All Units
4	Low Tension Industrial (Demand Based, kVAh)						
4.1	LTIS-I (0 - 19 kW)	Rs.144/kVA or part/month	Rs.6.40/kVAh	All Units	Rs.300/kVA or part/month	Rs.9.09/kVAh	All Units
4.2	LTIS-II (>19 kW - 74 kW)	Rs 180/kVA or part/month	Rs.6.40/kVAh	All Units	Rs 400/kVA or part/month	Rs.9.09/kVAh	All Units
5	Public Water Works						
5.1	PWW (Demand based)	Rs 315/kVA or part/month	Rs.7.95/kVAh	All Units	Rs 630/kVA or part/month	Rs.11.29/kVAh	All Units
5.2	Har Gar Nal	Rs 40/HP or part/month	Rs.6.70/kWh	All Units	Rs 100/HP or part/month	Rs.9.51/kWh	All Units
6	Street Light Services						
6.1	SS-Metered	Rs 50/kW or part/month	Rs.7.40/Unit	All Units	Rs 100/kW or part/month	Rs.10.51/Unit	All Units
6.2	SS-Unmetered	Rs 375/100W or part/month			Rs 7500/kW or part/month		
7	LT Electrical Vehicle Charging Stations		Rs.7.15/KVAh	All Units		Rs.10.15/KVAh	All Units
B	HIGH TENSION – General						
1	HTS-I	Rs.300/kVA/Month	Rs.6.55/kVAh	All Units	Rs.600/kVA/Month	Rs.9.30/kVAh	All Units
2	HTS-II	Rs.300/kVA/Month	Rs.6.50/kVAh	All Units	Rs.600/kVA/Month	Rs.9.23/kVAh	All Units
3	HTS-III	Rs.300/kVA/Month	Rs.6.45/kVAh	All Units	Rs.600/kVA/Month	Rs.9.16/kVAh	All Units
4	HTS-IV	Rs.300/kVA/Month	Rs.6.40/kVAh	All Units	Rs.600/kVA/Month	Rs.9.09/kVAh	All Units
C	HIGH TENSION SUPPLY–INDUSTRIAL SERVICE						
1	HTIS-I	Rs.300/kVA/Month	Rs.6.65/kVAh	All Units	Rs.600/kVA/Month	Rs.9.30/kVAh	All Units
2	HTIS-II	Rs.300/kVA/Month	Rs.6.50/kVAh	All Units	Rs.600/kVA/Month	Rs.9.23/kVAh	All Units
3	HTIS-III	Rs.300/kVA/Month	Rs.6.45/kVAh	All Units	Rs.600/kVA/Month	Rs.9.16/kVAh	All Units
4	HTIS-IV	Rs.300/kVA/Month	Rs.6.40/kVAh	All Units	Rs.600/kVA/Month	Rs.9.09/kVAh	All Units
5	HTSS (33kV)	Rs.700/kVA/Month	Rs.4.10/kVAh	All Units	Rs.1400/kVA/Month	Rs.5.82/kVAh	All Units
6	HTS-I (Oxygen manufacturers)	Rs.600/kVA/Month	Rs.4.50/kVAh	All Units	Rs.1200/kVA/Month	Rs.6.39/kVAh	All Units
7	RTS (132kV)	Rs.280/kVA/Month	Rs.6.70/kVAh	All Units	Rs.600/kVA/Month	Rs.9.51/kVAh	All Units
8	HT Electrical Vehicle Charging Stations		Rs.6.45/ kVAh	All Units		Rs.9.16/ kVAh	All Units

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

#### 3.1. Introduction

Under section 64 (2) and (3) of Electricity Act, 2003 Commission directed the petitioner to publish an abridged form of the petition in the newspapers and upload the tariff petition along with additional information for inviting comments, suggestions, objections from general public and stakeholders. Public hearings on the petitions were scheduled to be conducted on the following dates and places:

Discom	Date	Place
NBPDCCL	21.02.2023	Purnea
SBPDCL	24.01.2023	Arwal
NBPDCCL and SBPDCL combined	28.02.2023 and 01.03.2023	Patna

#### 3.2. List of Names of the Objectors / Stakeholders

The following stakeholders and general public submitted their written comments/suggestions and objections either before the scheduled date of public hearing or during the public hearings on tariff petitions of NBPDCCL and SBPDCL:

Sl. No.	Name of the Objectors/Stakeholder
1.	Bihar Industries Association, Patna
2.	Bihar Chamber of Commerce & Industries, Patna
3.	Shri Chirag Paswan, Member of Parliament, Patna
4.	Shri. Nanda Sharma, Patna
5.	Bihar Steel Manufacturers Association, Patna
6.	Patwari Steels Pvt. Ltd., Patna
7.	Bihar industries Association, Purnea
8.	Bihar Gas Manufacturers Association
9.	Bharti Airtel Limited
10.	Reliance Jio Infocomm Ltd
11.	Shri Jogendra Behars, IEX
12.	Shri Tilakraj Dua, DIPA
13.	Bharatiya Communis Party
14.	Shri Mohan Prasad, Vidyut Upbhokta Morcha, Patna
15.	Shri Rahul Ranjan Pathak, Vidyut Upbhokta Sangarsh Samiti, Gaya
16.	Shri Pradeep Mehta, Jansangharsh Morcha
17.	Shri Aditya Vijay Jain, Bhojpur Chamber of Commerce & Industry
18.	Shri Pramod Kumar Sharma, Dilawarpur, Bidupur Bazar, Vaishali
19.	Shri Rambhagan Singh Yadav & others, Vidyut Upbhokta Mahasangh, Patna
20.	Shri Satyanarayan Sah & others



Sl. No.	Name of the Objectors/Stakeholder
21.	Shri Bhuwan Agrawal, North Eastern Bihar Chamber of Commerce & Industry
22.	Shri Pawan Kumar Agrawal, North Western Bihar Chamber of Commerce & Industries, Chapra
23.	Shri Sajjan Sharma, North Bihar Chamber of Commerce & Industry
24.	Shri Shailendra Singh Tarkar, Sanholi, Khagaria
25.	Dr. Nandi Grace English School
26.	Bijili Upbhokta Sangarsh Samiti, Bhagalpur
27.	Shri Aditya Kejriwal, The Purnea Chamber of Commerce
28.	Citizens Forum, Patna
29.	Gramswaraj Sangh, Khagaria
30.	Shri Rajiv Ranjan Kumar, Akhil Bharatiya Grahak Panchayat, Patna
31.	Chamber of Commerce, Gopal Gunj
32.	Ms. Mamta Devi, Purnea
33.	Ms. Nanhki Devi, Purnea
34.	Ms. Saraswati Devi Johia, Purnea
35.	Shri Roopesh Kumar Dungarwal, Purnea
36.	Shri Roopesh Kumar Singh, Bihar Industries Association, Purnea

### 3.3. Comments / Suggestions of Stakeholders, reply by Petitioner and views of the Commission:

The Commission is issuing common tariff order for NBPDCCL and SBPDCL. The comments/suggestions and objections submitted by stakeholders/general public for NBPDCCL and SBPDCL separately are being classified and grouped issue-wise and are being examined and considered jointly in the light of the responses received from the Discoms as under:

#### 3.3.1 Increase in electricity tariffs:

##### **Stakeholders' submission**

Tariff hike in the Electricity tariff would impact business of industries which lead to increase in prices of the industrial products resulting in moving the industrial activity in backward direction in the State leading to increase in unemployment in Bihar State. The existing tariff is higher in comparison to that in the neighbouring states.

##### **Petitioners' response:**

Proposals for separate HT Industrial category is submitted in the present Tariff Petition. The existing HTS to be called as HT General. Tariff rates and voltage-wise categorization shall be at the same level as that of HT general category. Such

bifurcation facilitates the State/Central Governments take decisions to provide incentives/rebate/tariff relief, if any to the industries.

**Commission's view:**

The Commission has noted the submission of the consumers and reply of the Petitioner. The ARR is being approved based on prudence check, validation of expenses made by the Petitioner scrupulously adhering to the regulations. The Commission, considering the facts presented by the Discoms in their petitions and various subsequent filings, the comments/suggestions/objections received from stakeholders/consumer organizations and SAC had determined the uniform tariff (i.e. uniform/same tariff for the similarly placed consumer) for retail sale of electricity in the State of Bihar.

**3.3.2 Terms and Conditions of supply:**

**Stakeholders' submission**

Discoms are proposing additional stringent terms and conditions in respect of recovery of charges from the consumer for supply of electricity. According to section 50 of the EA 2003, the State Commission is obligated to specify an Electricity Supply Code to provide for recovery of electricity charges. It is suggested that the terms and conditions for recovery of charges should be specified in the Bihar Electricity Supply Code u/s 50 of the Act.

**Petitioners' response:**

The tariff petition is filed in accordance with the BERC Multi Year Distribution Tariff Regulations, guidelines and directives issued by the BERC from time to time and under Section 45, 46, 47, 61, 62, 64 and 86 of the Electricity Act 2003 read with the relevant guidelines. Discoms are obligated to comply with the rules and terms specified in the Bihar Electricity Supply Code. Discoms have not gone beyond the scope defined in the Bihar Electricity Supply Code.

**Commission's view:**

The Commission has noted the stakeholders' views and Petitioner's response. The terms and conditions of supply notified in the tariff orders year on year and the Bihar Supply Code explicitly defines the methodology/procedure for billing and recovery of electricity charges.

**3.3.3 Billing demand – HT:****Stakeholders' submission**

The Discoms have proposed to raise the minimum billing demand of 75% to 85% of the contract demand and the max. demand upto only 105% at the normal rate. If the demand exceeds 105% of the contract demand the demand in excess of the contract demand shall be recovered at the double rate. This imply that the consumers have to work in the very narrow band of contract demand.

It is stated that up to 31st October 2006, the "Minimum Base Charge" in respect of demand charge was seventy-five (75) percent of the contract demand and the excess demand was allowed up to 110% at the normal rate (Tariff notification No. Com/TAR-1010/93-430 dated 21.06.1993). The BERC considering the shortage of power, raised the minimum chargeable contract demand from 75% to 85% of the contract demand keeping the upper limit of the recorded demand to 110% at the normal rate. However, in view of surplus power availability, to encourage the consumer for contracting higher demand the Commission has reduced the MMG in demand charge from 85% to 75% and upper limit of 110% to 105%.

The Discoms have now proposed to raise the MMG in demand charge from 75% to 85% of the contract demand and keeping the upper limit at 105%.

It is suggested that in view of surplus power availability in the State, the MMG should be kept at 75% as allowed earlier and the upper limit of 110% of the contract demand.

**Petitioners' response:**

Minimum Billing Demand has been proposed to 85% of the Contract Demand or actual Demand whichever is higher, because the petitioner needs to develop and maintain infrastructure in line with the contracted load of the consumer.

In many states/utilities the billing demand as a percentage of contract demand is higher than Bihar (currently -75%). BRPL- Delhi (100%), Madhya Pradesh State DISCOMs (90%), BESCO State DISCOM Karnataka (85%) and TANGEDCO Tamilnadu (90%) and Haryana State DISCOMs (100%).

Violation for actual contracted Demand higher than the sanctioned demand may continue to be at 105% as approved in Tariff Order dated 25.03.2022.

**Commission's view:**

The Commission has noted the stakeholders' views and petitioner's response. The HT consumers should continuously monitor their connected load, contract demand and maximum demand being recorded and whenever recorded demand is noticed exceeding contracted demand, they shall approach the Discoms officials concerned for increasing the contracted demand suitably.

**3.3.4 Recovery of full/fixed demand charge:****Stakeholders' submission**

The full fixed/ demand charge can be made chargeable if the average supply during the month is 24 hours/day and the hours of supply should be reckoned as recorded in the meter. It should not be reckoned from the power available in PSS. At present the meters store the data of supply hours and is recorded at RMR section of the Discoms. Allowing 21 hours per day working out full demand charge amounts to supply of only 7665 (21x365) hours in a year against the total period of 8760 (24x365) hours and allowing total outage of 1095 hours in a year.

It is suggested that full fixed charge/demand charge should be charged only if the supply is made to the consumers for 24 hours except in the case of 'Force Majeure Conditions' and if the availability of supply to the consumers at the point of supply is less than 24 hours, the demand charge should be levied on prorata basis/month.

**Petitioner's response:**

Recovery of the Fixed Charges may continue as currently existing as approved in Tariff Order dated 25.03.2022.

Fixed charges are paid as per the current regulatory framework and terms and conditions of PPAs that have been approved by the Commission. The tariff proposal for FY 2023-24 is submitted as per the existing Regulations and guidelines of the Commission. The Commission had notified BERC (Fixation of Charges for Supply of Electricity by Distribution Licensee) Regulation, 2018 wherein it has been specified that fixed or Demand charges are the expenses incurred on up-gradation and up-keeping of the network. Accordingly, the Petitioner has arrived at the fixed costs while submitting the ARR and tariff for FY 2023-24. Even if the consumer is not operating temporarily, the Petitioner has still created and maintaining infrastructure for the said consumer. Therefore, the billing system and provisions related to the billing should

remain as per the existing process

So, the demand charges may be allowed to recover in full only if supply of power duly recorded by the consumer meter is maintained for at least 21 hours/day during the billing month. In any month if the supply of power is less than 21 hours/day, then the demand charge for that month may be allowed to levy on pro-rata basis.

**Commission's view:**

The Commission has noted the stakeholders' views and Petitioner's response. The Commission has dealt the issue in the "Tariff Principles, Design and Tariff Schedule" Chapter of this Order.

**3.3.5 FPPCA – automatic pass through**

**Stakeholder's submission**

Discoms have proposed change in the provisions of Regulation 20 of BERC (Multi Year Distribution Tariff) Regulations, 2021 in respect of FPPCA. It has been proposed that the FPPCA should be charged without the approval of the BERC. It has been stated that the Electricity (Timely Recovery of Cost due to Change in Law) Rules, 2021 notified by Ministry of Power through letter dated 22<sup>nd</sup> October 2021 stipulates that some of the states already have formula for fuel surcharge adjustment which is being used for the purpose. However, this is not an automatic pass through and remains need for approval of the State Commission.

Section 45(2) of the EA, 2003 stipulates,

*"45(2) The charges for electricity supplied by a distribution licensee shall be - (a) fixed in accordance with the methods and the principles as may be specified by the concerned State Commission"*

Section 62(4) stipulates fuel surcharge formula to be specified by the appropriate Commission.

Allowing FPPCA without approval of the State Commission will be violation of the provisions of the Act. According to the various provisions of the Act no charge can be levied from the consumers without approval of the Commission.

FPPCA is charged because of the fact that tariff for retail sale of electricity was not notified timely for each year. However, since 2012, BERC is issuing Tariff Order for each year well in advance and also truing up of ARR on the basis of the audited annual

accounts of the previous year. Any gap/surplus in the ARR of previous year along with carrying cost are taken into consideration for determining the tariff for ensuing year.

It is not proper and expedient to allow charging of FPPCA in spite of the fact that any gap in the revenue is carried forward with carrying cost in the ARR of ensuing year.

It is objected to the proposal and stated that several complications would come in the functioning of industries and the amount of FPPCA cannot be recovered from the products which have been dispatched or sold earlier. Truing up of ARR takes care of the extra Power Purchase Cost. The Discoms and Power Management Cell of BSPHCL should examine and scrutinize the rate of power purchase from Central agency instead of paying them as per their claim.

#### **Petitioners' response**

The Electricity (Timely Recovery of costs due to Change in Law) Rules, 2021 notified by Ministry of Power through letter dated 22.10.2021 states that some of the states already have formula for fuel surcharge adjustment which is being used for this purpose. However, FPPCA is not an automatic pass through and approval of the State Commission is required.

It is to state that the existing FPPCA recovery mechanism involving prior approval of the Commission is not in line with the Rules/Orders set out by the REC (GoI) vide its letter dated 01.07.2022 which stipulates that all States/DISCOMs need to create a mechanism for automatic pass through of fuel cost adjustment on monthly/quarterly basis in retail tariffs without the need of prior approval of the State Commission.

The existing provision for FPPCA in terms of non-automatic pass through is becoming a hurdle in achieving the Standard Operating Procedures (SOPs) laid down by the Ministry in the RDSS scheme.

The Petitioners requested the Commission to amend the relevant provisions of the BERC (MYDT) Regulations, 2021 for automatic recovery of the FPPCA by the DISCOMs as per the formula specified in the Regulations and thereafter submission of the FPPCA computation to the Commission.

It is stated that the FPPCA is submitted in accordance with the "BERC (Multi Year Distribution Tariff) Regulations 2021" wherein clauses 20.1 and 20.2, related to Fuel and Power Purchase Cost Adjustment (FPPCA), its calculation and allowed the

adjustment of the same on monthly basis.

Furter, the Ministry of Power in its Letter dated 09.11.2021 has stipulated the following:

*3. Learning from the recent experience and in order to ensure that the power sector does not face any constraints in maintaining assured power supply to meet the demand, all the stakeholders in the value chain of power sector must ensure that there is timely recovery of cost. This involves two steps:*

*a. The cost pass through by the the generating companies to the distribution companies.*

*b. The cost pass through from distribution companies to the consumer.*

*4. For the lack of a robust mechanism of timely automatic pass through of fuel cost and transportation cost, the generating companies face constraints in maintaining stock of fuel during such periods. This results in shortage of supply in the grid which may affect the power supply to the consumer.*

*5. Distribution companies face revenue constraints as the corresponding pass through of cost is not done regularly and timely in the retail tariff. Timely collection of revenue from consumer would ensure timely payment by the distribution company to the generating stations and coal companies. This will also help in ensuring availability of supply to meet the expected increase in demand.*

In view of the above, the Petitioner has submitted FPPCA for approval of the Commission.

#### **Commission's view**

The Commission has noted the stakeholders' views and Petitioner's response. The Discoms have filed separate petition before the Commission seeking amendments to the regulations relating to FPPCA. The Commission shall examine the proposals and endeavors to take appropriate decision on the subject of auto pass through of FPPCA.

#### **3.3.6 HT industrial – Tariff and Cross subsidization:**

##### **Stakeholders' submission**

HT Industrial supply tariff rate should be lower than the tariff rate of HT General supply categories to encourage the industrial activities, which will also reduce the cross subsidization of other categories of consumers. Section 61 (g) of the Act, states that

cross subsidization is to be progressively reduced.

**Petitioner's response:**

Discoms have been striving to align the cost and revenue structure with the guidelines provided in the National Tariff Policy, however, the skewed consumer mix towards the domestic consumer base has been a constricting factor to achieve the same. The Domestic consumers form around 89% of consumer base while Industrial consumers form less than 1% of the total consumer base. Similarly, the sales to Domestic consumers form 58% of sales mix while the sales of industrial consumers is around 16% of Sales mix. The LT:HT ratio in terms of Sales is 90:10.

Thus, wide domestic consumer base in the State and highly skewed sales mix makes it a limiting factor for the Discoms to formularize a roadmap for reduction of Cross Subsidy at present, however, the Discoms strive for gradual reduction of the same.

**Commission's view:**

The Commission has noted the stakeholders' views and Petitioner's response. The Commission endeavors to keep the cross-subsidy level within +/- 20% of the Average Cost of Supply. The issue is dealt in the Chapter 6 of this Order.

### **3.3.7 Voltage Rebate**

**Stakeholders' submission;**

Existing tariff for HT Industrial Service has different rates for voltages of 11kV, 33 kV, 132 kV, 220 kV. Suggest one rate for 11kV supply and for each higher voltage a rebate of 6% at each higher voltage level should be allowed for availing supply at higher voltage levels.

**Petitioners' response:**

The existing tariff for HT Industrial Service provides built in incentives in the form of lower tariff as the voltages goes higher. Further, to incentivize the HT consumers, the Discoms have proposed to provide Higher Voltage Rebate at 15 Paise/kVAh on energy charges at each voltage level for availing supply at voltages higher than 11 kV.

**Commission's view:**

The Commission has noted the stakeholders' views and Petitioner's response.



**3.3.8 Load factor rebate for higher consumption:****Stakeholders' submission**

To promote efficiency in the power supply system, to encourage the consumption of electricity and to avoid the surrendering of allocated power, the BERC has allowed rebate to be allowed to all the HT category consumers including HTSS at various rate on different consumptions level of load factor.

However, as per the proposal of the Discoms, the High Tension Specified Services (HTSS) category of industrial consumers has been excluded from the list of HT Categories for getting rebate for higher consumption. The HTSS categories of consumers are also industries and uses power. It is not proper to sale power to other agency out of the state at low rate and deny the consumer of state to give benefit. It is suggested that the surplus energy may be sold to HTSS and other industries in the interest of the state and Discoms.

**Petitioner's response:**

The Petitioner has proposed to withdraw the Load Factor incentive for HTSS consumers. The idea behind introducing giving the Load Factor Incentive to HTSS was to promote the increase in consumption as well as better load utilization by HTSS consumers. However, it has been observed that in 1st six months of FY 2022-23 (April- Sept 2022) there has been no increase in the consumption with respect to the consumption in 1st six months of FY 2021-22 (April- Sept 2021) but the amount of incentive required to pay by the Discoms is significantly high. As a result, there has been decrease in the net revenue collection of the Discoms through considerable disbursement of incentive by Discoms to this category of consumers.

The load factor incentive has been provisioned in the tariff structure with the motive to boost HT consumption in the state. However, the HTSS industries already operate at higher load factor levels (around 90%) by the nature of operations of their businesses. Therefore, including the HTSS industry in the bracket of beneficiaries of load factor rebate will further reduce their tariff which are already getting the benefit of lower energy charges as compared to other HT categories. Considering the same, the DISCOMs has decided to withdraw the Load Factor incentive for HTSS.

It is to submit that the capacity available through current PPAs is less than the actual

demand in many time blocks. Demand is dynamic in nature and in some time blocks, the available capacity is more than the Demand. The Petitioner follows the Regulations specified by the BERC for scheduling of power. Further, the Petitioner also takes benefit of Power exchange for meeting the shortfall and excess in real time Demand by way of purchase/sell through the exchange.

Further, the Petitioner submits that it has to surrender power only on such occasions when the aggregate demand is less than the supply.

The Petitioner further submits that it is continuously taking appropriate measures to optimize its power purchase cost.

**Commission's view:**

The Commission has noted the reply of the Petitioner. The Commission opines that the Discoms should implement an online tool which gives power purchase based on MoD principle for every 15 minutes and the power purchase cost may be optimized automatically. The Discoms should also follow the MoD principle for scheduling power.

### **3.3.9 Time of the Day (ToD) Tariff**

**Stakeholder's submission:**

BERC should study and ascertain that the demand required (Mega Watt) during the peak hour is more than that of share allocation of power as per power purchase agreements (PPA) or falls short of the allocated capacity of megawatt (MW). If the power available is surplus during the peak hours also then there is no need of applying peak hour in Bihar, rather rebate should be allowed from 11 PM to 6 AM on energy consumed.

In view of surplus power in our state and instead of selling to the other state at lower tariff, it would be better to encourage the industrialist to use more and more power which can be done by not levying any surcharge on the base rate.

Allow twenty (20) percent extra drawal by the industries during off-peak hours (10 PM to 6 AM next day) up to 120% of contract demand without levy of any penalty and allow rebate in off-peak hours.

**Petitioners' response:**

It is to submit that the TOD slab of 90% from 23:00-05:00 hrs is rebate in itself and has

been proposed in order to optimize the power demand curve of the state, ensuring a match between demand and supply, thereby rationalizing the power purchase quantum as well as the cost by reducing dependency on short term power purchase. Discoms incur higher power purchase cost to match the demand in peak hours. In order to meet such increased power purchase costs during peak hours, a higher energy tariff rate of 110% has been approved by the Commission. Further measures are taken to incentivize consumers to shift a portion of their loads from peak times to off peak times, thereby improving the system load factor by reducing the demand on the system during peak period.

**Commission's view:**

The Commission has noted the reply of the Petitioner. The purpose of introducing Time of the Day (ToD) tariff is to shift the demand from peak hours to off-peak hours and hence the tariff during peak hours should be higher than the normal tariff. Accordingly, the Commission has provided the ToD tariff structure.

**3.3.10 Transmission and Distribution (T&D) losses:**

**Stakeholders' submission**

Allow distribution losses at 15%. Distribution loss is a controllable factor and losses above 15% should not be passed on to the consumer. Financial burden due to higher losses should be borne by the Discoms or alternatively compensated by the State Government. High T&D loss is due to theft of energy and inefficiencies of utility should not be passed on to the consumers.

**Petitioner's response:**

Discoms have stated that domestic consumers constitute around 90% of the total consumer base. The HT sales are around 7% of the total sales. Discoms have to upkeep the network with such consumers profile which is skewed towards domestic consumers resulting to bear higher distribution losses owing to such distribution network having very high percentage of domestic consumers. The utilities are making consistent efforts to reduce the distribution losses and has been achieving continuous reduction in losses.

**Commission's view:**

The Commission has noted the stakeholders' views and Petitioner's response. The Commission has considered the distribution losses as approved, in relevant years tariff

orders, for previous year and current year for truing up and APR. The higher power purchase cost due to higher distribution losses is considered as controllable expenditure and has dealt with in terms of regulations. The Commission has dealt the issue in the Chapter 4 Truing up for FY 2021-22 of this Order.

### **3.3.11 Theft of energy:**

#### **Stakeholders' submission**

Revenue loss to the Discoms is due to high T&D loss and theft of energy and inefficiencies of utility should not be passed on to the consumers. The concerned officials should be held accountable under the Standards of Performance (SOP) regulations.

#### **Petitioner's response:**

Special Task Force (STF) cell are established for monitoring disposal of different complaints received against electricity theft besides conducting surprise visit / inspection relating to the collection or malpractices cases. Strict action is taken against any officer found guilty of the aforesaid malpractices. The State Vigilance Cell functions independently for any criminal complaint received directly from consumers related to corruption.

#### **Commission's view:**

The Commission has noted the stakeholders' views and Petitioner's response.

### **3.3.12 Power Purchase Cost**

#### **Stakeholder's submission:**

Average Power Purchase Cost is abnormally high (Rs.5.28/unit for FY 2023-24) to be brought down so that the tariff to consumers can be determined at lower rate. Discoms should place their concerns before the CERC on the cost of Power purchase from Central Generating stations while determining the tariffs by CERC.

#### **Petitioners' response:**

Discoms mainly purchases power from the power generation units of NTPC. Due to being relatively new units, the cost of these power generation units is high, therefore, the fuel cost (per unit) of Power purchased from new units is about 40~50% higher than that of the old units. Along with this, due to being located far away from coal mines, the fuel cost of NTPC's units located in Bihar is also higher. It is to submit that State of Bihar does not have any State-owned thermal generating stations and it is

completely dependent on interstate generating stations for purchase of power. DISCOMs are dedicated towards optimizing power purchase cost in the state and is proactively monitors the available options in getting low-cost power as compared to its higher cost long term PPAs.

**Commission's view:**

The Commission has noted the reply of the Petitioner. Discoms shall explore the opportunities of getting cheaper power from upcoming generating projects where the cost of power is less.

**3.3.13 Surplus power purchase/Capacity**

**Stakeholder's submission:**

Excess power should be surrendered or to be sold to other states applying MOD. And suggested to examine the cost basis analysis and effect of surrendering of power.

**Petitioners' response:**

Discoms initiated steps that expiring PPAs to be renewed and power off-take to be continued by surrendering the same quantum of power from upcoming generation sources following the MOD principle. Alternatively, the expiring PPAs not to be renewed and power to be scheduled solely from the upcoming generations.

**Commission's view:**

The Commission has noted the views of the stakeholders and the Petitioner's response. Discoms shall explore the opportunities of getting cheaper power from upcoming generating projects where the cost of power is less. The Discoms should follow the MoD principle for scheduling power.

**3.3.14 Billing and Collection efficiency**

**Stakeholders' submission**

Collection efficiency is around 80% to 85% considering the revenue assessed for the year and arrears to be realised. Regular monitoring of financial and line losses shall be carried out to achieve 100% billing and collection in addition to collection of outstanding dues (arrears) from the consumers. AT&C losses are increasing due to non-adherence to the 100% collection of revenue. Further, theft and direct hooking are also contributing to the AT&C losses. It is suggested to identify the areas, based on the subdivision-wise data, which have higher losses, energy input, energy billed, revenue realised, etc. shall be monitored by the utilities on monthly basis and

quarterly basis by the Commission for taking corrective measures. Discoms should disclose how the arrears from consumers would be collected if the collection efficiency is less than 100%.

**Petitioner's response:**

Discoms have taken several initiatives to improve the collection efficiency and appraised the Commission from time to time. Domestic consumers constitute 87% of the total consumer base with 66% sales mix. Lower income strata such as Kutir Jyoti consumers constitute 30% of domestic consumers whose per capita income is very low which restricts their paying capacity and has become a challenge to recover the billed amount despite taking various measures for timely billing and payment of bills. Tariff subsidy received from the GoB for consumers is lower than allocated due to which collection efficiency is affected. Further, operational and financial efficiency of the utility is also affected due to imposition of lockdowns and restriction in the wake of pandemic resulting in lower collection efficiency. The utilities have started implementation of smart pre-paid metering to improve metering, billing and collection.

Discoms are making all efforts to collect the arrears from the consumers and the dues from government departments.

**Commission's view:**

The Commission has noted the stakeholders' views and Petitioner's response. The smart meter pre-paid metering project shall improve the billing and collection efficiency. The effects of the same will be reviewed during the subsequent tariff filings.

**3.3.15 Interest on loan**

**Stakeholders' submission**

Interest on loan calculated and allowed on normative basis is not appropriate. Interest shall be allowed after confirming the loan amount by the loaning agency.

**Petitioners' response:**

Interest on loan is claimed in accordance with the Regulation 25 of the BERC (Multi Year Distribution Tariff) Regulations 2021.

**Commission's view:**

Regulation 25 specifies the procedure for considering the normative debt and rate of interest to be considered for computation of interest on loan. It is to state that the

funding pattern of the schemes capitalised is depicted in the relevant paragraph (Capitalisation and source of funding) in true up, APR and ARR chapters of this order. As per regulations Debt : Equity is considered 70:30 on the capital base. The Commission is considering all the cost parameters of ARR based on prudence check and validation of claims in adherence to the regulations scrupulously year on year.

### **3.3.16 Depreciation**

#### **Stakeholders' submission**

Capital investment, capitalisation, loan, equity, grants and consumer contributions shall be verified and accordingly depreciation shall be considered.

#### **Petitioners' response:**

Depreciation has been calculated after excluding depreciation on assets created out of grant/consumer contributions. Regulation 23 of BERC (MYDT) regulations deals with the computation of depreciation.

#### **Commission's view:**

Regulation 23 specifies the procedure for considering the depreciation. It is to state that the funding pattern of the schemes capitalised is depicted in the relevant paragraph (Capitalisation and source of funding) in true up, APR and ARR chapters of this order. Based on the pattern and source of funding, the grants are considered and accordingly proportionate depreciation is computed and adjusted against the depreciation on assets and net depreciation allowed in the ARR as deliberated in the truing up/APR/ARR chapters of this order. The Commission is considering all the cost parameters of ARR based on prudence check and validation of claims in adherence to the regulations scrupulously year on year.

### **3.3.17 Return on equity**

#### **Stakeholders' submission**

Return on equity shall be considered on actual equity or at 30% of the capital base whichever is less. The equity claimed by the Discoms shall not be allowed unless the source of funding is confirmed.

#### **Petitioners' response:**

Equity is considered at 30% of capitalisation excluding grants and Return on Equity (RoE) is claimed in accordance with the Regulation 27 of the BERC (Multi Year Distribution Tariff) Regulations 2018/21.

**Commission's view:**

Regulation 27 specifies the procedure for considering the RoE. It is to state that the funding pattern of the schemes capitalised is depicted in the relevant paragraph (Capitalisation and source of funding) in true up, APR and ARR chapters of this order. Based on the pattern and source of funding, the debt, equity and grants are considered and accordingly RoE is considered as deliberated in the true up/APR/ARR chapters of this order. The Commission is considering all the cost parameters of ARR based on prudence check and validation of claims in adherence to the regulations scrupulously year on year.

**3.3.18 Repairs and Maintenance (R&M) expenses****Stakeholders' submission**

Repairs and maintenance expenses shall not be allowed on normative basis and shall be allowed based on the actual expenses reported in the Audited Annual Accounts in true up.

**Petitioners' response:**

R&M expenses are claimed based on approved norms for true up and APR and projected for ensuing year in terms of regulations. Allowing R&M expenses on actual basis is misconstruing of the regulatory framework, since, the variation in R&M expenses approved vis-a-vis actuals shall be shared in terms of regulations.

**Commission's view:**

The Commission is considering all the cost parameters of ARR based on prudence check and validation of claims in adherence to the regulations scrupulously year on year.

**3.3.19 Non-tariff income****Stakeholders' submission**

Any income other than Revenue from Operation shall be considered as Non-tariff income. The number of consumers and connected load has increased from year to year but the proposed Non-Tariff Income for FY 2023-24 is at very low level. Non-tariff Income should be considered taking into account the increase in the number of consumers.



**Petitioners' response:**

Non-tariff income is claimed based on audited accounts in truing up. For APR and ARR the Non-tariff income is considered duly considering the business operations.

**Commission's view:**

The Commission has noted the stakeholders' views and Petitioner's response. Nontariff income is considered based on actuals reported in the audited annual accounts with due validation and prudence check in terms of regulations. The Commission has clearly deliberated in the Chapter 4 Truing up of this Order. The Commission is considering all the cost parameters of ARR based on prudence check and validation of claims in adherence to the regulations scrupulously year on year.

**3.3.20 Reduction in ARR due to smart pre-paid metering system:****Stakeholders' submission**

Smart pre-paid metering system is being introduced in the State which leads to savings in employee and A&G expenses. It is requested to workout the savings and consider the savings in the ARR for FY 2023-24.

**Petitioner's response:**

Discoms have submitted that the benefit of pre-paid Smart metering project will be realized in terms of significant improvement in metering, billing & collection operations, thereby reducing the commercial losses to near zero levels. The benefits realized will be in form of savings due to reduction of AT&C losses and the benefit of the same shall be passed on to consumers. The savings that the DISCOMs are expected to realize by the way of this project shall be passed on to consumers in form of revenue gap/tariff adjustments and sharing of gain/losses as applicable under the prevalent regulatory framework.

**Commission's view:**

The Commission has noted the stakeholders' views and Petitioner's response. It is opined that the smart prepaid meter project is in initial stage of implementation and savings there on can be estimated upon installation of meters in substantial numbers.

**3.3.21 Subsidy from State Government:****Stakeholders' submission**

Subsidy is being provided by State Government for capital works and to the consumers for sale of power. Details shall be obtained from the Discoms and verified with

reference to the government orders.

**Petitioner's response:**

Discoms have furnished the funding pattern of capital works along with the details of loan, equity and grants. The subsidy received from GoB related to consumers towards tariff subsidy to reduce the burden of cost of electricity and the same is credited to the consumer accounts.

**Commission's view:**

The Commission has noted the stakeholders' views and Petitioner's response

**3.3.22 Reasons for increase in tariff:**

**Stakeholders' submission**

Coal imported from Australia is costlier than Indian Coal and imported coal should be stopped using.

Proposal for charging of 2.5% cess by the Urban Development Department, Government of Bihar should be rejected by the Discoms.

**Petitioner's response:**

**Imported coal:** During FY 2022-23, there was a sharp increase in electricity demand throughout the country due to which power shortage was observed across the country. There was gap between the requirement of coal and the supply of coal, because of which the coal stock at the generating stations was depleting at a worrisome rate. To fulfil the requirement of coal, the Ministry of Power vide notification dated 26<sup>th</sup> May 2022, allowed imported coal for blending by such domestic coal-based power plants up to 31.03.2023 by maximum up to 10%. Accordingly, the Petitioner has considered the impact of increase in variable cost of the Plants due to coal blending while determining the power purchase cost in the Tariff Petition.

Levy/charging 2.5% cess by the Urban Development Department, Govt. of Bihar is the purview of the Govt. of Bihar.

**Commission's view:**

The Commission has noted the stakeholders' views and Petitioner's response. The Commission is considering all the cost parameters of ARR based on prudence check and validation of claims in adherence to the regulations scrupulously year on year.

**3.3.23 Tariff increase for Domestic consumers DS-II:****Stakeholders' submission**

Tariff increase is proposed around Rs.6/unit for DS-II consumers resulting in DS-II consumers will be paying around Rs.14/unit. Tariff for Commercial category has been proposed to increase at the rate more than the Domestic consumers. Increasing the tariff for commercial consumers will have direct impact on the daily consumables/items purchased directly from such commercial consumers.

Energy rate in Bihar is high compared to other states reasons for such rates to be analysed.

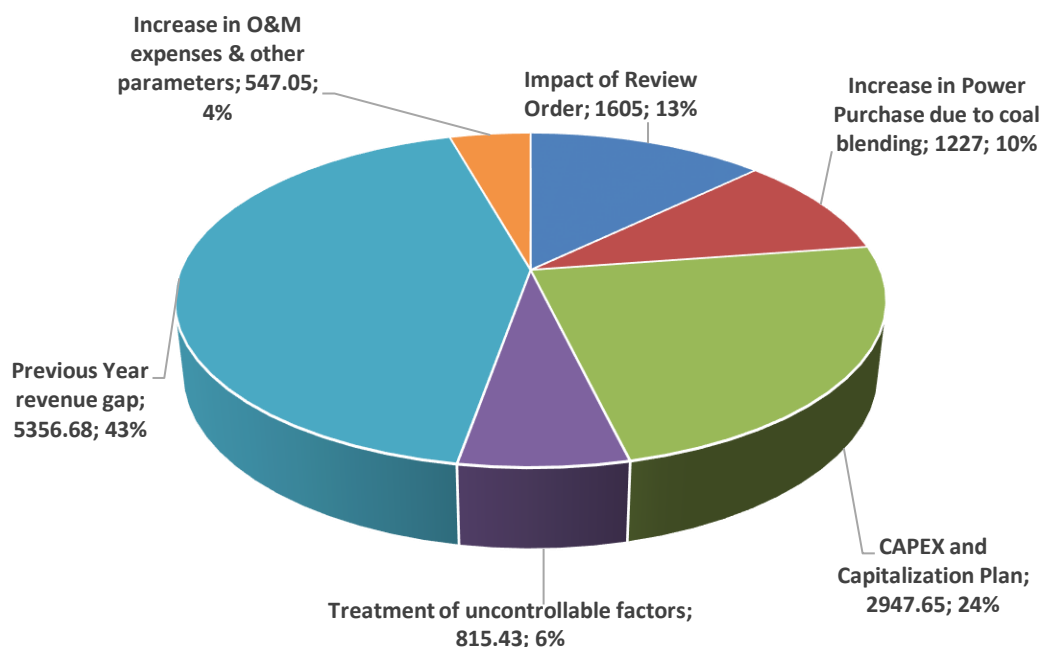
**Petitioner's response:**

Existing and proposed tariff for Domestic (DS-II) and Commercial (NDS-II) consumers is shown below for reference:

Consume category	Existing Tariff Energy charges (Rs/kWh)	Proposed Tariff Energy charges (Rs/kWh)	Increase (Rs/kWh)
<b>Urban Domestic consumers (DS II)</b>			
First 100 Units	6.10	8.66	2.56
101-200 Units	6.95	10.35	3.40
Above 200 Units	8.05	10.35	2.30
<b>Urban Commercial consumers (NDS-II)</b>			
First 100 Units	6.35	9.02	2.67
101-200 Units	6.85	10.38	3.53
Above 200 Units	7.40	10.38	2.98

It can be observed that the proposed increase in energy charges for Domestic consumers with consumption above 200 units is Rs 2.30/kWh and for Commercial consumers with consumption above 200 units is Rs 2.98/kWh.

The State DISCOMs have proposed 42% increase in the Energy charges to recover the cumulative revenue gap of Rs 12,499 crore (SBPDCL- 8797 crore and NBPDCCL- 3702 crore). The component wise break up that comprises of the revenue Gap of Rs.12,499 crore is as follows:



It can be observed from the pie chart, that due to the following uncontrollable factors, the DISCOMs are constrained to increase the energy charges upto 42% of the existing charges

- Coal blending upto 10% allowed by the Ministry of Power to meet the requirement
- CAPEX & Capitalization Plan that contains impact of schemes like RDSS, State Plan & others schemes
- Impact of Review of Tariff Order dated. 25.03.2022
- Previous years' revenue Gap

#### **Commission's view:**

The Commission has noted the stakeholders' views and Petitioner's response. The Commission is considering all the cost parameters of ARR based on prudence check and validation of claims in adherence to the regulations scrupulously year on year.

Tariff in some of the states are determined after considering the subvention from the state government. The tariffs notified by the BERC is full cost tariff. The State government is extending tariff subsidy directly to the consumers and considering the subsidy, the tariffs in Bihar is on par with the other states.

**3.3.24 Tariff for Telecom sector:****Stakeholders' submission**

Presently the telecom industry is being charged commercial rates as against industrial rates.

It is stated that Telecom sector as the backbone of digital infrastructure of the nation, effectively an essential service and is a key driver of economic and knowledge intensive social development. Telecom infrastructure has been endorsed with the status of "Infrastructure Industry" vide Govt. of India Gazette Notification No: 81 Dated 28.03.2012 as indicated in the DoT's letter No: 1612/2014-CS-II dated 28th Oct 2014 and further vide Govt. of India Gazette Notification F. No. 13/6/2009 — INF dated 27.03.2012 the Telecom infrastructure was mentioned in the harmonized list of infrastructure sub sectors and institutional mechanism.

The Bihar IT Policy, 2011 (Cl. 4) and Bihar Industrial Investment Promotion Policy, 2016 has considered the telecommunication sector as an Industrial unit. The Telecom Regulatory Authority of India (TRAI) in its report "Recommendations on Use of Street Furniture for Small Cell and Aerial Fiber Deployment" dated 29.11.2022 has also recommended that it is justified that telecom sites be provided electricity connection at industrial/utility tariffs. The working group to the Forum of Regulators (FoR), as a part of additional recommendation (clause iii) on "Cross Sector Collaborative Regulation Between Telecom Regulators and Electricity Regulators" has stated that "Telecom sites should be provided electricity connection under Utility /industrial tariff. SERCs may be requested to incorporate the same in their tariff orders".

Telecom Connectivity is essential for all important infrastructure to enable various services such as Digital Payments, Industry 4.0 (connected Industries), Remote Education and other infrastructure such as Power Sector which harness the benefits of Machine to Machine (M2M) connectivity. There is a strong need of cross-sector collaboration between the power sector and telecom sector, which will not only reduce the cost for telecom companies, but Discoms will also get a new revenue stream.

Electricity tariff for Telecom Industry may be placed under Industrial rates rather than the commercial rates.

**Petitioner's response:**

Tariff for telecom sector in Bihar is charged under the NDS-II, LTS-II and HTS-I at the tariff approved by the Commission, as shown below:

Category	Before subsidy		After subsidy	
	Fixed charges	Energy charges	Fixed charges	Energy charges
NDS-II	180/kW	7.40/kWh	180/kW	6.87/kWh
HTS-I	300/kVA	6.55/kVAh	300/kVA	6.55/kVAh
LTS-II (>19 <74kW)	180/kVA	6.40/kVAh	180/kVA	6.15/kVAh

The total charges for NDS-II at the specified tariff, after subsidy, the tariff of NDS-II is cheaper than HTS-I upto load factor of 52%.

**Commission's view:**

The Commission has noted the stakeholders' views and Petitioner's response. The telecom sector is a business concern functioning on commercial principles and appropriately categorized and billed/charged the commercial tariff.

**3.3.25 Distribution franchisees:****Stakeholders' submission**

Present status of Distribution franchise, Muzaffarpur, Gaya and Bhagalpur were appointed by the DISCOMS on input basis of energy may be incorporated.

**Petitioner's response:**

It is to submit that the arbitration process is under process for Muzaffarpur, Gaya and Bhagalpur town Distribution Franchise areas. Arbitrator has submitted the report specifying the claims between the parties on which the Distribution Franchisees (DF) have raised further objections and requested to revisit report.

**Commission's view:**

The Commission has noted the stakeholders' views and Petitioner's response.

**3.3.26 Free electricity:****Stakeholders' submission**

Free electricity may be provided to the consumers of Bihar as is provided in other States.

**Petitioner's response:**

It is to submit that providing free electricity and subsidy is the prerogative of the State Government.

**Commission's view:**

The Commission has noted the stakeholders' views and Petitioner's response. It is opined that the State Government is already providing tariff subsidy to the consumers on their consumption every month.

**3.3.27 Installation of Smart prepaid meters:****Stakeholders' submission**

M/s EDF, France was given the Order for installation of Smart Prepaid meter without any tender. Procurement of meters on such a large scale without any Tender clearly cause loss of public money. The above Smart prepaid meters are installed without any laboratory testing and give 30% more reading. Savings due to implementation of smart prepaid meters are not brought out in the petition.

**Petitioner's response:**

The Govt. of Bihar accorded the approval for installation of Smart Prepaid Meters across Bihar under OPEX model through Central PSUs like EESL, PFC and REC. M/s.EESL, a Govt. of India PSU, approached the Bihar Discoms offering to implement the project with no CAPEX to be paid by Discoms for installation of 23.5 lacs smart prepaid meters. The Discoms due diligence signed agreement with the EESL for installation of 23.5 lacs Smart Prepaid Meters. All the required tendering etc. has been done by M/s.EESL under BOOT (Build Own Operate and Transfer) model through OPEX (Operational Expenditure) and the process of purchasing, installing, commissioning, and maintaining of smart meters is solely under the control of M/s.EESL and Discoms have no involvement.

Discoms ensure that tested meters are installed at the consumer premises and conducts periodical inspection/testing of the meters as per the schedule specified under the Bihar Electricity Supply Code.

The consumer may also request the licensee to test the meter, if he/she doubts its accuracy or meter reading not commensurate with his consumption, stoppage of meter, damage of seal by applying to the licensee along with the requisite testing fee. And if such consumer disputes the results of testing by the licensee, he/she may also make a representation to independent lab /independent meter testing facilities.

**Commission's view:**

The Commission has noted the stakeholders' views and Petitioner's response. Discoms

have filed a separate petition for approval of capex/opex of implementation of Smart Prepaid meters and other infrastructure under RDSS scheme. The Commission takes appropriate decision while approving the RDSS scheme.

### **3.3.28 Surplus power and its utilisation:**

#### **Stakeholders' submission**

It is suggested that whenever power becomes surplus, the same may be allowed to be availed by consumers of Bihar at the rate at which the surplus power is sold to other States.

#### **Petitioner's response:**

Demand for power is dynamic in nature and in some time blocks the available capacity is more than demand. In case of shortfall in real time demand, the petitioner sell through the exchange. The Petitioner is continuously taking appropriate measures to optimize its power purchase cost.

#### **Commission's view:**

The Commission has noted the stakeholders' views and Petitioner's response. The Commission opines that the Discoms should follow the MoD principle for scheduling power

### **3.3.29 Oxygen Manufacturing Units:**

#### **Stakeholders' submission**

Air separation Oxygen Gas Manufacturing units qualify for HTSS category as the power is the raw material/input consisting of around 75% of the total cost of production. Increase in tariff results in increase the burden on the sector and make non-competitive with the similar unit in the neighbouring states.

Separate category is created for Oxygen Gas Manufacturing units under 11kV however, there are units under 33kV also. Separate category under 33kV should be created.

#### **Petitioner's response:**

Categorization and tariffs are notified by the Commission and accordingly the units are billed. The Commission is the deciding authority on categorization and tariff determination.

#### **Commission's view:**

The Commission has noted the stakeholders' views and Petitioner's response. The



Commission has dealt the issue in Chapter 9 “Tariff Principle, Design and Tariff Schedule” of this Order.

### **3.3.30 Wrong billing:**

#### **Consumer’s and Stakeholders’ submission**

Action may be taken to eliminate wrong billing. The Hon’ble High Court, Allahabad has observed wrong billing is violation of basic human rights.

#### **Petitioner’s response:**

Discoms are endeavoring to avoid wrong bills. After installation of smart pre-paid meters, introduction of spot billing wrong billing is completely avoided. Even if there are any wrong bill cases, they are immediately rectified as soon as the consumer approaches concerned officer.

#### **Commission’s view:**

The Commission has noted the stakeholders’ views and Petitioner’s response.

### **3.3.31 Tariff Structure to be simple**

#### **Consumer’s and Stakeholders’ submission:**

The tariff structure and different rates for different slabs are complicating tariff for general consumers. It is suggested that tariff structure and rates similar to that of Jharkhand, Odisha and DVC to be considered.

#### **Petitioners’ response:**

Every state has its own energy demand, energy cost, and consumer mix and energy tie-up. Hence, it would be unjustifiable to compare Bihar with the neighbouring state, like Jharkhand, Odisha and DVC on such parameters. However, tariff rates in some states are higher than the tariff rates in Bihar for HT, LT and commercial category.

#### **Commission’s view**

Electricity charges of different category of consumers are determined after much deliberation and performing detailed study on the consumer mix, sales mix, socio economic conditions. The tariff rates are determined after taking into consideration, the expenses of the Discoms of which around 85% comprises power purchase cost. The Annual Revenue Requirement (ARR) is determined in accordance with the BERC (Multi Year Distribution Tariff) Regulations 2021.

**3.3.32 Open Access****Stakeholders' submission:**

Open Access should be actively promoted and the regulations should be rationalized by BERC to introduce pro-rata KVA charges. Without this it will not be viable for any consumer to purchase open access power. This will benefit Discoms also and the net power purchase cost will come down.

**Petitioners' response:**

Discoms are mandated to maintain their distribution network required for feeding open access consumers under all instances. It is requested that any amendment in existing regulation may be done considering the obligation of the Discoms.

**Commission's view**

The Commission has noted the suggestion of the stakeholders and the response of the petitioners. Appropriate decision shall be taken by the Commission after examining the issue in detail.

**3.3.33 Rebate for prompt payment****Consumer's and Stakeholders' submission:**

Rebate at 6% to be provided to encourage prompt payment of electricity charges.

**Petitioners' response:**

Discoms provide a rebate of 1.5% for prompt payment of their energy bills. Further, a rebate of 2% provided on every amount recharged by the consumer opting for prepaid smart meter along with rebate for on line payment of 1% applicable to the consumers over and above the rebate on prepayment.

**Commission's view:**

The Commission has noted the stakeholders' views and Petitioner's response. The Commission has dealt the issue in the "Tariff Principles, Design and Tariff Schedule" Chapter of this Order.

The Commission has noted the stakeholders' views and Petitioner's response.

**3.3.34 Miscellaneous Issues****1. Commercially viable Utilities:****Consumer's and Stakeholders' submission**

BSEB was restructured into various companies with the objective of making the utilities commercially viable and for achieving the objectives the Board of the utilities

shall include industry and consumer representatives.

**Petitioner's response:**

BSEB was restructured as per the provisions of the Electricity Act 2003 with the motive to promote corporatization and efficiency in the successor entities. Constitution of Board and Management positions and deployment of other manpower is governed by the policies of the State Government.

Discoms are submitting the business plan, investment plan illustrating long term plans on loss reduction and other operation and financial performance parameters to the Commission year on year.

**Commission's view:**

The Commission has noted the views of the stakeholders and the Petitioner's response. Constitution of Board and appointment of Board Members is not in the purview of the Commission.

**2. Periodical testing of meters:**

**Stakeholders' submission**

Periodical test and calibration of the meter and CT of high value LT and HT consumers shall be enforced atleast once in a year for HT and two years for LT consumers and also verify for ToD metering, pilferage, etc.

**Petitioner's response:**

Discoms have stated that metering operations and testing of meters are carried out in accordance with the provisions of Bihar Electricity Supply Code 2007. Special task force teams have been constituted and to conduct the inspections to check the theft and meter tampering, etc.

**Commission's view:**

The Commission has noted the stakeholders' views and Petitioner's response. However, the Commission shall examine the proposal duly obtaining the relevant data and endeavors to give appropriate guidelines on the issue.

**3. Consumers' payment information**

**Stakeholders' submission**

Consumer bill information shall be made available on the website of the Discoms showing complete details of bill amount, amount deposited or recharged, date of deposit, etc. relating to the financial year.

**Petitioner's response:**

Discoms have institutionalized a robust and easy billing and payment mechanism for consumers. All the billing and payment details are available to the consumers digitally.

**Commission's view:**

The Commission has noted the stakeholders' views and Petitioner's response.

**4. Distribution Lines in Poor Condition****Stakeholders' submission**

Distribution lines at many places are in poor condition and they are to be rectified to avoid any electrical accidents.

**Petitioners' response**

The Commission in Tariff Order dated 26.03.2021 directed both the Discoms to survey all such points of poorly maintained overhead lines, DT and take corrective measures such as replacement with underground cable etc, on priority before any unwanted incident is faced. The Discoms in compliance to the directions of the Commission has already provided the compliance report to the Commission.

Further, the Petitioner has implemented the Reconductoring Scheme in view of strengthening of distribution network to provide quality any uninterrupted 24x7 power to all. The petitioner has already submitted the DPR of the said scheme, thereby requesting the Commission to grant approval on the said scheme and further requests the Commission to allow the previously disallowed capex relating to reconductoring.

**Commission's view:**

The Commission has noted the stakeholders' views and Petitioner's response. The Commission has clearly articulated the issue of disallowance of capex in the true up chapter in the Tariff order dated 26.03.2021.

**5. Compensation in case of Death due to Electric Accident****Stakeholders' submission**

Rupees 10 lakhs should be provided as compensation in case of death by any electrical accidents.

**Petitioners' response**

The Petitioner hereby submits that the compensation to be paid by the licensee for loss of human life as a result of an electrical accident is made as per the BERC

(Compensation to Victims of Electrical Accidents) Regulation, 2018.

**Commission's view:**

The Commission has noted the stakeholders' views and Petitioner's response.

## 4. Truing-up for FY 2021-22

### 4.1. Background

The Commission vide its Order dated 25<sup>th</sup> February, 2019 had approved Multi Year Aggregate Revenue Requirement (ARR) for the control period of FY 2019-20 to FY 2021-22 for Bihar Power Distribution Companies viz., North Bihar Power Distribution Company Limited (NBPDCCL) and South Bihar Power Distribution Company Limited (SBPDCL). Further, the Commission vide its Order dated 25<sup>th</sup> March, 2022 had also reviewed the Annual Performance of NBPDCCL and SBPDCL for FY 2021-22. The Petitioners, i.e., NBPDCCL and SBPDCL have filed the present Petitions dated 15<sup>th</sup> November, 2022 for True-up of FY 2021-22, Annual Performance Review for FY 2022-23 and Annual Revenue Requirement for FY 2023-24.

This Chapter deals with the Truing-up of FY 2021-22 for both the Discoms in accordance with the Regulation 14 of the BERC (Multi Year Distribution Tariff) Regulations, 2018 which stipulate;

*“14. True-up and Annual Performance Review*

*14.1 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 annual (regulatory) accounts duly approved by the Board of Directors of the applicant company shall be used for the provisional True-up process.*
- d) The Commission shall undertake review of estimates of expenses for the current year as a part of the tariff order on the basis of the actual expenses incurred during the period April – September of the current year and corresponding figures in the order for Annual Revenue Requirement (ARR) of the current year approved by the*

*Commission.*

- e) 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.*
- f) 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 may or may not be passed in the ARR of ensuing year.”*

Accordingly, the Commission has undertaken the "Truing-up" exercise for NBPDCCL and SBPDCL for FY 2021-22 on the basis of Audited Annual Accounts and relevant provisions of the BERC (Multi Year Distribution Tariff) Regulations, 2018. However, wherever deemed necessary, the Commission has considered expenses based on prudence check.

The Petitioners in the petition for truing-up for FY 2021-22 have furnished the actual energy sales, revenue and expenditure for FY 2021-22 based on the audited annual accounts for FY 2021-22 and accordingly, the revised ARR and consequent revenue gap/(surplus) for FY 2021-22 is claimed.

The Commission has analysed the components of the actual performance parameters, expenses, revenue and computed gains/ (losses) in the process of Truing-up for FY 2021-22. The Commission's analysis underlined during the approval for Truing-up of FY 2021-22 is set out in following sections.

#### 4.2. Number of Consumers, Connected Load and Energy Sales for FY 2021-22

##### NBPDCCL's submission

NBPDCCL submitted the actual category wise number of consumers, connected load and sales for FY 2021-22 as shown in the Table below:

**Table 4.1: Number of Consumers, Connected Load (KW) and Sales (MU) Claimed by NBPDCCL for FY 2021-22**

Category of Consumers	Number of Consumers	Connected Load (KW)	Sales (MUs)
<b>Domestic</b>	<b>10,415,432</b>	<b>8,224,511</b>	<b>8,191.09</b>
Kutir Jyoti	4,237,872	1,056,669	2,254.23
DS I Rural	4,841,296	4,904,360	4,054.63
DS II Demand Based	1,336,193	2,263,216	1,881.97
DS III	71	266	0.26
<b>Non-Domestic Service</b>	<b>715,048</b>	<b>1,456,119</b>	<b>1,508.88</b>
NDS I - Metered Now Demand Based	361,635	469,827	341.49
NDS II - Demand Based	353,413	986,292	1,167.39
<b>Street Light Services</b>	<b>1884</b>	<b>20249</b>	<b>99.90</b>
Street Light 1	420	3491	10.85
Street Light 2	1,464	16,758	89.05
<b>Irrigation &amp; Allied Services</b>	<b>132,548</b>	<b>324,193</b>	<b>467.48</b>
IAS I	126,217	270,302	363.75
IAS II	6,331	53,891	103.73
<b>Public Service Connections</b>	<b>51,049</b>	<b>135,340</b>	<b>240.27</b>
Public Water Works	1,799	25,114	59.50
Har Ghar Nal	49,250	110,226	180.77
<b>Low Tension Industrial Services</b>	<b>65,642</b>	<b>606,096</b>	<b>372.39</b>
LTIS I (0-19 kW)	64,577	546,047	338.58
LTIS II (>19 kW - 74 kW)	1,065	60,049	33.81
<b>High Tension</b>	<b>1,339</b>	<b>389,191</b>	<b>768.41</b>
HTS I - 11 kV	1,276	260,198	483.29
HTS II - 33 kV	57	77923	187.72
HTS III -132 kV	3	41670	54.52
HTS IV - 220 kV	0	0	0.00
HTSS	3	9400	42.88
<b>Railway Traction Services</b>	<b>5</b>	<b>37500</b>	<b>67.55</b>
<b>Nepal</b>	<b>1</b>	<b>0</b>	<b>630.85</b>
SLDC Deviation	0	0	184.74
Sugar Mills & Others	0	0	8.02
Sale to Solar Companies	0	0	0.59
Sale of Power to IEX through PTC	0	0	1,841.95
Sale of Power to IEX through BSPHCL	0	0	232.28
<b>Total</b>	<b>11,382,947</b>	<b>11,193,198</b>	<b>14614.40</b>

NBPDCCL has submitted that the increase in number of consumers has although not as planned by the Petitioner, however, there has still been a significant addition in number of consumers during the year and the actual number of consumers is in fact



higher by almost 5.45% over the previous year. Major Increase can be observed in certain categories like public service connections (40.5%), NDS-I (31.7%), IAS (22.5%), LTIS (21.8%) and DS-I (5.2%) over the previous year.

#### SBPDCL's submission

SBPDCL has submitted the actual category wise number of consumers, connected load and sales for FY 2021-22 as shown in the table below:

**Table 4.2: Number of Consumers, Connected Load (KW), Energy Sales (MU) Claimed by SBPDCL for FY 2021-22**

Category of Consumers	Number of Consumers	Connected Load	Sales (Mus)
<b>Domestic</b>	<b>5,633,681</b>	<b>7,098,210</b>	<b>8,480.31</b>
Kutir Jyoti	1,547,844	386,620	1,405.61
DS I Rural	2,638,966	2,727,721	4,367.64
DS II Demand Based	1,446,692	3,983,578	2,706.82
DS III	179	291	0.24
<b>Non-Domestic Service</b>	<b>528,126</b>	<b>1,504,310</b>	<b>1,509.38</b>
NDS I - Metered Now Demand Based	175,532	267,325	512.77
NDS II - Demand Based	352,594	1,236,985	996.61
<b>Street Light Services</b>	<b>2119</b>	<b>28081</b>	<b>133.68</b>
Street Light 1	947	9,833	49.25
Street Light 2	1,172	18,248	84.43
<b>Irrigation &amp; Allied Services</b>	<b>263,242</b>	<b>544,994</b>	<b>1,176.53</b>
IAS I	258,659	505,841	1,065.95
IAS II	4,583	39,153	110.58
<b>Public Service Connections</b>	<b>29,224</b>	<b>106,730</b>	<b>341.22</b>
Public Water Works	3,136	45,058	119.02
Har Ghar Nal	26,088	61,672	222.2
<b>Low Tension Industrial Services</b>	<b>77,756</b>	<b>862,016</b>	<b>403.32</b>
LTIS I (0-19 kW)	72,512	588,098	234.98
LTIS II (>19 kW - 74 kW)	5,244	273,918	168.34
<b>High Tension</b>	<b>2,305</b>	<b>813,825</b>	<b>1,987.09</b>
HTS I - 11 kV	2,141	422,132	648.72
HTS II - 33 kV	146	214,992	414.28
HTS III -132 kV	5	60,030	266.68
HTS IV - 220 kV	0	0	0.00
HTSS	13	116,671	657.41
<b>Railway Traction Services</b>	<b>3</b>	<b>25,650</b>	<b>60.56</b>
SLDC Deviation	0	0	218.18
IEX through PMC	0	0	274.33
Sale of Power through PTC	0	0	2175.39
<b>Total</b>	<b>6,536,456</b>	<b>10,983,813</b>	<b>16,759.98</b>

Regarding increase in number of consumers, SBPDCL submitted that there has been a significant addition in number of consumers during the year and the actual number of

consumers is in fact higher by almost 6.29% over the previous year. Increase can be observed in certain major categories like NDS-I (~25%), Har Ghar Nal (~63%), DS-I (7%) and LTIS-I (9%) over the previous year.

### **Commission's analysis**

#### **Number of Consumers**

For Turing-up of FY 2021-22, the Commission has reviewed the actual number of consumers submitted by the Petitioners in their petitions. The Commission observes that there is deviation in actual numbers of consumers as compared to ARR approved figures for FY 2021-22 as well as with figures considered in APR of FY 2021-22.

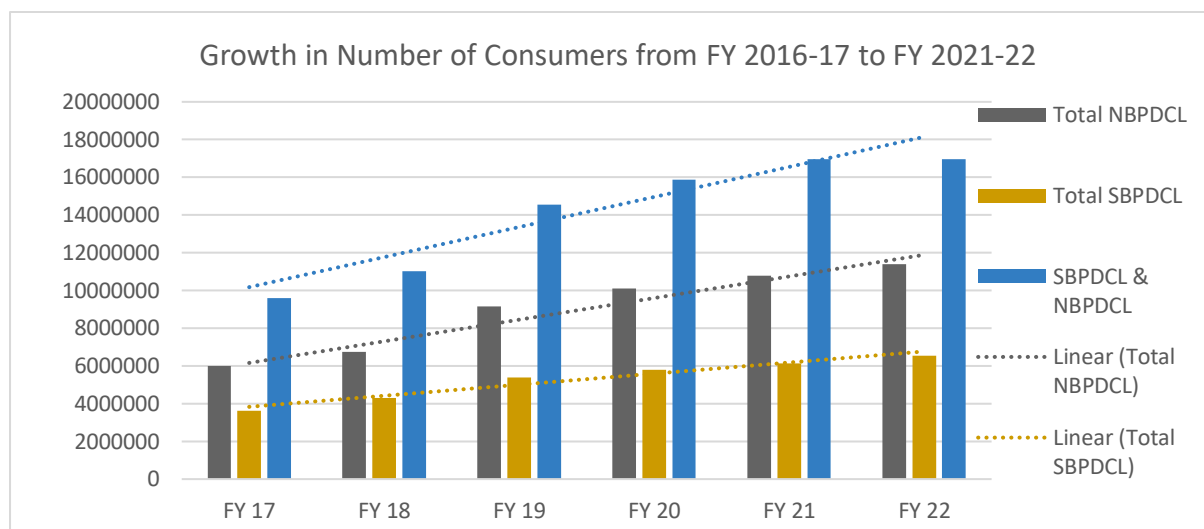
For NBPDCCL, the Commission in its Order dated 26<sup>th</sup> March, 2021 had approved the total number of consumers which subsequently revised during the previous Tariff Order dated 25<sup>th</sup> March 2022 in review of FY 2021-22 based on the Petitioner's submission. As against this the actual number of consumers reported by NBPDCCL for FY 2021-22 stands at 11382948 thus, showing a deviation as compared to approved figures (11146472 Nos.) in Tariff Order for FY 2021-22 and a deviation when compared to figures considered in review (11314156 Nos.) of FY 2021-22.

Similarly, for SBPDCL the Commission in its Order dated 26<sup>th</sup> March, 2021 had approved the total number of consumers which subsequently revised during the previous Tariff Order dated 25<sup>th</sup> March, 2022 in review of FY 2021-22 based on the Petitioner's submission. As against this the actual number of consumers reported by SBPDCL for FY 2021-22 stands at 6536456; thus, showing a deviation as compared to approved figures (6385591 Nos.) in Tariff Order for FY 2021-22 and a deviation when compared to figures considered in review (6477555 Nos.) of FY 2021-22.

The deviations in actual vis-à-vis approved numbers are mainly due to fact that in the Order dated 25<sup>th</sup> February, 2019 the number of consumers were approved based on the estimations and that of in the Review Order the same were based on the first six months actual and next six months provisional data. However, as against this, the actual numbers of consumers reported during the FY 2021-22 have been claimed by

the Discoms in Truing-up of FY 2021-22. In this regard, the Commission has analysed the historical trend for number of consumers as shown in the Figure given below:

**Figure 1: Growth in Number of Consumers since FY 2016-17 to FY 2021-22**



#### Historical Trend for Number of Consumers

Year	NBPDCCL	SBPDCL	Total
2016-17	6296039	3625376	9921415
2017-18	7074536	4284972	11359508
2018-19	9165384	5400462	14565846
2019-20	10087527	5789783	15877310
2020-21	10794893	6149737	16944630
2021-22	11382948	6536456	17919404

From the above, it can be seen that both the Discoms have witnessed positive trend with number of consumers showing a 3-year CAGR of around 7.49% for NBPDCCL and around 6.57% for SBPDCL.

Further, for FY 2021-22 the Commission has verified the actual number of consumers from the Audited Accounts of each Discom and found them to be in order. Accordingly, the Commission has considered the actual number of consumers in Truing-up FY 2021-22 as submitted by the Petitioners as shown in the Table below:

**Table 4.3: Number of Consumers approved for NBPDCCL & SBPDCL in True-up for FY 2021-22**

Category of Consumers	NBPDCCL	SBPDCL	Total
<b>Domestic</b>	<b>10,415,432</b>	<b>5,633,681</b>	<b>16,049,113</b>
Kutir Jyoti	4,237,872	1,547,844	5,785,716
DS I Rural	4,841,296	2,638,966	7,480,262
DS II Demand Based	1,336,193	1,446,692	2,782,885
DS III	71	179	250

Category of Consumers	NBPDCCL	SBPDCL	Total
<b>Non-Domestic Service</b>	<b>715,048</b>	<b>528,126</b>	<b>1,243,174</b>
NDS I - Metered Now Demand Based	361,635	175,532	537,167
NDS II - Demand Based	353,413	352,594	706,007
<b>Street Light Services</b>	<b>1884</b>	<b>2119</b>	<b>4,003</b>
Street Light 1	420	947	1,367
Street Light 2	1,464	1,172	2,636
<b>Irrigation &amp; Allied Services</b>	<b>132,548</b>	<b>263,242</b>	<b>395,790</b>
IAS I	126,217	258,659	384,876
IAS II	6,331	4,583	10,914
<b>Public Service Connections</b>	<b>51,049</b>	<b>29,224</b>	<b>80,273</b>
Public Water Works	1,799	3,136	4,935
Har Ghar Nal	49,250	26,088	75,338
<b>Low Tension Industrial Services</b>	<b>65,642</b>	<b>77,756</b>	<b>143,398</b>
LTIS I (0-19 kW)	64,577	72,512	137,089
LTIS II (>19 kW - 74 kW)	1,065	5,244	6,309
<b>High Tension</b>	<b>1,339</b>	<b>2,305</b>	<b>3,644</b>
HTS I - 11 kV	1,276	2,141	3,417
HTS II - 33 kV	57	146	203
HTS III -132 kV	3	5	8
HTS IV - 220 kV	0	0	0
HTSS	3	13	16
<b>Railway Traction Services</b>	<b>5</b>	<b>3</b>	<b>8</b>
<b>Nepal</b>	<b>1</b>	<b>0</b>	<b>1</b>
<b>Total</b>	<b>11,382,948</b>	<b>65,36,456</b>	<b>17,919,404</b>

The Commission has approved the category wise number of consumers as 11382948 and 6536456 for NBPDCCL and SBPDCL respectively in True-up for FY 2021-22 as shown in the Table above.

### Connected Load

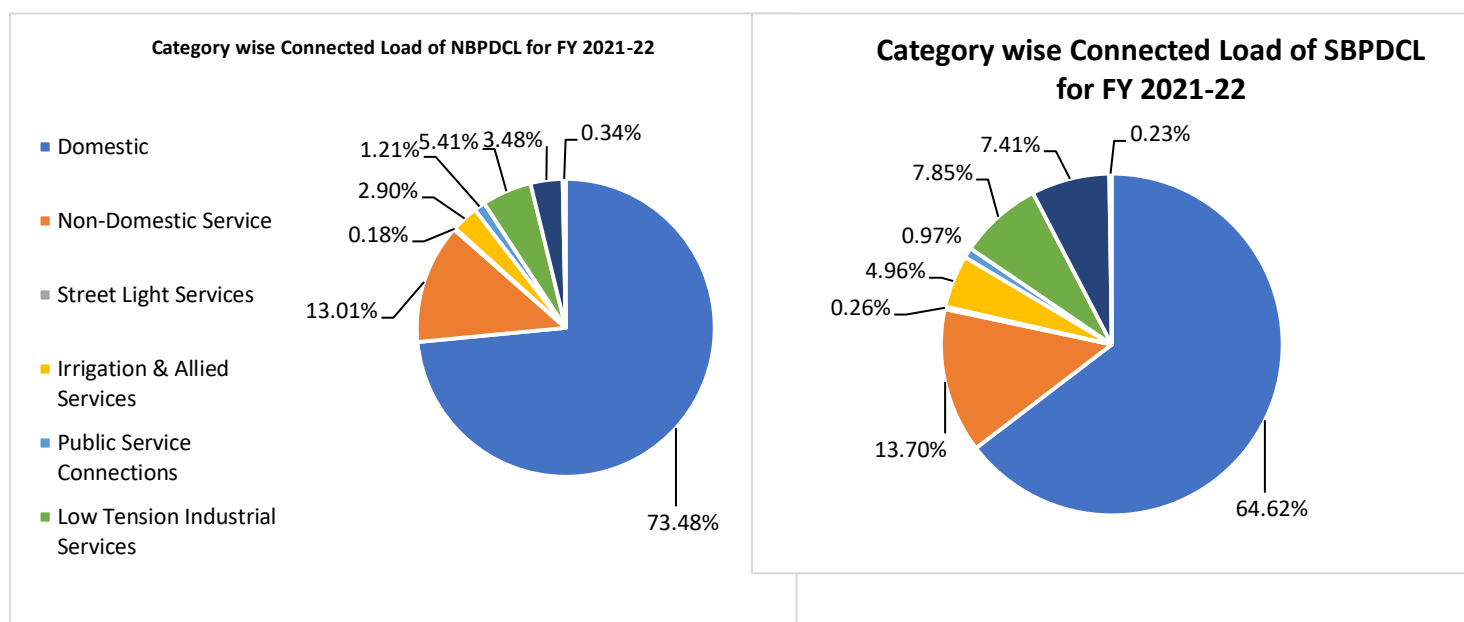
The Commission in the Tariff Order dated 20<sup>th</sup> March, 2020, had directed the Discoms to get the category- wise connected load audited by 3<sup>rd</sup> Party and exhibit the same in the Audited Annual Accounts in future.

Accordingly, NBPDCCL has provided the category-wise connected load in the audited annual accounts of FY 2021-22. SBPDCL even though specifically directed in the Tariff Order dated 25<sup>th</sup> March, 2022 has not provided the category wise connected load in the audited annual accounts for FY 2021-22. The Commission, expresses its dissatisfaction over the non-compliance of aforesaid directive for FY 2021-22 by SBPDCL. The Commission hereby reiterates its direction that the Discoms shall get the category-wise connected load also audited by 3<sup>rd</sup> Party and exhibit the same in the

Audited Annual Accounts from FY 2022-23 onwards without fail.

The Commission notes that NBPDC & SBPDCL have claimed total connected load of 1119319 kW and 10983816 kW, respectively, for FY 2021-22. The Commission has analysed the category wise connected load for each of the Discoms as represented in the Figure given below:

**Figure 2: Category wise Connected Load of NBPDC & SBPDCL for FY 2021-22**



From the above figures, it is noted that out of the total connected load, the domestic category consumers contribute majority of share which is around 73.48% and 66.62% of total connected load for NBPDC & SBPDCL, respectively. The share of HT category consumers stands at around 3.48% for NBPDC whereas for SBPDCL the share of HT category consumers is around 7.48%.

For the purpose of True-up for FY 2021-22, the Commission has considered the connected load as submitted by the Petitioners as detailed in the Table Below:

**Table 4.4: Connected Load (KW) approved in True-up for FY 2021-22**

Category of Consumers	NBPDC	SBPDCL	Total
<b>Domestic</b>	<b>8,224,511</b>	<b>7,098,210</b>	<b>15,322,721</b>
Kutir Jyoti	1,056,669	386,620	1,443,289
DS I Rural	4,904,360	2,727,721	7,632,081
DS II Demand Based	2,263,216	3,983,578	6,246,794

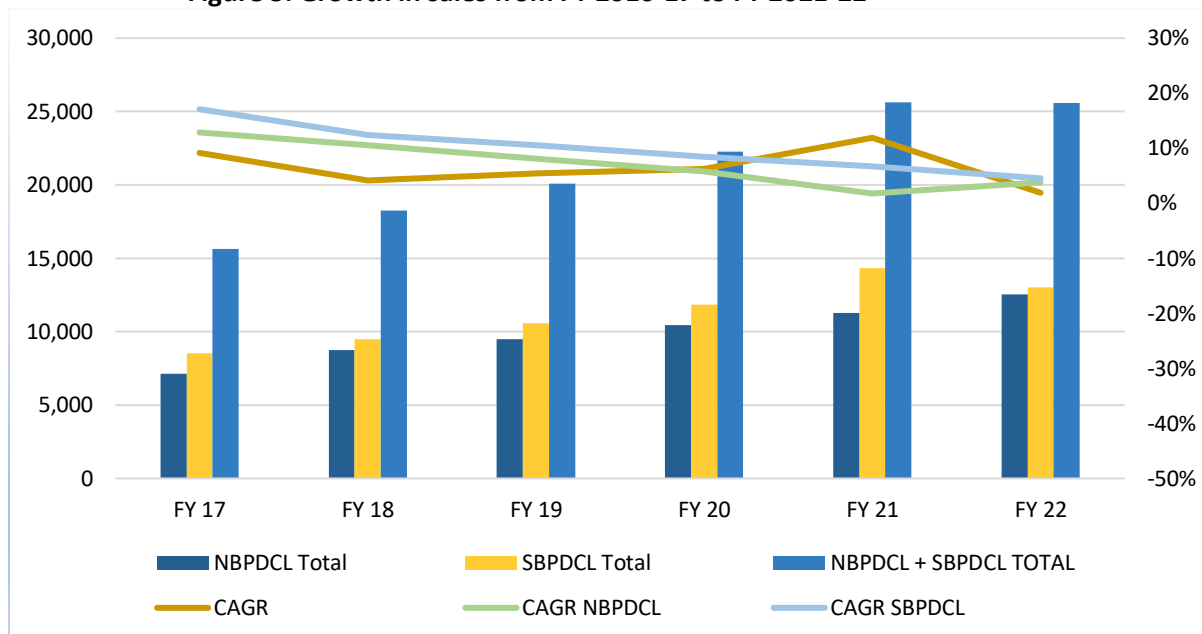
Category of Consumers	NBPDCCL	SBPDCL	Total
DS III	266	291	557
<b>Non-Domestic Service</b>	<b>1,456,119</b>	<b>1,504,310</b>	<b>2,960,429</b>
NDS I - Metered Now Demand Based	469,827	267,325	737,152
NDS II - Demand Based	986,292	1,236,985	2,223,277
<b>Street Light Services</b>	<b>20249</b>	<b>28081</b>	<b>48,330</b>
Street Light 1	3491	9,833	13,324
Street Light 2	16,758	18,248	35,006
<b>Irrigation &amp; Allied Services</b>	<b>324,193</b>	<b>544,994</b>	<b>869,187</b>
IAS I	270,302	505,841	776,143
IAS II	53,891	39,153	93,044
<b>Public Service Connections</b>	<b>135,340</b>	<b>106,730</b>	<b>242,070</b>
Public Water Works	25,114	45,058	70,172
Har Ghar Nal	110,226	61,672	171,898
<b>Low Tension Industrial Services</b>	<b>606,096</b>	<b>862,016</b>	<b>1,468,112</b>
LTIS I (0-19 kW)	546,047	588,098	1,134,145
LTIS II (>19 kW - 74 kW)	60,049	273,918	333,967
<b>High Tension</b>	<b>389,191</b>	<b>813,825</b>	<b>1,203,016</b>
HTS I - 11 kV	260,198	422,132	682,330
HTS II - 33 kV	77923	214,992	292,915
HTS III -132 kV	41670	60,030	101,700
HTS IV - 220 kV	0	0	0
HTSS	9400	116,671	126,071
<b>Railway Traction Services</b>	<b>37500</b>	<b>25,650</b>	<b>63,150</b>
<b>Total</b>	<b>11,193,199</b>	<b>10,983,816</b>	<b>22,177,015</b>

The Commission has approved the category wise connected load for NBPDCCL and SBPDCL in True- up of FY 2021-22 as shown in the Table above.

### Energy Sales

The Commission has analysed the submission made by the Petitioners and observed a significant deviation in actual sales as compared to sales approved in Tariff Order. The sales approved in the Order dated 26<sup>th</sup> March, 2021 for FY 2021-22 were based on the projection of the Petitioners which in turn were based on the then existing trends and on-ground conditions expected to drive the demand of the consumers. However, the sales submitted for approval in present petitions for FY 2021-22 are based on the actual consumption of the consumers of the Petitioners in FY 2021-22.

The Commission has analysed trend of the energy sales for NBPDCCL and SBPDCL since FY 2016-17 till FY 2021-22 as shown the figure below:

**Figure 3: Growth in sales from FY 2016-17 to FY 2021-22**

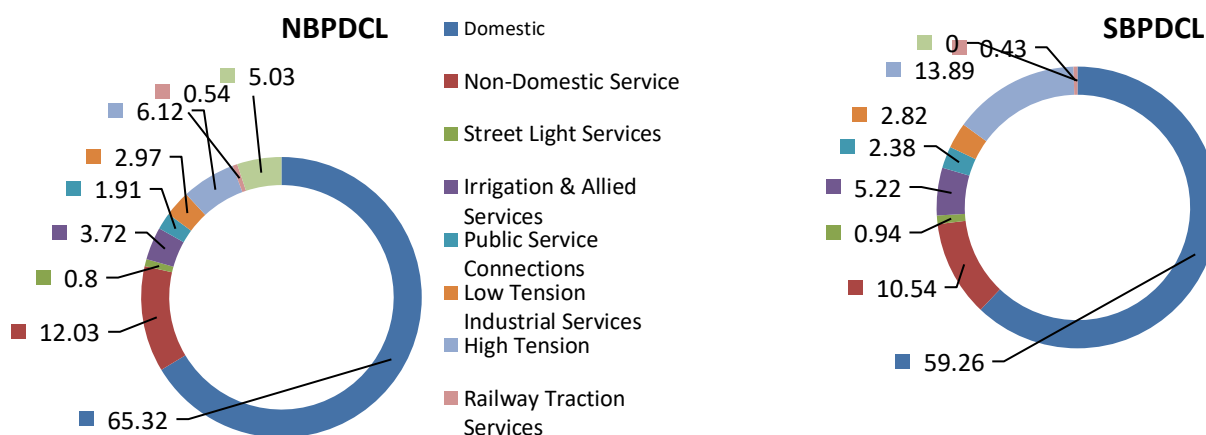
The sales for NBPDCCL have increased from 7113 MU in FY 2016-17 to 12540 MU in FY 2021-22, resulting in 5year CAGR of 11.99%. Similarly, the sales for SBPDCL have increased from 7230 MU in FY 2016-17 to 14310 MU in FY 2021-22, with a 5year CAGR of 14.63%. Further, the Commission observed that the total energy sales for FY 2021-22 has increased by 11.60% and 10.05% only for NBPDCCL and SBPDCL respectively over previous year energy sales.

#### Historical Trend for Energy Sales (MU)

Year	NBPDCCL	SBPDCL	Total
2016-17	7113	7230	14343
2017-18	8745	8332	17077
2018-19	9493	10586	20079
2019-20	10443	11827	22270
2020-21	11288	13054	24342
2021-22	12486	14038	26524

The category-wise sales mix for NBPDC and SBPDCL is as shown in the figure below:

**Figure 4: Category wise sales mix (%) of NBPDC and SBPDCL for FY 2021-22**



As seen from the figure above, the maximum energy consumption for both Petitioners pertains to domestic consumers which is around 65.32% for NBPDC and 59.26% for SBPDCL. HT categories consumption being a major cross-subsiding consumer category, contributes around 6.12% in the energy consumption of NBPDC and SBPDCL contributing about 13.89% in the energy consumption.

The energy sales in LT categories have grown with YoY increase of 9.21% and 10.37% in FY 2021-22 for NBPDC & SBPDCL respectively. For High Tension categories, sales are increased with YoY growth of 14.86% for NBPDC and 14.97% for SBPDCL.

The Commission has verified the consumer category wise energy sales submitted by the DISCOMs and found the same are in accordance with the Audited Annual accounts for FY 2021-22. However, it is noted that for some categories such as IAS-II, PWW, LTIS for which tariff is in Rs/kVAh, billing is done at kVAh but units are not converted into kWh. On a query from the Commission, the petitioners have submitted revised energy sales for such categories as below:

NBPDC has submitted the revised sales in Million kWh as follows:

Sl. No	Category	Sales (Million kVAh)	Power Factor	Sales (Million kWh)
1	IAS-II	103.73	0.9	93.36
2	Public Water Works	59.50	0.9	53.55



Sl. No	Category	Sales (Million kVAh)	Power Factor	Sales (Million kWh)
3	LTIS-I	338.58	0.9	304.72
4	LTIS-II	33.81	0.9	30.43

SBPDCL has submitted the revised sales in Million kWh as follows:

Sl. No	Category	Sales (Million kVAh)	Power Factor	Sales (Million kWh)
1	IAS-II	110.58	0.9	99.52
2	LTIS-I	234.98	0.9	211.48
3	LTIS-II	168.34	0.9	151.51
4	HTSS	657.41	0.9	591.67
5	HTS-II	414.28	0.9	372.85

The revised energy sales for the above categories are considered accordingly in Truing up for FY 2021-22.

For HTS-III category, SBPDCL has shown energy charges of Rs. 109.15 Crore for sale of 266.68 MU which work out to realization of Rs. 4.09/kVAh as against the tariff rate of Rs. 6.40/kVAh. On query from the Commission, SBPDCL has submitted revised energy sales and energy charges are as given below:

Particulars	As reported in the Petition	Revised Claim
Energy sales (MU)	266.68	153.24
Energy Charges (Rs. Cr)	109.15	101.18
Fixed Charges (Rs. Cr)	19.45	18.08

Sales and revenue are considered for HTS-III in truing up for FY 2021-22 accordingly. The Commission has noted that now only two unmetered sub categories i.e. street light (SS-I) and IAS-I are still remaining. It is also noted that for Kutir Jyoti, the consumption per consumer per month is exceeding stipulated norm for SBPDCL. The Petitioner has submitted that the consumption over and above 50 units / month / consumer has been billed under DS-I or DS-II tariff rate as the case may be.

The applicability of KJ category is specifically defined by Rural Development Department of Bihar. Wherever, the deviation is noticed category of KJ may be converted into appropriate category i.e. DS-I or DS-II.

The Commission has observed that Petitioners have included sales of 184.74 MUs and 218.18 MUs for NBPDCCL and SBPDCL respectively under head of SLDC deviation. Regarding nature of SLDC deviation, petitioners have clarified that SLDC deviation is the adjustment done by BSPTCL with the DISCOMs on account of UI deviation for the Railway Traction Services. It is imperative to note that the UI deviation as submitted in the Petitions at the State Periphery and separate entity wise deviation is not computed by SLDC because the intra state DSM is not applicable in Bihar state now. The energy shown under SLDC deviation is actually excess drawal of Railways from its schedule quantity from energy drawal to the Discoms. BSPTCL calculates and raises bills to Railways for their respective deviation in schedule and withdrawals. The amount recovered from Railways then refunded to the Discoms and is booked under the revenue head under SLDC deviation charges.

Both NBPDCCL and SBPDCL have shown the surplus energy sold through IEX through PTC, PMC and BSPHCL under energy sales. These are excluded from the energy sales and considered under power purchase cost since T&D losses are not applicable on these energy sales.

The Commission, accordingly, approves the energy sales for the Petitioners in True-up for FY 2021-22 as per actual as detailed in the Table Below:

**Table 4.5: Energy Sales approved in True-up for FY 2021-22, by the Commission**

Category of Consumers	NBPDCCL	SBPDCL	Total
<b>Domestic</b>	<b>8,191.09</b>	<b>8,480.31</b>	<b>16,671.40</b>
Kutir Jyoti	2,254.23	928.71	3,659.84
DS I Rural	4,054.63	4844.54	8,422.27
DS II Demand Based	1,881.97	2,706.82	4,588.79
DS III	0.26	0.24	0.50
<b>Non-Domestic Service</b>	<b>1,508.88</b>	<b>1,509.38</b>	<b>3,018.26</b>
NDS I - Metered Now Demand Based	341.49	512.77	854.26
NDS II - Demand Based	1,167.39	996.61	2,164.00
<b>Street Light Services</b>	<b>99.90</b>	<b>133.68</b>	<b>233.58</b>
Street Light 1	10.85	49.25	60.10
Street Light 2	89.05	84.43	173.48
<b>Irrigation &amp; Allied Services</b>	<b>457.11</b>	<b>1165.47</b>	<b>1,622.58</b>
IAS I	363.75	1,065.95	1,429.70
IAS II	93.36	99.52	192.88
<b>Public Service Connections</b>	<b>234.32</b>	<b>341.22</b>	<b>575.54</b>
Public Water Works	53.55	119.02	172.57
Har Ghar Nal	180.77	222.2	402.97
<b>Low Tension Industrial Services</b>	<b>335.15</b>	<b>362.99</b>	<b>698.14</b>

Category of Consumers	NBPDC	SBPDCL	Total
LTIS I (0-19 kW)	304.72	211.48	516.20
LTIS II (>19 kW - 74 kW)	30.43	151.51	181.94
<b>High Tension</b>	<b>768.41</b>	<b>1766.48</b>	<b>2,534.89</b>
HTS I - 11 kV	483.29	648.72	1,132.01
HTS II - 33 kV	187.72	372.85	560.57
HTS III -132 kV	54.52	153.24	207.76
HTS IV - 220 kV	0	0	0.00
HTSS	42.88	591.67	634.55
<b>Railway Traction Services</b>	<b>67.55</b>	<b>60.56</b>	<b>128.11</b>
Nepal	630.85		630.85
SLDC Deviation	184.74	218.18	402.92
Sugar Mills & Others	8.02		8.02
Sale to Solar Companies	0.59		0.59
<b>Total</b>	<b>12,486.61</b>	<b>14,038.27</b>	<b>26,524.88</b>

The Commission has approved Energy Sale of 12486.61 MU and 14038.27 MU for NBPDC and SBPDCL respectively in True-up of FY 2021-22 as shown in Table above.

#### 4.3. Distribution losses

##### Petitioners' submission

##### AT&C Loss

The Monitoring Committee for RDSS constituted under Chairmanship of Secretary (Power), Govt of India, in its 9<sup>th</sup> meeting held on 28.04.2022, has approved the Action Plan and Loss Reduction DPR of North Bihar Power Distribution Company Limited and South Bihar Power Distribution Company Limited under Revamped Distribution Sector Scheme. Accordingly, the Monitoring Committee approved the following trajectory for AT&C loss for the Petitioner.

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
AT&C Loss	25%	22%	19%	16%

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
AT&C Loss	35%	31%	25%	20%

The Petitioner mentions that it had been able to bring down the AT&C losses from FY 2018-19 to FY 2021-22. This has been made possible through a multitude of initiatives on improving the network performance as well as on the services side to enhance billing and collection efficiency.

Further, since, most of the consumers connected to the network of the Petitioner are

LT consumers, therefore, the LT network length is significantly higher for the Petitioner as compared to the HT network length. The impact of the extended LT networks, especially in rural areas, directly leads to increase in losses on the low voltage network. Despite continuous multiple efforts, with the addition of such large number of consumers over the past few years, has led to a decreasing HT:LT network ratio, However, despite these raging challenges, Discoms are geared up to bring down the AT&C losses in line with the target approved by the Monitoring Committee.

#### **Distribution Loss:**

The Petitioners submitted that the Commission has approved the distribution loss of 15% in its MYT Order dated 25<sup>th</sup> February 2019 for FY 2019-20 to FY 2021-22 and same trajectory has been approved for APR in the Tariff Order dated 20<sup>th</sup> March, 2020 for FY 2020-21. However, the actual distribution losses for the Petitioners are higher than the approved loss trajectory as shown in Table below:

**Table 4.6: Distribution Loss for FY 2021-22, as claimed by NBPDCCL & SBPDCL**

<b>Distribution Company</b>	<b>Approved in MYT Order for FY 2021-22</b>	<b>Approved in APR Order for FY 2021-22</b>	<b>Actual Claimed for FY 2021-22</b>
NBPDCCL	15%	15%	20.12%
SBPDCL	15%	15%	22.06%

The Petitioners further submitted that difference in the approved 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.

Petitioners requested the Commission to 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 2021-22

#### **Collection Efficiency:**

It is submitted that based on the circle wise collection efficiency, the Petitioners have computed the collection efficiency for FY 2021-22 as shown in Table Below:

**Table 4.7: Collection Efficiency for FY 2021-22, as claimed by NBPDCCL & SBPDCL**

Distribution Company	Approved in MYT Order for FY 2021-22	Actual Claimed for FY 2021-22
NBPDCCL	100%	94.01%
SBPDCL	100%	85.21%

The Commission had approved the collection efficiency of 100% in the ARR for FY 2021-22 as per the UDAY scheme. However, the per capita income of Bihar, especially for the domestic consumer is very low which restricts their paying capacity, and this has proven to be a challenge to recover the billed amount despite taking various measures for timely billing and easy payment of the bill

**AT&C Loss:**

Based on the above figures, the Petitioners have submitted the AT&C loss for the year FY 2021-22 as shown in the Table below:

**Table 4.8: AT&C losses for FY 2021-22 (excluding Nepal), as claimed by NBPDCCL & SBPDCL**

Distribution Company	Approved in ARR for FY 2021-22	Actual for FY 2021-22
NBPDCCL	15%	24.27%
SBPDCL	15%	33.58%

**Table 4.9: AT&C loss for FY 2021-22 submitted by NBPDCCL & SBPDCL**

Particulars	Unit	Legend	NBPDCCL	SBPDCL
Gross Energy Purchased at State Periphery	MU	A	16,128	19,049
Transmission Losses	MU	B	635	750
Energy at Distribution Periphery	MU	C=A-B	15,493	18,299
SLDC deviation	MU	D	185	218
Net Energy at Distribution Periphery	MU	E=C-D	15,309	18,081
Distribution losses	MU	F=E-G	2,953	3,989
Distribution losses (inc Nepal Sales)	%	F/E*100	19.29%	22.06%
Energy Sold	MU	G	12,355	14,092
Revenue actually realized from sale of power without subsidy	Rs Cr	H		-
Tariff Subsidy actually received	Rs Cr	I		-
Net Revenue from sale of energy on subsidy received basis	Rs Cr	J=H+I	9,192	10,646
Tariff Subsidy booked	Rs Cr	K		-
Revenue from sale of energy on subsidy booked basis	Rs Cr	L=H+K	9,192	10,646
Opening Debtors for Sale of Energy	Rs Cr	M	2,107	7,233
Closing Debtors for Sale of Energy	Rs Cr	N	2,658	8,807
Any amount written off during the year directly from "L" above	Rs Cr	O		-

Particulars	Unit	Legend	NBPDCCL	SBPDCL
Adjusted closing Debtors for Sale of Energy	Rs Cr	$P=N+O$	2,658	8,807
Collection efficiency	%	$Q=(J+M-P)/L*100$	94.01%	85.21%
Unit realized	MU	$R=G*Q$	11,615	12,008
Unit Un-realized	MU	$S=E-R$	3,694	6,073
<b>AT&amp;C loss</b>	%	<b><math>T=S*100/E</math></b>	<b>24.13%*</b>	<b>33.58%</b>

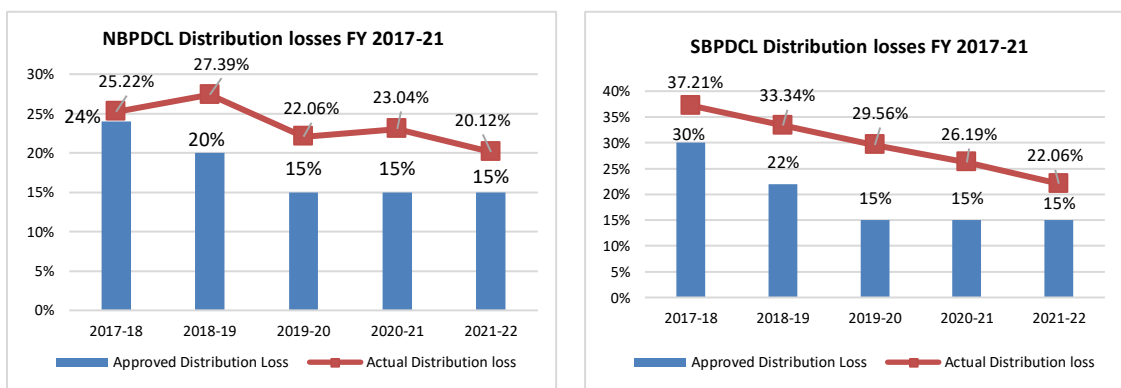
\*During validation on 08/02/2023, NBPDCCL has clarified to consider AT&C loss at 24.27% as shown in Table 4.8

### Commission's analysis:

The Commission in its Tariff Order dated 25<sup>th</sup> February 2019 has approved distribution loss trajectory for the Control period (i.e., from FY 2019-20 to FY 2021-22). As requested by the DISCOMs and adjudged by the Hon'ble APTEL in its judgement dated 25<sup>th</sup> November 2016, the Commission has revised Distribution loss target at 15% for NBPDCCL and SBPDCL for FY 2018-19, in line with trajectory approved in UDAY MoU.

The following graphs shows the trend of actual distribution losses achieved by the Petitioners as compared to the distribution loss targets stipulated by the Commission in last 5 financial years i.e. from FY 2017-18 to FY 2021-22:

**Figure 5: NBPDCCL & SBPDCL Distribution Losses for FY 2017-18 to FY 2021-22**



From the above graphs, the Commission observes that although the actual distribution losses of NBPDCCL and SBPDCL have reduced from 25.22% and 37.21% in FY 2017-18, to 20.12% and 22.06% respectively in FY 2021-22, the Discoms have failed to achieve the distribution loss targets stipulated by the Commission for all the years. Further, as requested by the Petitioners, the Commission had approved an upward revision of

distribution loss target in FY 2017-18, in line with the Distribution Loss trajectory agreed by the Petitioners in UDAY MoU.

The Commission is of the view that the responsibility of achieving agreed distribution loss target lies with the Petitioners. Distribution losses are considered as controllable factor subject to sharing of gains/losses as per BERC (Multi Year Distribution Tariff) Regulations, 2018. Therefore, Commission is of the opinion that revising distribution loss targets to actuals for FY 2021-22 would be akin to passing on the entire burden of inefficiency on account of distribution losses on to the consumers.

Further, the Commission in its Tariff Order dated 26<sup>th</sup> March, 2021 had retained the distribution loss target at 15% for NBPDCCL and SBPDCL for FY 2021-22. Therefore, Commission is not inclined to revise the Distribution loss trajectory again. **Accordingly, the Commission has considered the distribution loss at 15% for NBPDCCL and SBPDCL in truing up for FY 2021-22.**

In Order dated 20<sup>th</sup> March, 2020, the Commission had directed NBPDCCL and SBPDCL to compute AT&C losses as per Formula and Methodology specified by Regulation 18.5 of BERC (Multi Year Distribution Tariff) Regulations, 2018. However, the Commission observed that petitioners have not computed AT&C losses as per the formula and methodology specified therein. The Discoms have considered the revenue billed which includes other charges also instead of considering only revenue billed from energy sales. NBPDCCL has considered distribution loss at 19.29% instead of at 20.12%. Further consequent to revision of energy sales for some consumer categories by both Discoms the distribution losses, AT&C losses may get revised.

The Commission following the approach for computation of Distribution losses, Collection efficiency and AT&C losses with methodology specified in BERC (Multi Year Distribution Tariff) Regulations, 2018 has computed Distribution losses, Collection efficiency and AT&C losses as per the format specified in the Regulation:

**Table 4.10: AT&C losses for FY 2021-22 for NBPDCCL & SBPDCL, as computed by the Commission**

Sl. No	Particular	Legend	Units	NBPDCCL	SBPDCL
1	Total Power Purchase (excluding sales of surplus)	A	MUs	16,632.10	19,642.70
2	Central Transmission losses (as claimed)	B	MUs	503.71	594.87

Sl. No	Particular	Legend	Units	NBPDCCL	SBPDCL
3	Gross Energy Purchased at State Periphery	$C = (A-B)$	MUs	16,128.39	19,047.83
4	Energy Traded (Inter State Sales & SLDC Deviation)	D	MUs	815.59	218.18
5	State Transmission Loss (as claimed)	E	MUs	635.05	750.11
6	State Transmission Loss (%)		%	3.94	3.94
7	Net Energy at Distribution Periphery	$F=C-D-E$	MUs	14,677.75	18,079.54
8	Distribution Loss	G	MUs	3,006.73	4,259.45
9	<b>Distribution loss%</b>	$G*100/F$	%	20.48	23.56
10	Energy Sold (Excluding Nepal & SLDC Deviation units)	H	MUs	11,671.02	13,820.09
11	Revenue from sale of power without subsidy		(Rs. Cr)		
12	Tariff Subsidy actually received		(Rs. Cr)		
13	Net Revenue from sale of energy on subsidy received basis	I	(Rs. Cr)	8,670.51	10,129.63
14	Tariff Subsidy booked		(Rs. Cr)		
15	Revenue from sale of energy on subsidy booked basis		(Rs. Cr)	8,670.51	10,129.63
16	Opening Debtors for Sale of Energy	K	(Rs. Cr)	2107	7233
17	Closing Debtors for Sale of Energy	L	(Rs. Cr)	2658	8807
18	Any amount written off during the year directly from "L" above	M	(Rs. Cr)		
19	Adjusted closing debtor for sales of energy	$N = (L+M)$	(Rs. Cr)	2,658.00	8,807.00
23	<b>Collection Efficiency</b>	$O = (J+K-N)*100 / J$	%	<b>93.65%</b>	<b>84.46%</b>
24	Units Realised	$P = H*O$	MUs	10929.34	11672.65
25	Units Un-Realised	$Q = F-P$	MUs	3748.41	6406.89
26	<b>AT&amp;C loss</b>	$R = Q/F$	%	<b>25.54%</b>	<b>35.44%</b>

Accordingly, the Commission has noted that the actual Distribution losses, Collection efficiency and AT&C losses for the Petitioners in True-up of FY 2021-22 are as shown in Table Below:

**Table 4.11: Summary of AT&C losses for NBPDCCL & SBPDCL, computed by the Commission for FY 2021-22**

Particular	NBPDCCL			SBPDCL		
	Approved Target	Claimed for FY 2020-21	Computed by Commission	Approved Target	Claimed for FY 2020-21	Computed by Commission
Distribution loss	15%	20.12%	20.48	15%	22.06%	23.56
Collection Efficiency	100%	94.01%	93.65%	100%	85.21%	84.46%
AT&C loss	15%	24.13%	25.54%	15%	33.58%	35.44%

From the above Table, Commission has observed that the AT&C loss of both the petitioners is significantly higher compared to approved AT&C losses. The Commission directs the Petitioners to improve their efforts in reducing Distribution loss and to



improve collection efficiency. Petitioners shall also submit the quarterly status report for the initiative taken by the petitioners to reduce AT&C loss during the Year FY 2023-24.

#### 4.3.1 Transmission Losses

##### **NBPDCCL's submission:**

Petitioner submitted that the Intra-State transmission loss is taken as per actuals i.e. 635.05 MUs from the audited accounts for FY 2021-22. Petitioner has also submitted that it has taken the Central Transmission loss as per actuals i.e. 503.71 MUs from the audited accounts for FY 2021-22.

##### **SBPDCL's submission:**

Petitioner submitted that the Intra-State transmission loss is taken as per actuals, i.e. 750.11 MUs from the audited accounts for FY 2021-22. Petitioner has also submitted that it has taken the Central Transmission loss as per actuals, i.e., 594.87 MUs from the audited accounts for FY 2021-22.

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

In response to the clarification sought by the Commission, Petitioners submitted the month-wise computation of billed energy to Discoms in Central Sector and Scheduled energy of Discoms and others and computation of inter-state and intra-state Transmission losses for FY 2021-22 as shown below.

Sl. No	Particulars	Unit	Value
1	Power from central sector	MU	33520.24
2	Scheduled energy	MU	32266.62
3	UI	MU	155.05
4	Renewable from Central Sector	MU	2439.47
5	CTU loss	MU	1098.57
6	Percentage of CTU loss	%	3.53%
7	Loss to NBPDCCL	MU	503.69
8	Loss to SBPDCL	MU	594.87

The Commission carried out the prudence check of Petitioners' submission and found it to be in line with Regional Energy Accounting (REA) and UI deviation accounts for the period FY 2021-22 for Bihar from the ERPC website. Discoms have included UI drawal of 155.05 MU in Central Sector energy purchase which is now excluded for computation of CTU loss. The computation of inter-state Transmission loss is as shown

in Table below:

**Table 4.12: Inter-state Transmission losses computed by Commission for FY 2021-22**

Sl. No	Particulars		Unit	Value
A	Billed Energy for Discoms in Central Sector Purchase		MUs	33365.19
B	Scheduled Energy for Discoms		MUs	32266.62
C	Difference against Billed Energy and Schedule Drawal of DISCOM	C= A-B	MUs	1098.57
D	Inter-State Transmission losses	C/A*100	%	3.29%
E	Losses allocated to NBPDC (45.85%)		%	503.70
F	Losses allocated to SBPDCL (54.15%)		%	594.87

Accordingly, the Commission considers Interstate- transmission loss at 1098.57 MU (3.29%) in Truing up for FY 2021-22 allocated among NBPDC & SBPDCL in the power sharing ratio i.e. 503.70 MU for NBPDC and 594.87 MU for SBPDCL.

The Petitioners have arrived the state transmission loss at 3.94% for FY 2021-22 based on the total energy available and energy drawn by Discoms as shown below.

Sl. No	Particulars	MUs
1	Scheduled Energy (Net energy from Central Sector Sources)	32266.62
2	UI drawal	155.05
3	Energy from State and Others (excluding embedded purchase 47.71 MU)	2706.65
4	Total energy available (1 + 2 + 3)	35128.32
5	Energy consumed in NBPDC	* 15472.79
6	Energy consumed in SBPDCL	* 18271.87
7	Total energy utilized by Discoms ( 5 + 6)	33744.66
8	Losses in STU (4-7)	1383.66
9	Losses in STU-NBPDC	633.54
10	Losses in STU-SBPDCL	750.11
11	Percentage STU Losses ((8 ÷ 4) X 100)	3.94%

\* Excluding embedded energy purchase

The Commission noted that transmission loss for DISCOMs is 1383.66 MU i.e., 633.54 MU for NBPDC and 750.11 MU for SBPDCL which works out to 3.94% as per Annual Audited accounts. Therefore, the Commission, has considered the Intra state Transmission loss at 3.94% for computation of energy requirement for FY 2021-22.

#### 4.4. Power Purchase for FY 2021-22

##### Petitioners' submission

Petitioners submitted that the Bihar being an underdeveloped power generation state. As a result, the State power distribution companies rely heavily on central generating stations and other inter-state power purchase to meet consumers demand

within the State. This dependence consequently creates uncertainty in terms of reliability and also significantly pushes up the power purchase costs. Power procurement for both the petitioners is executed by the power management cell of BSP(H)CL, and this is allocated between the two DISCOMs, NBPDCCL 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** from existing source has primarily been NTPC, NHPC and the same has been considered based on the actual quantum with adjustments to capture overall power purchase cost in a reasonable manner. Other sources of power include power procured from State Generating companies (RE and Non-RE Sources) and IPPs.

**Medium / Short Term** power purchase from sources namely IEX, DEEP Portal etc and these have been adequately considered as per the actual power purchase data provided.

The details of actual power purchased from various sources in FY 2021-22 as submitted by NBPDCCL and SBPDCL are as shown in Table below:

**Table 4.13: Actual Power Purchase for FY 2021-22, as claimed by NBPDCCL & SBPDCL**

Name of The Source	NBPDCCL		SBPDCL		Consolidated	
	Share allocated (MW)	Units purchased (MU)	Share allocated (MW)	Units purchased (MU)	Share allocated (MW)	Units purchased (MU)
<b>Central Generating Stations</b>	<b>2316.84</b>	<b>13,293.32</b>	<b>2719.77</b>	<b>15,699.75</b>	<b>5036.61</b>	<b>28,993.07</b>
<i>FSTPP I &amp; II</i>	231.1	1,260.17	271.3	1488.29	502.4	2,748.46
<i>FSTPP III</i>	49.5	300.76	58.1	355.2	107.6	655.96
<i>KHSTPP I</i>	161.75	1,023.75	189.88	1209.08	351.63	2232.83
<i>KHSTPP II</i>	34.36	222.33	40.34	262.58	74.7	484.91
<i>Barh Stage II</i>	550.97	3,393.80	646.79	4008.16	1197.76	7401.96
<i>Nabinagar (BRBCL)</i>	46	238.39	54	281.55	100	519.94
<i>Talcher Stage I</i>	189.75	1,284.35	222.75	1516.85	412.5	2801.2
<i>KBUNL Stage II</i>	134.5	820.8	157.89	969.39	292.39	1790.19
<i>NPGCL</i>	772.09	2,952.63	906.36	3487.14	1678.45	6439.77
<i>Darlipali STPS Unit I</i>	87.29	446.22	102.47	526.99	189.76	973.21
<i>Chuka</i>	0	247.1	0	291.84	0	538.94
<i>Rangit</i>	9.66	52.68	11.34	62.21	21	114.89
<i>Tala</i>	0	323.69	0	382.28	0	705.97
<i>Teesta</i>	49.88	253.57	58.55	299.48	108.43	553.05
<i>Mangdechhu</i>	0	473.07	0	558.71	0	1031.78
<b>State Generating Stations</b>	<b>296.24</b>	<b>1,091.13</b>	<b>482.76</b>	<b>1288.65</b>	<b>779</b>	<b>2379.78</b>
<i>BSPHC</i>	29.44	6.97	34.56	8.23	64	15.2

Name of The Source	NBPDCCL		SBPDCL		Consolidated	
	Share allocated (MW)	Units purchased (MU)	Share allocated (MW)	Units purchased (MU)	Share allocated (MW)	Units purchased (MU)
<i>KBUNL Stage I</i>	101.2	105.09	118.8	124.11	220	229.2
<i>BTPS Stage I Unit I</i>	50.6	31.81	59.4	37.56	110	69.37
<i>BTPS Stage II Unit I</i>	115	947.26	270	1118.74	385	2066
<b>IPPs</b>	<b>224.48</b>	<b>1,601.99</b>	<b>263.52</b>	<b>1891.99</b>	<b>488</b>	<b>3493.98</b>
<i>GMR</i>	119.6	871.98	140.4	1029.83	260	1901.81
<i>JITPL</i>	104.88	730.01	123.12	862.16	228	1592.17
<b>Renewables</b>	<b>874.64</b>	<b>1,266.26</b>	<b>1,026.76</b>	<b>1,495.48</b>	<b>1901.4</b>	<b>2761.74</b>
<i>M/s Sunmark Energy Projects Limited (Formerly MBCEL)</i>	4.6	6.5	5.4	7.68	10	14.18
<i>M/s Response renewable Energy Ltd, Kolkata.</i>	4.6	8.04	5.4	9.49	10	17.53
<i>M/s Avantika Contractors Ltd., Hyderabad</i>	2.3	2.95	2.7	3.48	5	6.43
<i>M/s Glatt Solutions Pvt. Ltd, Kolkata.</i>	1.38	2.28	1.62	2.7	3	4.98
<i>Alfa Infraprop Pvt. Ltd.</i>	9.2	13.86	10.8	16.37	20	30.23
<i>Udipta Energy &amp; Equipment Pvt. Ltd.</i>	2.3	3.1	2.7	3.67	5	6.77
<i>Azure Power India Pvt. Ltd.</i>	4.6	5.71	5.4	6.74	10	12.45
<i>Welspun Renewables Project – I</i>	4.6	6.94	5.4	8.19	10	15.13
<i>Welspun Renewables Project – II</i>	6.9	10.12	8.1	11.95	15	22.07
<i>Welspun Renewables Project – III</i>	6.9	10.46	8.1	12.35	15	22.81
<i>Acme Cleantech Project (Nalanda)</i>	6.9	10.16	8.1	12	15	22.16
<i>Acme Cleantech Project (Magadh)</i>	4.6	7.11	5.4	8.4	10	15.51
<i>Solar Energy Corporation of India Ltd., Government of India</i>	4.6	8.27	5.4	9.77	10	18.04
<i>SECI Phase-III (Renew Sunwaves)</i>	138	181.94	162	214.88	300	396.82
<i>NTPC ISTS Solar</i>	138	261.2	162	308.48	300	569.68
<i>GRT Jewellers (SECI-V)</i>	69	0.07	81	0.08	150	0.15
<i>Wind ISTS Scheme Tranche I (PTC) (Green Infra, Inox, Mytrah &amp; Ostro)</i>	92	245.53	108	289.98	200	535.51
<i>Wind ISTS Scheme Tranche II (SECI) (Orange)</i>	46	125.06	54	147.69	100	272.75
<i>SECI Phase-III Wind</i>	0	0	0	0	0	0
<i>SECI Green Infra</i>	46	114.82	54	135.61	100	250.43
<i>Torrent Power</i>	22.91	0	26.89	0	49.8	0
<i>Adani Green</i>	23	0	27	0	50	0
<i>Alfanar</i>	23	60.89	27	71.92	50	132.81
<i>Betam</i>	23.09	64.68	27.11	76.39	50.2	141.07
<i>Ostro Kannad</i>	138	56.03	162	66.17	300	122.2
<i>New Swadeshi Sugar Mill, Narkataganj</i>	4.6	5	5.4	5.9	10	10.9

Name of The Source	NBPDCCL		SBPDCL		Consolidated	
	Share allocated (MW)	Units purchased (MU)	Share allocated (MW)	Units purchased (MU)	Share allocated (MW)	Units purchased (MU)
Hasanpur Sugar Mill, Dalsinghsarai	6.67	8.06	7.83	9.52	14.5	17.58
Bharat Sugar Mills, Sidhwalia, Gopalganj	6.9	7.82	8.1	9.23	15	17.05
Hari Nagar Sugar Mills, Hari Nagar, West Champaran	6.67	16.05	7.83	18.96	14.5	35.01
HPCL Biofuels Ltd., Sugauli, East Champaran	9.2	4.02	10.8	4.75	20	8.77
HPCL Biofuels Ltd., Lauria, West Champaran	9.2	5.5	10.8	6.5	20	12
Riga Sugar Company Ltd.	1.38	0	1.62	0	3	0
Siddhashram Rice Mill Cluster Pvt Ltd	0.46	0.4	0.54	0.47	1	0.87
Bihar Distillers & Bottlers Pvt Ltd	4.32	7.82	5.08	9.23	9.4	17.05
Tirupati Sugar	2.76	5.88	3.24	6.94	6	12.82
<b>Others</b>	<b>92</b>	<b>1,453.43</b>	<b>108</b>	<b>1716.54</b>	<b>200</b>	<b>3169.97</b>
PTC(IEX)	0	953.21	0	1125.77	0	2078.98
GTAM IEX	0	0.52	0	0.62	0	1.14
Prior Period Expenses	0		0	0	0	0
UPPCL	0	1.18	0	1.39	0	2.57
NEA	0	22.8	0	26.93	0	49.73
UI	0	71.09	0	83.96	0	155.05
PTC JITPL	57.5	283.68	67.5	335.03	125	618.71
PTC SKS Power	34.5	120.95	40.5	142.84	75	263.79
<b>Total</b>	<b>3804.21</b>	<b>18,706.13</b>	<b>4600.81</b>	<b>22,092.41</b>	<b>8405.02</b>	<b>40798.54</b>

### Commission's analysis

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

The Commission recognises the sources of power purchase outlined by the Petitioners which is based on audited annual accounts for FY 2021-22.

The approved power purchase quantum from various sources for FY 2021-22 is given in the Table below:

**Table 4.14: Source-wise Power Purchase (MUs) approved for NBPDCCL & SBPDCL for FY 2021-22**

Sl. No	Name of the Source	NBPDCCL		SBPDCL		Consolidated	
		Share Allocated (MW)	Units Purchased (MU)	Share Allocated (MW)	Units Purchased (MU)	Share Allocated (MW)	Units Purchased (MU)
A	Stations with injection at CTU	2585.92	13293.31	3035.64	15699.75	5621.56	28993.06

Sl. No	Name of the Source	NBPDCCL		SBPDCL		Consolidated	
		Share Allocated (MW)	Units Purchased (MU)	Share Allocated (MW)	Units Purchased (MU)	Share Allocated (MW)	Units Purchased (MU)
1	FSTPP I & II	231.10	1260.17	271.30	1488.29	502.40	2748.46
2	FSTPP III	49.50	300.76	58.10	355.20	107.60	655.96
3	KHSTPP I	161.75	1023.75	189.88	1209.08	351.63	2232.83
4	KHSTPP II	34.36	222.33	40.34	262.58	74.70	484.91
5	Barh Stage II	550.97	3393.80	646.79	4008.16	1197.76	7401.96
6	Nabinagar (BRBCL)	46.00	238.39	54.00	281.55	100.00	519.94
7	Talcher Stage I	189.75	1284.35	222.75	1516.85	412.50	2801.20
8	KBUNL Stage II	134.50	820.80	157.89	969.39	292.39	1790.19
9	NPGCL	772.09	2952.63	906.36	3487.14	1678.45	6439.77
10	Darlipali STPS Unit I	87.29	446.22	102.47	526.99	189.76	973.21
11	Chuka	45.47	247.10	53.38	291.84	98.85	538.94
12	Rangit	9.66	52.68	11.34	62.21	21.00	114.89
13	Tala	119.64	323.69	140.45	382.28	260.09	705.97
14	Teesta	49.88	253.57	58.55	299.48	108.43	553.05
15	Mangdechhu	103.96	473.07	122.04	558.71	226.00	1031.78
<b>B</b>	<b>Stations with injection at STU</b>	<b>296.24</b>	<b>1091.13</b>	<b>347.76</b>	<b>1288.64</b>	<b>644.00</b>	<b>2379.77</b>
1	BSPHC	29.44	6.97	34.56	8.23	64.00	15.20
2	KBUNL Stage I	101.20	105.09	118.80	124.11	220.00	229.20
3	BTPS Stage I Unit I	50.60	31.81	59.40	37.56	110.00	69.37
4	BTPS Stage II Unit I	115.00	947.26	135.00	1118.74	250.00	2066.00
<b>C</b>	<b>IPPs</b>	<b>224.48</b>	<b>1601.99</b>	<b>263.52</b>	<b>1891.99</b>	<b>488.00</b>	<b>3493.98</b>
1	GMR	119.60	871.98	140.40	1029.83	260.00	1901.81
2	JITPL	104.88	730.01	123.12	862.16	228.00	1592.17
<b>D</b>	<b>Renewables</b>	<b>827.35</b>	<b>1266.27</b>	<b>971.25</b>	<b>1495.49</b>	<b>1798.60</b>	<b>2761.76</b>
1	M/s Sunmark Energy Projects Limited (Formerly MBCEL)	4.60	6.50	5.40	7.68	10.00	14.18
2	M/s Response renewable Energy Ltd, Kolkata.	4.60	8.04	5.40	9.49	10.00	17.53
3	M/s Avantika Contractors Ltd., Hyderabad	2.30	2.95	2.70	3.48	5.00	6.43
4	M/s Glatt Solutions Pvt. Ltd, Kolkata.	1.38	2.28	1.62	2.70	3.00	4.98
5	Alfa Infraprop Pvt. Ltd.	9.20	13.86	10.80	16.37	20.00	30.23
6	Udipta Energy & Equipment Pvt. Ltd.	2.30	3.10	2.70	3.67	5.00	6.77
7	Azure Power India Pvt. Ltd.	4.60	5.71	5.40	6.74	10.00	12.45
8	Welspun Renewables Project - I	4.60	6.94	5.40	8.19	10.00	15.13

Sl. No	Name of the Source	NBPDC		SBPDCL		Consolidated	
		Share Allocated (MW)	Units Purchased (MU)	Share Allocated (MW)	Units Purchased (MU)	Share Allocated (MW)	Units Purchased (MU)
9	Welspun Renewables Project – II	6.90	10.12	8.10	11.95	15.00	22.07
10	Welspun Renewables Project – III	6.90	10.46	8.10	12.35	15.00	22.81
11	Acme Cleantech Project (Nalanda)	6.90	10.16	8.10	12.00	15.00	22.16
12	Acme Cleantech Project (Magadh)	4.60	7.11	5.40	8.40	10.00	15.51
13	Solar Energy Corporation of India Ltd., Government of India	4.60	8.27	5.40	9.77	10.00	18.04
14	SECI Phase-III(Renew Sunwaves)	138.00	181.94	162.00	214.88	300.00	396.82
15	NTPC ISTS Solar	138.00	261.20	162.00	308.48	300.00	569.68
16	GRT Jewellers(SECI-V)	69.00	0.07	81.00	0.08	150.00	0.15
17	Wind ISTS Scheme Tranche I (PTC) (Green Infra, Inox, Mytrah & Ostro)	92.00	245.53	108.00	289.98	200.00	535.51
18	Wind ISTS Scheme Tranche II (SECI) (Orange)	46.00	125.06	54.00	147.69	100.00	272.75
19	SECI Green Infra	46.00	114.82	54.00	135.61	100.00	250.43
20	Alfanar	23.00	60.89	27.00	71.92	50.00	132.81
21	Betam	23.09	64.68	27.11	76.39	50.20	141.07
22	Ostro Kannad	138.00	56.03	162.00	66.17	300.00	122.20
23	New Swadeshi Sugar Mill, Narkataganj	4.60	5.00	5.40	5.90	10.00	10.90
24	Hasanpur Sugar Mill, Dalsinghsarai	6.67	8.06	7.83	9.52	14.50	17.58
25	Bharat Sugar Mills, Sidhwalia, Gopalganj	6.90	7.82	8.10	9.23	15.00	17.05
26	Hari Nagar Sugar Mills, Hari Nagar, West Champaran	6.67	16.05	7.83	18.96	14.50	35.01
27	HPCL Biofuels Ltd., Sugauli, East Champaran	9.20	4.02	10.80	4.75	20.00	8.77
28	HPCL Biofuels Ltd., Lauria, West Champaran	9.20	5.50	10.80	6.50	20.00	12.00
29	Siddhashram Rice Mill Cluster Pvt Ltd	0.46	0.40	0.54	0.47	1.00	0.87

Sl. No	Name of the Source	NBPDC		SBPDCL		Consolidated	
		Share Allocated (MW)	Units Purchased (MU)	Share Allocated (MW)	Units Purchased (MU)	Share Allocated (MW)	Units Purchased (MU)
30	Bihar Distillers & Bottlers Pvt Ltd	4.32	7.82	5.08	9.23	9.40	17.05
31	Tirupati Sugar	2.76	5.88	3.24	6.94	6.00	12.82
<b>E</b>	<b>Others</b>	<b>92.00</b>	<b>1453.43</b>	<b>108.00</b>	<b>1716.54</b>	<b>200.00</b>	<b>3169.97</b>
1	PTC(IEX)		895.37		1057.46	0.00	1952.83
2	GTAM IEX		58.36		68.93	0.00	127.29
3	UPPCL		1.18		1.39	0.00	2.57
4	NEA		22.80		26.93	0.00	49.73
5	UI		71.09		83.96	0.00	155.05
6	PTC JITPL	57.50	283.68	67.50	335.03	125.00	618.71
7	PTC SKS Power	34.50	120.95	40.50	142.84	75.00	263.79
	<b>Grand Total</b>	<b>4025.99</b>	<b>18706.13</b>	<b>4726.17</b>	<b>22092.41</b>	<b>8752.16</b>	<b>40798.54</b>

The Commission considers the total quantum of power purchase of 18706.13 MU for NBPDC & 22092.41 MU for SBPDCL for the purpose of working out the energy balance and for further computation of the power purchase cost as part of the truing-up exercise for FY 2021-22.

#### 4.5. Energy Balance

##### Petitioners' submission

Petitioners have submitted that energy balance is calculated based on the actual sales, distribution losses and power availability during FY 2021-22. Detailed computation as submitted by the petitioner is shown in Table below:

**Table 4.15: Energy Balance for Truing-up of FY 2021-22, as submitted by NBPDC & SBPDCL**

Particulars	Unit	NBPDC FY 2021-22	SBPDCL FY 2021-22
<b>Energy Requirement</b>			
Energy sales	MU	12,540.17	14,310.26
Less: SLDC deviation	MU	184.74	218.18
Less: Inter-State Sales	MU	630.85	0
Energy sales (exc SLDC deviation and interstate Sales)		11,724.59	14,092.08
Distribution Loss	%	20.12%	22.06%
Add: Distribution Loss	MU	2,953.16	3,987.44
<b>Energy required at Distribution periphery</b>	<b>MU</b>	<b>14,677.75</b>	<b>18,079.52</b>
Add: sales corresponding to SLDC deviation	MU	184.74	218.18
Add: interstate sales	MU	630.85	0
<b>Total energy required at Distribution periphery</b>	<b>MU</b>	<b>15,493.34</b>	<b>18,297.70</b>
State Transmission Loss	%	3.94%	3.94%
Add: State Transmission Loss	MU	635.05	750.11
<b>Total energy required at State Transmission Periphery</b>	<b>MU</b>	<b>16,128.39</b>	<b>19,047.83</b>



Particulars	Unit	NBPDCCL FY 2021-22	SBPDCL FY 2021-22
Losses in Regional Transmission system	%	3.03%	3.03%
Losses in Regional Transmission system	MU	503.71	594.88
Losses in Regional Transmission system (except Renewables)	%	3.53%	3.53%
<b>Total Energy Requirement at ex-bus</b>	<b>MU</b>	<b>16,632.10</b>	<b>19,642.70</b>
<b>Total energy Purchased</b>	<b>MU</b>	<b>18,706.13</b>	<b>22,092.41</b>
<b>Energy Surplus/(Deficit) at State Periphery</b>	<b>MU</b>	<b>2,074.03</b>	<b>2,449.72</b>

#### Commission analysis:

The Energy Balance for FY 2021-22 has been computed based on the approved energy sales in Table 4.5 in the True-up of the year at 12486.61 MU for NBPDCCL and at 14038.27 MU for SBPDCL.

Sales at distribution network are determined by deducting inter-state sales (i.e., Sales to Nepal & SLDC Deviation). Distribution loss at 15% as approved for FY 2021-22, is added in distribution network sales to arrive at the energy requirement at distribution network periphery.

Further, Energy required in state transmission periphery is computed based on the inter- state Transmission loss at 3.29% as approved in para 4.3.1.

The Commission has arrived at the CTU losses at 1098.57 MU on power purchased from Central Stations, IPP etc., from outside the State. For estimating the additional power purchase due to excess distribution loss, the total power purchase from various sources has been worked out considering the impact of average regional transmission loss  $[2.69\% = (1098.57/40798.54) * 100]$  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., State Generating stations, Renewable Energy sources, Nepal etc., The details of energy requirement and energy availability during FY 2021-22 is Computed in below:

**Table 4.16: Energy Balance for Truing-up for FY 2021-22, as computed by the Commission**

Sl. No	Particulars	Unit	NBPDCCL Actual FY 2021-22	SBPDCL Actual FY 2021-22
<b>A</b>	<b>Energy Requirement</b>			
1	Energy sales	MU	12,486.61	14,038.27
2	Less: Inter-state sales	MU	630.85	0.00

Sl. No	Particulars	Unit	NBPDCCL Actual FY 2021-22	SBPDCL Actual FY 2021-22
3	Less: SLDC Deviation	MU	184.74	218.18
4	Energy sales excluding Inter-state sales & SLDC Deviation	MU	11,671.02	13,820.09
5	Distribution Loss	%	15%	15%
6	Add: Distribution Loss	MU	2,059.59	2,438.84
7	<b>Total energy required at Distribution periphery (excluding inter-state sales)</b>	<b>MU</b>	<b>13,730.61</b>	<b>16,258.93</b>
8	Add: Inter-state sales	MU	630.85	0.00
9	Add: SLDC Deviation	MU	184.74	218.18
10	Energy required at Transmission periphery	MU	14,546.20	16,477.11
11	State Transmission Loss	%	3.94%	3.94%
12	Add: State Transmission Loss	MU	596.63	675.83
13	<b>Total energy required at State Transmission Periphery</b>	<b>MU</b>	<b>15,142.83</b>	<b>17,152.94</b>
14	Losses in Regional Transmission System	%	2.69%	2.69%
15	Add: Losses in Regional Transmission System	MU	418.60	474.17
16	<b>Total Energy Requirement at Ex-Bus</b>	<b>MU</b>	<b>15,561.43</b>	<b>17,627.10</b>
17	Total Energy Purchased	MU	18706.13	22092.41
18	Surplus Energy Purchased	MU	3,144.70	4,465.31

As shown in the above Table, the Commission has arrived at surplus energy purchase by NBPDCCL at 3144.70 MU and SBPDCL at 4465.31 MU based on the energy sales and approved Distribution losses.

#### 4.6. Power Purchase Cost

##### Petitioners' submission

Petitioners have submitted that power purchase cost mainly comprises of fixed charges and energy charges for two-part Tariff essentially with NTPC, NHPC, GMR Kamalanga, Sugar mills, biomass, bagasse and only energy charges in case of single part Tariff based PPAs, which are typically for BSHPC, Solar and short term power purchase, etc. The Petitioner has presented the actual expenditure incurred on power purchase based on bills raised by the various power sellers. The actual amount has been considered as per the audited accounts.

NBPDCCL has submitted that, it has suffered an DSM of 71.09 MU which has resulted into a DSM charge of Rs. 95.42 Crore. NBPDCCL has claimed power purchase cost to an amount of Rs 9796.12 Crore for FY 2021- 22. The summary of power purchase detail submitted by the NBPDCCL for FY 2021-22 is shown in Table below:

**Table 4.17: Power Purchase Cost for FY 2021-22, as claimed by NBPDC**

Name of The Source	Share allocated (MW)	Units purchased (MU)	Fixed charge (Rs Crs)	Energy cost (Rs Crs)	Misc. cost (Rs Crs)	Total Cost (Rs Crs)	Average Cost (Rs./ kWh)
<b>Stations injecting at CTU</b>	<b>2316.84</b>	<b>13293.32</b>	<b>2397.17</b>	<b>3288.92</b>	<b>52.72</b>	<b>5738.81</b>	<b>4.32</b>
FSTPP I & II	231.10	1260.17	127.86	360.91	2.16	490.93	3.90
FSTPP III	49.50	300.76	51.23	84.61	-0.04	135.80	4.52
KHSTPP I	161.75	1023.75	111.69	266.83	0.16	378.69	3.70
KHSTPP II	34.36	222.33	24.33	54.84	-0.27	78.91	3.55
Barh Stage II	550.97	3393.80	810.12	978.31	37.55	1825.97	5.38
Nabinagar (BRBCL)	46.00	238.39	54.43	58.87	0.10	113.40	4.76
Korba			-	-	0.87	0.00	
Talcher Stage I	189.75	1284.35	125.37	230.22	7.05	362.65	2.82
KBUNL Stage II	134.50	820.80	249.26	218.55	0.09	467.90	5.70
NPGCL	772.09	2952.63	723.64	621.31	2.89	1347.84	4.56
Darlipali STPS	87.29	446.22	84.01	47.45	1.53	132.99	2.98
Chuka		247.10	0.00	59.34	0.00	59.34	2.40
Rangit	9.66	52.68	10.89	10.03	0.62	21.54	4.09
Tala		323.69	0.00	69.93	0.00	69.93	2.16
Teesta	49.88	253.57	32.47	29.49	0.00	61.96	2.44
Mangdechhu		473.07	0.00	198.22	0.00	198.22	4.19
Capacity Refund Charges by NTPC		0.00	-8.13		0.00	0.00	
<b>Stations injecting at STU</b>	<b>296.24</b>	<b>1091.13</b>	<b>287.13</b>	<b>272.08</b>	<b>28.83</b>	<b>588.04</b>	<b>5.39</b>
BSPHC	29.44	6.97	0.00	1.74	0.00	1.74	2.49
KBUNL Stage I	101.20	105.09	23.95	33.28	28.77	86.00	8.18
BTPS Stage I Unit I	50.60	31.81	12.85	35.96	0.23	49.04	15.42
BTPS Stage II Unit I	115.00	947.26	250.33	201.10	-0.17	451.26	4.76
<b>IPPs</b>	<b>224.48</b>	<b>1601.99</b>	<b>373.17</b>	<b>186.58</b>	<b>-20.17</b>	<b>539.57</b>	<b>3.37</b>
GMR	119.60	871.98	160.01	104.87	31.06	295.94	3.39
JITPL	104.88	730.01	213.15	81.70	-51.23	243.62	3.34
<b>Renewables</b>	<b>874.64</b>	<b>1266.26</b>	<b>0.00</b>	<b>409.62</b>	<b>0.00</b>	<b>409.62</b>	<b>3.23</b>
M/s Sunmark Energy Projects Limited (Formerly MBCEL)	4.60	6.50	0.00	4.56	0.00	4.56	7.02
M/s Response renewable Energy Ltd, Kolkata.	4.60	8.04	0.00	5.64	0.00	5.64	7.02
M/s Avantika Contractors Ltd., Hyderabad	2.30	2.95	0.00	2.27	0.00	2.27	7.69
M/s Glatt Solutions Pvt. Ltd, Kolkata.	1.38	2.28	0.00	1.60	0.00	1.60	7.01
Alfa Infraprop Pvt. Ltd.	9.20	13.86	0.00	10.91	0.00	10.91	7.87
Udipta Energy & Equipment Pvt. Ltd.	2.30	3.10	0.00	2.47	0.00	2.47	7.97
Azure Power India Pvt. Ltd.	4.60	5.71	0.00	4.79	0.00	4.79	8.40
Welspun Renewables Project – I	4.60	6.94	0.00	6.04	0.00	6.04	8.70

Name of The Source	Share allocated (MW)	Units purchased (MU)	Fixed charge (Rs Crs)	Energy cost (Rs Crs)	Misc. cost (Rs Crs)	Total Cost (Rs Crs)	Average Cost (Rs./ kWh)
Welspun Renewables Project – II	6.90	10.12	0.00	8.74	0.00	8.74	8.64
Welspun Renewables Project – III	6.90	10.46	0.00	8.95	0.00	8.95	8.56
Acme Cleantech Project (Nalanda)	6.90	10.16	0.00	8.87	0.00	8.87	8.73
Acme Cleantech Project (Magadh)	4.60	7.11	0.00	6.21	0.00	6.21	8.73
Solar Energy Corporation of India Ltd., Government of India	4.60	8.27	0.00	4.90	0.00	4.90	5.93
SECI Phase-III (Renew Sunwaves)	138.00	181.94		45.74	0.00	0.00	0.00
NTPC ISTS Solar	138.00	261.20		69.74	0.00	0.00	0.00
GRT Jewellers (SECI-V)	69.00	0.07		0.02	0.00	0.00	0.00
Wind ISTS Scheme Tranche I (PTC) (Green Infra, Inox, Mytrah & Ostro)	92.00	245.53	0.00	78.13	0.00	78.13	3.18
Wind ISTS Scheme Tranche II (SECI) (Orange)	46.00	125.06		33.89	0.00	0.00	0.00
SECI Green Infra	46.00	114.82		28.82	0.00	0.00	0.00
Torrent Power	22.91			0.00	0.00	0.00	
Adani Green	23.00		0.00	0.00	0.00	0.00	
Alfanar	23.00	60.89	0.00	15.35	0.00	15.35	2.52
Betam	23.09	64.68		16.30	0.00	0.00	0.00
Ostro Kannad	138.00	56.03		12.24	0.00	0.00	0.00
New Swadeshi Sugar Mill, Narkataganj	4.60	5.00	0.00	2.53	0.00	2.53	5.07
Hasanpur Sugar Mill, Dalsinghsarai	6.67	8.06	0.00	5.01	0.00	5.01	6.22
Bharat Sugar Mills, Sidhwalia, Gopalganj	6.90	7.82	0.00	3.92	0.00	3.92	5.02
Hari Nagar Sugar Mills, Hari Nagar, West Champaran	6.67	16.05	0.00	8.15	0.00	8.15	5.08
HPCL Biofuels Ltd., Sugauli, East Champaran	9.20	4.02	0.00	2.04	0.00	2.04	5.07
HPCL Biofuels Ltd., Lauria, West Champaran	9.20	5.50	0.00	2.79	0.00	2.79	5.08
Riga Sugar Company Ltd.	1.38	0.00	0.00	0.00	0.00	0.00	
Siddhashram Rice Mill Cluster Pvt Ltd	0.46	0.40	0.00	0.29	0.00	0.29	7.23
Bihar Distillers & Bottlers Pvt Ltd	4.32	7.82	0.00	4.97	0.00	4.97	6.36

Name of The Source	Share allocated (MW)	Units purchased (MU)	Fixed charge (Rs Crs)	Energy cost (Rs Crs)	Misc. cost (Rs Crs)	Total Cost (Rs Crs)	Average Cost (Rs./ kWh)
<i>Tirupati Sugar</i>	2.76	5.88	0.00	3.73	0.00	3.73	6.35
<b>Others</b>	<b>92.00</b>	<b>1453.43</b>	<b>0.00</b>	<b>632.09</b>	<b>286.10</b>	<b>918.19</b>	<b>6.32</b>
<i>PTC(IEX)</i>	-	953.21	0.00	495.75	0.00	495.75	5.20
<i>GTAM IEX</i>	-	0.52	0.00	0.19	0.00	0.20	3.74
<i>Prior Period Expenses</i>	-				173.49	0.00	
<i>UPPCL</i>	-	1.18			1.18	0.00	0.00
<i>NEA</i>	-	22.80			15.69	0.00	0.00
<i>UI</i>	-	71.09	0.00	0.00	95.42	95.42	13.42
<i>PTC JITPL</i>	57.50	283.68	0.00	107.30	0.28	107.58	3.79
<i>PTC SKS Power</i>	34.50	120.95	0.00	28.84	0.05	28.89	2.39
<b>Transmission and Other Charges</b>		<b>0.00</b>	<b>1601.89</b>	<b>0.00</b>	<b>0.00</b>	<b>1601.89</b>	
<i>SLDC</i>		0.00	4.11	0.00	0.00	4.11	
<i>BGCL</i>		0.00	211.19	0.00	0.00	211.19	
<i>BSPTCL</i>		0.00	504.20	0.00	0.00	504.20	
<i>POSOCO</i>		0.00	9.92	0.00	0.00	9.92	
<i>Pr Pd PGCIL</i>		0.00	11.06	0.00	0.00	11.06	
<i>PGCIL</i>		0.00	861.42	0.00		0.00	
<b>Total</b>	<b>3804.21</b>	<b>18706.13</b>	<b>4659.36</b>	<b>4789.29</b>	<b>347.47</b>	<b>9796.12</b>	<b>5.24</b>

Similarly, SBPDCL has submitted that it has suffered DSM of 83.96 MU which has resulted into a DSM charge of Rs. 112.69 Crore and power purchase cost for FY 2021-22 is based on audited annual accounts. Accordingly, SBPDCL has claimed power purchase cost to an amount of Rs 11591.56 Crore for FY 2021-22. The Summary of power purchase submitted by the SBPDCL for FY 2021-22 is shown in Table below:

**Table 4.18: Power Purchase Cost for FY 2021-22, as claimed by SBPDCL**

Name of The Source	Share allocated (MW)	Units purchased (MU)	Fixed charge (Rs Crs)	Energy cost (Rs Crs)	Misc cost (Rs Crs)	Total Cost (Rs Crs)	Average Cost (Rs./kWh)
<b>Stations injecting at CTU</b>	<b>2719.77</b>	<b>15,699.75</b>	<b>2831.43</b>	<b>3884.30</b>	<b>62.26</b>	<b>6777.99</b>	<b>4.32</b>
<i>FSTPP I &amp; II</i>	271.30	1488.29	151.00	426.25	2.55	579.80	3.90
<i>FSTPP III</i>	58.10	355.20	60.51	99.92	-0.05	160.38	4.52
<i>KHSTPP I</i>	189.88	1209.08	131.91	315.14	0.19	447.24	3.70
<i>KHSTPP II</i>	40.34	262.58	28.74	64.77	-0.32	93.19	3.55
<i>Barh Stage II</i>	646.79	4008.16	956.77	1155.41	44.35	2156.52	5.38
<i>Nabinagar (BRBCL)</i>	54.00	281.55	64.28	69.53	0.12	133.93	4.76
<i>Talcher Stage I</i>	222.75	1516.85	148.07	271.90	8.33	428.30	2.82
<i>KBUNL Stage II</i>	157.89	969.39	294.38	258.11	0.11	552.60	5.70
<i>NPGCL</i>	906.36	3487.14	854.64	733.78	3.41	1591.83	4.56
<i>Darlipali STPS</i>	102.47	526.99	99.21	56.04	1.81	157.07	2.98
<i>Chuka</i>		291.84	0.00	70.09	0.00	70.09	2.40
<i>Rangit</i>	11.34	62.21	12.86	11.85	0.73	25.44	4.09
<i>Tala</i>		382.28	0.00	82.59	0.00	82.59	2.16
<i>Teesta</i>	58.55	299.48	38.35	34.83	0.00	73.18	2.44
<i>Mangdechu</i>		558.71	0.00	234.10	0.00	234.10	4.19

Name of The Source	Share allocated (MW)	Units purchased (MU)	Fixed charge (Rs Crs)	Energy cost (Rs Crs)	Misc cost (Rs Crs)	Total Cost (Rs Crs)	Average Cost (Rs./kWh)
Capacity Refund Charges by NTPC			-9.29	0.00	0.00	-9.29	
<b>Stations injecting at STU</b>	<b>482.76</b>	<b>1288.65</b>	<b>308.26</b>	<b>352.19</b>	<b>34.05</b>	<b>694.49</b>	<b>5.39</b>
BSPHC	34.56	8.23	0.00	2.05	0.00	2.05	2.49
KBUNL Stage I	118.80	124.11	28.28	39.31	33.98	101.57	8.18
BTPS Stage I Unit I	59.40	37.56	42.47	15.18	0.27	57.92	15.42
BTPS Stage II	270.00	1118.74	237.50	295.65	-0.20	532.95	4.76
<b>IPPs</b>	<b>263.52</b>	<b>1891.99</b>	<b>440.72</b>	<b>220.35</b>	<b>-23.83</b>	<b>637.24</b>	<b>3.37</b>
GMR	140.40	1029.83	188.98	123.86	36.68	349.52	3.39
JITPL	123.12	862.16	251.74	96.49	-60.50	287.73	3.34
<b>Renewables</b>	<b>1,940.44</b>	<b>1,495.48</b>	<b>0.00</b>	<b>483.77</b>	<b>0.00</b>	<b>483.77</b>	<b>3.23</b>
M/s Sunmark Energy Projects Limited (Formerly MBCEL)	5.40	7.68	0.00	5.39	0.00	5.39	7.02
M/s Response renewable Energy Ltd, Kolkata.	5.40	9.49	0.00	6.66	0.00	6.66	7.02
M/s Avantika Contractors Ltd., Hyderabad	2.70	3.48	0.00	2.68	0.00	2.68	7.69
M/s Glatt Solutions Pvt. Ltd, Kolkata.	1.62	2.70	0.00	1.89	0.00	1.89	7.01
Alfa Infraprop Pvt. Ltd.	10.80	16.37	0.00	12.88	0.00	12.88	7.87
Udipta Energy & Equipment Pvt. Ltd.	2.70	3.67	0.00	2.92	0.00	2.92	7.97
Azure Power India Pvt. Ltd.	5.40	6.74	0.00	5.66	0.00	5.66	8.40
Welspun Renewables Project - I	5.40	8.19	0.00	7.13	0.00	7.13	8.70
Welspun Renewables Project – II	8.10	11.95	0.00	10.33	0.00	10.33	8.64
Welspun Renewables Project – III	8.10	12.35	0.00	10.57	0.00	10.57	8.56
Acme Cleantech Project (Nalanda)	8.10	12.00	0.00	10.48	0.00	10.48	8.73
Acme Cleantech Project (Magadh)	5.40	8.40	0.00	7.33	0.00	7.33	8.73
Solar Energy Corporation of India Ltd., Government of India	5.40	9.77	0.00	5.79	0.00	5.79	5.93
SECI Phase-III (Renew Sunwaves)	162.00	214.88		54.02	0.00	0.00	0.00
NTPC ISTS Solar	162.00	308.48		82.36	0.00	0.00	0.00
GRT Jewellers (SECI-V)	81.00	0.08		0.02	0.00	0.02	2.50
Wind ISTS Scheme Tranche I (PTC) (Green Infra, Inox, Mytrah & Ostro)	108.00	289.98	0.00	92.27	0.00	92.27	3.18
Wind ISTS Scheme Tranche II (SECI) (Orange)	54.00	147.69		40.03	0.00	0.00	0.00
SECI Phase-III Wind	-		0.00		0.00	0.00	
SECI Green Infra	54.00	135.61		34.04	0.00	0.00	0.00
Torrent Power	26.89				0.00	0.00	
Adani Green	27.00		0.00		0.00	0.00	

Name of The Source	Share allocated (MW)	Units purchased (MU)	Fixed charge (Rs Crs)	Energy cost (Rs Crs)	Misc cost (Rs Crs)	Total Cost (Rs Crs)	Average Cost (Rs./kWh)
Alfanar	27.00	71.92	0.00	18.12	0.00	18.12	2.52
Betam	27.11	76.39		19.25	0.00	0.00	0.00
Ostro Kannad	162.00	66.17		14.46	0.00	0.00	0.00
New Swadeshi Sugar Mill, Narkataganj	5.40	5.90	0.00	2.99	0.00	2.99	5.07
Hasanpur Sugar Mill, Dalsinghsarai	7.83	9.52	0.00	5.92	0.00	5.92	6.22
Bharat Sugar Mills, Sidhwalia, Gopalganj	8.10	9.23	0.00	4.63	0.00	4.63	5.02
Hari Nagar Sugar Mills, Hari Nagar, West Champaran	7.83	18.96	0.00	9.63	0.00	9.63	5.08
HPCL Biofuels Ltd., Sugauli, East Champaran	10.80	4.75	0.00	2.41	0.00	2.41	5.07
HPCL Biofuels Ltd., Lauria, West Champaran	10.80	6.50	0.00	3.30	0.00	3.30	5.08
Riga Sugar Company Ltd.	1.62	0.00	0.00	0.00	0.00	0.00	
Siddhashram Rice Mill Cluster Pvt Ltd	0.54	0.47	0.00	0.34	0.00	0.34	7.23
Bihar Distillers & Bottlers Pvt Ltd	5.08	9.23	0.00	5.87	0.00	5.87	6.36
Tirupati Sugar	3.24	6.94	0.00	4.41	0.00	4.41	6.35
REC Cost					0.00	0.00	
<b>Others</b>	<b>108.00</b>	<b>1716.54</b>	<b>0.00</b>	<b>746.51</b>	<b>343.66</b>	<b>1090.17</b>	<b>6.35</b>
PTC(IEX)	-	1125.77	0.00	585.49		585.49	5.20
GTAM IEX	-	0.62	0.00	0.23	0.00	0.23	3.74
Prior Period Expenses					210.66	0.00	
UPPCL	-	1.39			1.39	0.00	0.00
NEA	-	26.93			18.53	0.00	0.00
UI	-	83.96	0.00	0.00	112.69	112.69	13.42
PTC JITPL	67.50	335.03	0.00	126.73	0.33	127.06	3.79
PTC SKS Power	40.50	142.84	0.00	34.06	0.05	34.12	2.39
<b>Transmission and Other Charges</b>			<b>1907.89</b>	<b>0.00</b>	<b>0.00</b>	<b>1907.89</b>	
SLDC			4.86	0.00	0.00	4.86	
BGCL			249.41	0.00	0.00	249.41	
BSPTCL			598.11	0.00	0.00	598.11	
POSOCO			11.71	0.00	0.00	11.71	
Pr Pd PGCIL			13.06	0.00	0.00	13.06	
PGCIL ULDC CHG			0.00	0.00	0.00	0.00	
PGCIL			1030.74	0.00		0.00	
<b>Total</b>	<b>4600.81</b>	<b>22,092.41</b>	<b>5488.30</b>	<b>5687.12</b>	<b>416.14</b>	<b>11591.56</b>	<b>5.25</b>

Further, petitioner also submitted the summary of the expenses towards inter-state and intra-state Transmission Charges for FY 2021-22 based on actual audited accounts is given in the table below:

**Table 4.19: PGCIL and POSCO charges**

(Rs. Crores)			
Source	NBPDCCL	SBPDCL	Total
POWERGRID	861.42	1030.74	1892.16
POSOCC Charges	9.92	11.71	21.63
Prior Period PGCIL	11.06	13.06	24.12

The charges payable to State Transmission Utility i.e., BSPTCL, BGCL, SLDC based on actuals for FY 2021-22 is shown below.

**Table 4.20: State transmission charges**

(Rs. Crores)			
Source	NBPDCCL	SBPDCL	Total
BSPTCL Charges	504.20	598.11	1102.31
BGCL Charges	211.19	249.41	460.6
SLDC Charges	4.11	4.86	8.97

**Commission analysis:**

The power purchase (MU) and cost approved in the Tariff Order for FY 2021-22 and actuals claimed in true up for FY 2021-22 are as shown below:

Sl. No	Particulars	Approved in Tariff Order for FY 2021-22 dt. 26.03.2021	Claimed in True up			Percentage increase
			Power Purchase	Surplus Energy Sold	Net Quantity	
<b>NBPDCCL</b>						
1	Power Purchase (MU)	14174.70	18706.13	2074.23	16631.9	17.34%
2	Power Purchase Cost (Rs. Cr)	5705.57	8194.23	797.33	7396.9	29.64%
3	PGCIL Charges (Rs. Cr)	466.58	882.4		882.4	89.12%
4	BSPTCL (Rs. Cr)	520.11	504.2		504.2	
5	SLDC (Rs. Cr)	4.78	4.11		4.11	
6	BGCL (Rs. Cr)	208.21	211.19		211.19	
<b>7</b>	<b>Total</b>	<b>6905.25</b>	<b>9796.13</b>		<b>8998.80</b>	<b>30.32%</b>
8	Avg Cost (Rs./kwh)	4.872	5.237		5.411	
<b>SBPDCL</b>						
1	Power Purchase (MU)	16525.00	22092.41	2449.72	19642.69	18.87%
2	Power Purchase Cost (Rs. Cr)	6639.36	9683.67	941.82	8741.85	31.67%
3	PGCIL Charges (Rs. Cr)	547.73	1055.51		1055.51	92.71%
4	BSPTCL (Rs. Cr)	610.57	598.11		598.11	
5	SLDC (Rs. Cr)	5.62	4.86		4.86	
6	BGCL (Rs. Cr)	244.41	249.41		249.41	



Sl. No	Particulars	Approved in Tariff Order for FY 2021-22 dt. 26.03.2021	Claimed in True up			Percentage increase
			Power Purchase	Surplus Energy Sold	Net Quantity	
7	Total	8047.69	11591.56		10649.74	32.33%
8	Avg Cost (Rs./kwh)	4.870	5.247		5.422	
<b>NBPDC + SBPDCL</b>						
1	Power Purchase (MU)	30699.70	40798.54	4523.95	36274.59	18.16%
2	Power Purchase Cost (Rs. Cr)	12344.93	17877.90	1739.15	16138.75	30.73%
3	PGCIL Charges (Rs. Cr)	1014.31	1937.91	0.00	1937.91	91.06%
4	BSPTCL (Rs. Cr)	1130.68	1102.31	0.00	1102.31	
5	SLDC (Rs. Cr)	10.40	8.97	0.00	8.97	
6	BGCL (Rs. Cr)	452.62	460.60	0.00	460.60	
7	Total	14952.94	21387.69	0.00	19648.54	31.40%
8	Avg Cost (Rs./kwh)	4.871	5.242		5.417	

The power purchase quantum has increased to by 18.16% only, where as the Power Purchase cost (including Transmission charges) has increased by 31.40%. The total Power Purchase Cost has increased by Rs. 4695.60 Crore (NBPDC 2093.55 Cr, SBPDCL 2602.05 Cr) over that approved in Tariff Order for FY 2021-22 dt. 26.03.2021. The power purchase cost has increased by 30.73% and the PGCIL charges have increased by 91.06%.

The power purchase cost claimed by the petitioners in their petition and the power purchase cost provided in their Audited Accounts for FY 2021-22 are as shown below:

**Power Purchase cost claimed vis-à-vis Power Purchase cost as per audited account for FY 2021-22**

Sl.No	Particulars	NBPDC		SBPDCL	
		Claimed for FY 2021-22	As per Audited Accounts of FY 2021-22	Claimed for FY 2021-22	As per Audited Accounts of FY 2021-22
1	Energy Purchase (MU)	18706.13	18706.14	22092.41	22092.42
2	Total Power Purchase Cost (Rs. Crore)	9796.12	9796.13	11591.56	11591.34
a)	Power Purchase Cost (Rs. Cr.)	8194.23	8194.25	9683.67	9683.45
b)	BSPTCL Charges (Rs. Cr) (Including SLDC)	508.31	719.49	602.97	602.97
c)	BGCL Charges (Rs. Cr)	211.19		249.41	249.41
d)	PGCL Charges (Rs. Cr.)	882.40	882.39	1055.51	1055.51

The Commission has got the copies of power purchase bills submitted by the Petitioners and noted that the power purchase quantum and cost shown in the petitions are in accordance with the power purchase bills for FY 2021-22 except for some deviations in power purchase of PTC (IEX), GTAM (IEX) and transmission charges. On query from the Commission Discoms submitted as follows:

NBPDCCL has submitted that the sale of power through IEX is shown as separately in the Petition and audited books of accounts as 2175.39 MU. Further, the purchase from IEX is shown separately as 1057.46 MU. For more clarity the summary is as follows:

Particulars	As per accounts	As per Bills
IEX purchase (MU)	895.37	-
IEX Sale (MU)	1841.95	-
Net IEX (MU)	-946.58	-947.16

Requested the Commission to consider the following for PTC (IEX) and GTAM (IEX):

Sl. No	Station	Quantum (MU)	Cost (Rs Cr)
1	PTC (IEX)	895.37	476.35
2	GTAM (IEX)	58.36	19.59

SBPDCL has submitted that the sale of power through IEX is shown as separately in the Petition and audited books of accounts as 2175.39 MU. Further, the purchase from IEX is shown separately as 1057.46 MU. For more clarity the summary is as follows:

Particulars	As per accounts	As per Bills
IEX purchase (MU)	1057.46	-
IEX Sale (MU)	2175.39	-
Net IEX (MU)	-1117.93	-1118.62

Requested the Commission to consider the following for IEX, GTAM IEX:

Sl. No	Station	Quantum (MU)	Cost (Rs Cr)
1	PTC (IEX)	1057.46	562.58
2	GTAM (IEX)	68.93	23.14

On a query from the Commission regarding discrepancy in transmission charges NBPDCCL vide letter No- 131 dated 27.02.2023 has submitted as below:

**For BSPTCL and BGCL**

The NBPDCCL has submitted that the BSPTCL and BGCL charges as per Bills is at Rs 715.38 crores and the SLDC charges for FY 21-22 is Rs 4.13 crore and the same are in agreement with the audited accounts of NBPDCCL also depict the same as per the Bills. Accordingly, NBPDCCL requested to consider the BSPTCL, BGCL and SLDC Charges same in the true-up for FY 2021-22.

**For PGCIL-**

The NBPDCCL has submitted that the PGCIL Charges as per bills is Rs. 875.71 crore and requested to consider the same in the true-up.

The NBPDCCL has submitted that for POSOCO, the total amount for FY 21-22 as per Bills is Rs 5.35 Cr. Further, Rs 0.07 Cr is adjusted by POSOCO on account of adjustment and interest on receivable amount as per Credit Note vide POSOCO Bill No ER/2020-21/484 dt 18.06.21. Further, Rs 1.41 Cr is on account of Open Access charges of Rajasthan for FY 20-21. So, the total charges for POSOCO are as follows:

As per Bills-	Rs 5.35 Cr
As per adjustment on account of Credit Note-	Rs (0.07) Cr
As per Open Access charges of Rajasthan-	Rs 1.41 Cr
Total	Rs 6.69 Cr

So, the total charges for PGCIL and POSOCO amounts to Rs 882.40 Cr (875.71+ 6.69) which is matching with the audited accounts

On a query from the Commission regarding discrepancy in transmission charges SBPDCL vide letter No-215 dated 27.02.2023 has submitted as below:

**For BGCL:**

The SBPDCL has submitted that the BGCL charges as per bills is Rs. 245.09 crores and requested to consider the same in the True-up .

**For PGCIL:**

The SBPDCL has submitted that the PGCIL Charges as per bills is Rs. 1034.97 crore and requested to consider the same in the true-up.

**For POSOCO:**

The SBPDCL has submitted that the total amount for POSOCO may be considered as

per Bills, i.e., Rs 5.88 Cr which is as per Actual energy ratio, whereas bill amount is Rs. 5.84 Cr. Copies of the bills have already been provided to the Honble Commission by the petitioner.

The Petitioner submits that, the balance amount of Rs. 5.86 Cr under POSOCO i.e. (Rs. 11.71 – 5.84 = 5.86 Cr) is the total differential amount corresponding to the Actual energy sharing ratio between SBPDCL & NBPDCCL for BSPTCL, BGCL,SLDC, POSOCO & PGCIL . Details of which is as follows:-

Adjustment on account of PGCIL charges	:	Rs 3.49 Cr
Adjustment on account of BSPTCL charges	:	Rs 1.66 Cr
Adjustment on account of BGCL charges	:	Rs 0.67 Cr
Adjustment on account of SLDC charges	:	Rs 0.01 Cr
Adjustment on account of POSOCO charges	:	Rs.0.01 Cr
<b>Total</b>	:	<b>Rs 5.86 Cr</b>

Accordingly, the revised power purchase from PTC (IEX) as GTAM (IEX) and revised transmission charges as submitted by the Petitioners are considered as given below:

#### NBPDCCL

Sl. No	Power Purchase Source	As per Petition		Revised Quantity	
		MUs	Rs. Cr	Mus	Rs. Cr
1	PTC (IEX)	953.21	495.75	895.37	476.35
2	GITAM (IEX)	0.52	0.19	58.36	19.59
	<b>Total</b>	<b>953.73</b>	<b>495.94</b>	<b>953.73</b>	<b>495.94</b>

Sl. No	Transmission Charges	As per Petition (Rs. Cr)	Revised Quantity
1	PGCIL Charges	861.42	864.65 (excluding prior period 11.06 Cr)
2	POSOCO	9.92	6.69
3	BSPTCL	504.2	507.85
4	BGCL	211.19	207.53
5	SLDC	4.11	4.13
	<b>Total</b>	<b>1590.84</b>	<b>1590.85</b>

#### SBPDCL

Sl. No	Power Purchase Source	As per Petition		Revised Quantity	
		MUs	Rs. Cr	Mus	Rs. Cr
1	PTC (IEX)	1125.77	585.49	1057.46	562.58
2	GTAM (IEX)	0.62	0.23	68.93	23.14
	<b>Total</b>	<b>1126.39</b>	<b>585.72</b>	<b>1126.39</b>	<b>585.72</b>

Sl. No	Transmission Charges	As per Petition (Rs. Cr)	Revised Quantity
1	PGCIL Charges	1030.74	1034.97 (Including adjustment of Rs. 4.23 Cr)
2	POSOCO	11.71	5.86
3	BSPTCL	598.11	599.76 (Including adjustment of Rs. 1.65 Cr)
4	BGCL	249.41	245.09
5	SLDC	4.86	4.86
	<b>Total</b>	<b>1894.83</b>	<b>1890.54</b>

**UI Charges:**

The Commission observes that NBPDC has shown Rs. 95.42 Crore for net UI over drawal of 71.09 MU and SBPDCL has shown Rs. 112.69 Crore against net UI over drawal of 83.96 MU totaling of Rs. 208.11 Crores for net UI drawal of 115.05 MU.

The Commission after due verification of the data submitted by the DISCOMs noted the UI charges combinedly for both Discoms as given below:

		(Rs. Crore)
1	Deviation Charges	119.48
2	Additional deviation charges	39.58
3	Sign change violation charges	49.05
4	<b>Total</b>	<b>208.11</b>

UI rate is frequency dependent. The licensee while under drawal / over drawal of UI energy should be strictly within the specified limit stipulated by CERC to avoid any additional deviation charges. No over drawal of energy is permitted when grid frequency is below 49.85 Hz. The additional charges on account of deviation in volume and Sign Change are penal in nature. Hence, it is not prudent to allow such charges to pass on to consumers. The Commission therefore does not consider additional deviation charges of Rs. 39.58 Crore payable and Rs. 49.05 Crore of additional charges on Sign Change Violation and considers only deviation charges of Rs. 119.48 Crore. This amount is shared among SBPDCL & NBPDC in their power purchase ratio under UI (over drawal MUs) at Rs. 64.69 Crores for SBPDCL and Rs. 54.78 Crore for NBPDC.

Based on the above, the summary of Power Purchase cost and quantum approved by the Commission in True-up of FY 2021-22 is provided in the Tables below:

Table 4.21: Power Purchase Quantum and Cost of NBPDCCL for FY 2021-22, as approved by the Commission

Name of The Source	Share allocated (MW)	Units purchased (MU)	Fixed Cost (Rs. Crore /MW)	Fixed charge (Rs Crs)	Energy Cost (Rs/kWh)	Energy cost (Rs Crs)	Miscellaneous cost (Rs Crs)	Total cost (Rs/kWh)	Total Cost (Rs Crs)	Average Cost (Rs./kWh)
<b>Stations injecting at CTU</b>	<b>2585.92</b>	<b>13293.31</b>	<b>0.93</b>	<b>2397.17</b>	<b>2.47</b>	<b>3288.92</b>	<b>51.84</b>	<b>4.32</b>	<b>5737.94</b>	<b>4.32</b>
FSTPP I & II	231.10	1260.17	0.55	127.86	2.86	360.91	2.16	3.90	490.93	3.90
FSTPP III	49.50	300.76	1.04	51.23	2.81	84.61	-0.04	4.52	135.80	4.52
KHSTPP I	161.75	1023.75	0.69	111.69	2.61	266.83	0.16	3.70	378.69	3.70
KHSTPP II	34.36	222.33	0.71	24.33	2.47	54.84	-0.27	3.55	78.91	3.55
Barh Stage II	550.97	3393.80	1.47	810.12	2.88	978.31	37.55	5.38	1825.97	5.38
Nabinagar (BRBCL)	46.00	238.39	1.18	54.43	2.47	58.87	0.10	4.76	113.40	4.76
Talcher Stage I	189.75	1284.35	0.66	125.37	1.79	230.22	7.05	2.82	362.65	2.82
KBUNL Stage II	134.50	820.80	1.85	249.26	2.66	218.55	0.09	5.70	467.90	5.70
NPGCL	772.09	2952.63	0.94	723.64	2.10	621.31	2.89	4.56	1347.84	4.56
Darlipali STPS Unit I	87.29	446.22	0.96	84.01	1.06	47.45	1.53	2.98	132.99	2.98
Chuka	45.47	247.10	0.00	0.00	2.40	59.34	0.00	2.40	59.34	2.40
Rangit	9.66	52.68	1.13	10.89	1.90	10.03	0.62	4.09	21.54	4.09
Tala	119.64	323.69	0.00	0.00	2.16	69.93	0.00	2.16	69.93	2.16
Teesta	49.88	253.57	0.65	32.47	1.16	29.49	0.00	2.44	61.96	2.44
Mangdechhu	103.96	473.07	0.00	0.00	4.19	198.22	0.00	4.19	198.22	4.19
Capacity Refund Charges by NTPC		0.00		-8.13		0.00	0.00		-8.13	
<b>Stations injecting at STU</b>	<b>296.24</b>	<b>1091.13</b>	<b>1.05</b>	<b>310.24</b>	<b>2.28</b>	<b>248.97</b>	<b>28.83</b>	<b>5.39</b>	<b>588.04</b>	<b>5.39</b>
BSPHC	29.44	6.97	0.00	0.00	2.49	1.74	0.00	2.49	1.74	2.49
KBUNL Stage I	101.20	105.09	0.24	23.95	3.17	33.28	28.77	8.18	86.00	8.18
BTPS Stage I Unit I	50.60	31.81	0.71	35.96	4.04	12.85	0.23	15.42	49.04	15.42
BTPS Stage II Unit I	115.00	947.26	2.18	250.33	2.12	201.10	-0.17	4.76	451.26	4.76
<b>IPPs</b>	<b>224.48</b>	<b>1601.99</b>	<b>1.66</b>	<b>373.17</b>	<b>1.16</b>	<b>186.58</b>	<b>-20.17</b>	<b>3.37</b>	<b>539.57</b>	<b>3.37</b>
GMR	119.60	871.98	1.34	160.01	1.20	104.87	31.06	3.39	295.94	3.39
JITPL	104.88	730.01	2.03	213.15	1.12	81.70	-51.23	3.34	243.62	3.34

Name of The Source	Share allocated (MW)	Units purchased (MU)	Fixed Cost (Rs. Crore /MW)	Fixed charge (Rs Crs)	Energy Cost (Rs/kWh)	Energy cost (Rs Crs)	Miscellaneous cost (Rs Crs)	Total cost (Rs/kWh)	Total Cost (Rs Crs)	Average Cost (Rs./kWh)
<b>Renewables</b>	<b>827.35</b>	<b>1266.27</b>	<b>0.00</b>	<b>0.00</b>	<b>3.23</b>	<b>409.62</b>	<b>0.00</b>	<b>3.23</b>	<b>409.62</b>	<b>3.23</b>
M/s Sunmark Energy Projects Limited (Formerly MBCEL)	4.60	6.50			7.02	4.56	0.00	7.02	4.56	7.02
M/s Response renewable Energy Ltd, Kolkata.	4.60	8.04			7.01	5.64	0.00	7.01	5.64	7.01
M/s Avantika Contractors Ltd., Hyderabad	2.30	2.95			7.69	2.27	0.00	7.69	2.27	7.69
M/s Glatt Solutions Pvt. Ltd, Kolkata.	1.38	2.28			7.02	1.60	0.00	7.02	1.60	7.02
Alfa Infraprop Pvt. Ltd.	9.20	13.86			7.87	10.91	0.00	7.87	10.91	7.87
Udipta Energy & Equipment Pvt. Ltd.	2.30	3.10			7.98	2.47	0.00	7.98	2.47	7.98
Azure Power India Pvt. Ltd.	4.60	5.71			8.39	4.79	0.00	8.39	4.79	8.39
Welspun Renewables Project – I	4.60	6.94			8.70	6.04	0.00	8.70	6.04	8.70
Welspun Renewables Project – II	6.90	10.12			8.64	8.74	0.00	8.64	8.74	8.64
Welspun Renewables Project – III	6.90	10.46			8.56	8.95	0.00	8.56	8.95	8.56
Acme Cleantech Project (Nalanda)	6.90	10.16			8.73	8.87	0.00	8.73	8.87	8.73
Acme Cleantech Project (Magadh)	4.60	7.11			8.73	6.21	0.00	8.73	6.21	8.73
Solar Energy Corporation of India Ltd., Government of India	4.60	8.27			5.93	4.90	0.00	5.93	4.90	5.93
SECI Phase-III (Renew Sunwaves)	138.00	181.94			2.51	45.74	0.00	2.51	45.74	2.51
NTPC ISTS Solar	138.00	261.20			2.67	69.74	0.00	2.67	69.74	2.67
GRT Jewellers (SECI-V)	69.00	0.07			2.50	0.02	0.00	2.50	0.02	2.50
Wind ISTS Scheme Tranche I (PTC) (Green Infra, Inox, Mytrah & Ostro)	92.00	245.53			3.18	78.13	0.00	3.18	78.13	3.18
Wind ISTS Scheme Tranche II (SECI) (Orange)	46.00	125.06			2.71	33.89	0.00	2.71	33.89	2.71
SECI Green Infra	46.00	114.82			2.51	28.82	0.00	2.51	28.82	2.51
Alfanar	23.00	60.89			2.52	15.35	0.00	2.52	15.35	2.52

Name of The Source	Share allocated (MW)	Units purchased (MU)	Fixed Cost (Rs. Crore /MW)	Fixed charge (Rs Crs)	Energy Cost (Rs/kWh)	Energy cost (Rs Crs)	Miscellaneous cost (Rs Crs)	Total cost (Rs/kWh)	Total Cost (Rs Crs)	Average Cost (Rs./kWh)
Betam	23.09	64.68			2.52	16.30	0.00	2.52	16.30	2.52
Ostro Kannad	138.00	56.03			2.18	12.24	0.00	2.18	12.24	2.18
New Swadeshi Sugar Mill, Narkataganj	4.60	5.00			5.06	2.53	0.00	5.06	2.53	5.06
Hasanpur Sugar Mill, Dalsinghsarai	6.67	8.06			6.22	5.01	0.00	6.22	5.01	6.22
Bharat Sugar Mills, Sidhwalia, Gopalganj	6.90	7.82			5.01	3.92	0.00	5.01	3.92	5.01
Hari Nagar Sugar Mills, Hari Nagar, West Champaran	6.67	16.05			5.08	8.15	0.00	5.08	8.15	5.08
HPCL Biofuels Ltd., Sugauli, East Champaran	9.20	4.02			5.08	2.04	0.00	5.08	2.04	5.08
HPCL Biofuels Ltd., Lauria, West Champaran	9.20	5.50			5.08	2.79	0.00	5.08	2.79	5.08
Siddhashram Rice Mill Cluster Pvt Ltd	0.46	0.40			7.20	0.29	0.00	7.20	0.29	7.20
Bihar Distillers & Bottlers Pvt Ltd	4.32	7.82			6.36	4.97	0.00	6.36	4.97	6.36
Tirupati Sugar	2.76	5.88			6.35	3.73	0.00	6.35	3.73	6.35
<b>Others</b>	<b>92.00</b>	<b>1453.43</b>	<b>0.00</b>	<b>0.00</b>	<b>4.46</b>	<b>648.95</b>	<b>228.60</b>	<b>6.04</b>	<b>877.55</b>	<b>6.04</b>
PTC(IEX)	0.00	895.37			5.32	476.35	0.00	5.32	476.35	5.32
GTAM IEX	0.00	58.36			3.36	19.59	0.00	3.36	19.59	3.42
Prior Period Expenses	0.00					0.00	173.49		173.49	
UPPCL	0.00	1.18			9.97	1.18	0.00	9.97	1.18	9.97
NEA	0.00	22.80			0.00	15.69	0.00	6.88	15.69	6.88
UI	0.00	71.09			0.00	0.00	54.78	7.71	54.78	
PTC JITPL	57.50	283.68			3.78	107.30	0.28	3.79	107.58	3.79
PTC SKS Power	34.50	120.95			2.38	28.84	0.05	2.39	28.89	2.39
<b>Power Purchase Cost</b>		<b>18706.13</b>		<b>3080.58</b>		<b>4783.04</b>	<b>289.09</b>	<b>4.36</b>	<b>8152.71</b>	<b>4.36</b>
<b>Transmission and Other Charges</b>				<b>1601.91</b>					<b>1601.91</b>	
SLDC				4.13					4.13	



Name of The Source	Share allocated (MW)	Units purchased (MU)	Fixed Cost (Rs. Crore /MW)	Fixed charge (Rs Crs)	Energy Cost (Rs/kWh)	Energy cost (Rs Crs)	Miscellaneous cost (Rs Crs)	Total cost (Rs/kWh)	Total Cost (Rs Crs)	Average Cost (Rs./kWh)
BGCL				207.53					207.53	
BSPTCL				507.85					507.85	
POSOCCO				6.69					6.69	
Pr Pd PGCIL				11.06					11.06	
PGCIL ULDC CHG				0.00					0.00	
PGCIL				864.65					864.65	
<b>Total</b>	<b>4025.99</b>	<b>18706.13</b>	<b>1.16</b>	<b>4682.48</b>	<b>2.56</b>	<b>4783.04</b>	<b>289.09</b>	<b>5.21</b>	<b>9754.62</b>	<b>5.21</b>

Table 4.22 Power Purchase Quantum and Cost of SBPDCL for FY 2021-22, as approved by the Commission

Name of The Source	Share allocated (MW)	Units purchased (MU)	Fixed Cost (Rs. Crore /MW)	Fixed charge (Rs Crs)	Energy Cost (Rs/kWh)	Energy cost (Rs Crs)	Miscellaneous cost (Rs Crs)	Total Cost (Rs Crs)	Average Cost (Rs./kWh)
<b>Stations injecting at CTU</b>	<b>3035.64</b>	<b>15699.75</b>	<b>0.93</b>	<b>2831.43</b>	<b>2.47</b>	<b>3884.31</b>	<b>61.23</b>	<b>6776.97</b>	<b>4.32</b>
FSTPP I & II	271.30	1488.29	0.56	151	2.86	426.25	2.55	579.80	3.90
FSTPP III	58.10	355.2	1.04	60.51	2.81	99.92	-0.05	160.38	4.52
KHSTPP I	189.88	1209.08	0.69	131.91	2.61	315.14	0.19	447.24	3.70
KHSTPP II	40.34	262.58	0.71	28.74	2.47	64.77	-0.32	93.19	3.55
Barh Stage II	646.79	4008.16	1.48	956.77	2.88	1,155.41	44.35	2156.53	5.38
Nabinagar (BRBCL)	54.00	281.55	1.19	64.28	2.47	69.53	0.12	133.93	4.76
Talcher Stage I	222.75	1516.85	0.66	148.07	1.79	271.90	8.33	428.30	2.82
KBUNL Stage II	157.89	969.39	1.86	294.38	2.66	258.11	0.11	552.60	5.70
NPGCL	906.36	3487.14	0.94	854.64	2.10	733.78	3.41	1591.83	4.56
Darlipali STPS	102.47	526.99	0.97	99.21	1.06	56.04	1.81	157.06	2.98
Chuka	53.38	291.84	0.00	0	2.40	70.09	0	70.09	2.40
Rangit	11.34	62.21	1.13	12.86	1.90	11.85	0.73	25.44	4.09
Tala	140.45	382.28	0.00		2.16	82.59		82.59	2.16
Teesta	58.55	299.48	0.65	38.35	1.16	34.83	0	73.18	2.44
Mangdechhu	122.04	558.71	0.00		4.19	234.1		234.10	4.19
Capacity Refund Charges by NTPC	0.00	0		-9.29				-9.29	
<b>Stations injecting at STU</b>	<b>347.76</b>	<b>1288.64</b>	<b>1.05</b>	<b>366.40</b>	<b>2.28</b>	<b>294.04</b>	<b>34.05</b>	<b>694.49</b>	<b>5.39</b>
BSPHC	34.56	8.23	0.00		2.49	2.05		2.05	2.49
KBUNL Stage I	118.80	124.11	0.24	28.28	3.17	39.31	33.98	101.57	8.18
BTPS Stage I Unit I	59.40	37.56	0.71	42.47	4.04	15.18	0.27	57.92	15.42
BTPS Stage II Unit I	135.00	1118.74	2.19	295.65	2.12	237.5	(0.20)	532.95	4.76

Name of The Source	Share allocated (MW)	Units purchased (MU)	Fixed Cost (Rs. Crore /MW)	Fixed charge (Rs Crs)	Energy Cost (Rs/kWh)	Energy cost (Rs Crs)	Miscellaneous cost (Rs Crs)	Total Cost (Rs Crs)	Average Cost (Rs./kWh)
<b>IPPs</b>	<b>263.52</b>	<b>1891.99</b>	<b>1.67</b>	<b>440.72</b>	<b>1.16</b>	<b>220.35</b>	<b>-23.82</b>	<b>637.25</b>	<b>3.37</b>
GMR	140.4	1029.83	1.35	188.98	1.20	123.86	36.68	349.52	3.39
JITPL	123.12	862.16	2.04	251.74	1.12	96.49	-60.5	287.73	3.34
<b>Renewables</b>	<b>972.87</b>	<b>1495.49</b>	<b>0.00</b>	<b>0.00</b>	<b>3.23</b>	<b>483.78</b>	<b>0.00</b>	<b>483.78</b>	<b>3.23</b>
M/s Sunmark Energy Projects Limited (Formerly MBCEL)	5.40	7.68	0.00	0.00	7.02	5.39	0.00	5.39	7.02
M/s Response renewable Energy Ltd, Kolkata.	5.40	9.49	0.00	0.00	7.02	6.66	0.00	6.66	7.02
M/s Avantika Contractors Ltd., Hyderabad	2.70	3.48	0.00	0.00	7.70	2.68	0.00	2.68	7.70
M/s Glatt Solutions Pvt. Ltd, Kolkata.	1.62	2.70	0.00	0.00	7.00	1.89	0.00	1.89	7.00
Alfa Infraprop Pvt. Ltd.	10.80	16.37	0.00	0.00	7.87	12.88	0.00	12.88	7.87
Udipta Energy & Equipment Pvt. Ltd.	2.70	3.67	0.00	0.00	7.96	2.92	0.00	2.92	7.96
Azure Power India Pvt. Ltd.	5.40	6.74	0.00	0.00	8.40	5.66	0.00	5.66	8.40
Welspun Renewables Project – I	5.40	8.19	0.00	0.00	8.71	7.13	0.00	7.13	8.71
Welspun Renewables Project – II	8.10	11.95	0.00	0.00	8.64	10.33	0.00	10.33	8.64
Welspun Renewables Project – III	8.10	12.35	0.00	0.00	8.56	10.57	0.00	10.57	8.56
Acme Cleantech Project (Nalanda)	8.10	12.00	0.00	0.00	8.73	10.48	0.00	10.48	8.73
Acme Cleantech Project (Magadh)	5.40	8.40	0.00	0.00	8.73	7.33	0.00	7.33	8.73
Solar Energy Corporation of India Ltd., Government of India	5.40	9.77	0.00	0.00	5.93	5.79	0.00	5.79	5.93
SECI Phase-III (Renew Sunwaves)	162.00	214.88	0.00	0.00	2.51	54.02	0.00	54.02	2.51
NTPC ISTS Solar	162.00	308.48	0.00	0.00	2.67	82.36	0.00	82.36	2.67
GRT Jewellers (SECI-V)	81.00	0.08	0.00	0.00	2.50	0.02	0.00	0.02	2.50
Wind ISTS Scheme Tranche I (PTC) (Green Infra, Inox, Mytrah & Ostro)	108.00	289.98	0.00	0.00	3.18	92.27	0.00	92.27	3.18
Wind ISTS Scheme Tranche II (SECI) (Orange)	54.00	147.69	0.00	0.00	2.71	40.03	0.00	40.03	2.71

Name of The Source	Share allocated (MW)	Units purchased (MU)	Fixed Cost (Rs. Crore /MW)	Fixed charge (Rs Crs)	Energy Cost (Rs/kWh)	Energy cost (Rs Crs)	Miscellaneous cost (Rs Crs)	Total Cost (Rs Crs)	Average Cost (Rs./kWh)
SECI Green Infra	54.00	135.61	0.00	0.00	2.51	34.04	0.00	34.04	2.51
Alfanar	27.00	71.92	0.00	0.00	2.52	18.12	0.00	18.12	2.52
Betam	27.11	76.39	0.00	0.00	2.52	19.25	0.00	19.25	2.52
Ostro Kannad	162.00	66.17	0.00	0.00	2.19	14.46	0.00	14.46	2.19
New Swadeshi Sugar Mill, Narkataganj	5.40	5.90	0.00	0.00	5.07	2.99	0.00	2.99	5.07
Hasanpur Sugar Mill, Dalsinghsarai	7.83	9.52	0.00	0.00	6.22	5.92	0.00	5.92	6.22
Bharat Sugar Mills, Sidhwalia, Gopalganj	8.10	9.23	0.00	0.00	5.02	4.63	0.00	4.63	5.02
Hari Nagar Sugar Mills, Hari Nagar, West Champaran	7.83	18.96	0.00	0.00	5.08	9.63	0.00	9.63	5.08
HPCL Biofuels Ltd., Sugauli, East Champaran	10.80	4.75	0.00	0.00	5.07	2.41	0.00	2.41	5.07
HPCL Biofuels Ltd., Lauria, West Champaran	10.80	6.5	0.00	0.00	5.08	3.3	0.00	3.30	5.08
Siddhashram Rice Mill Cluster Pvt Ltd	0.54	0.47	0.00	0.00	7.23	0.34	0.00	0.34	7.23
Bihar Distillers & Bottlers Pvt Ltd	5.08	9.23	0.00	0.00	6.36	5.87	0.00	5.87	6.36
Tirupati Sugar	3.24	6.94	0.00	0.00	6.35	4.41	0.00	4.41	6.35
<b>Others</b>	<b>108.00</b>	<b>1716.54</b>	<b>0.00</b>	<b>0.00</b>	<b>4.46</b>	<b>766.43</b>	<b>275.73</b>	<b>1042.16</b>	<b>6.07</b>
PTC(IEX)		1057.46	0.00	0.00	5.32	562.58		562.58	5.32
GTAM IEX		68.93		0.00	3.36	23.14	0	23.14	3.36
Prior Period Expenses				0.00		0	210.66	210.66	
UPPCL		1.39		0.00	10.00	1.39	0	1.39	10.00
NEA		26.93		0.00	6.88	18.53	0	18.53	6.88
UI		83.96		0.00	0.00		64.69	64.69	
PTC JITPL	67.5	335.03	0.00	0.00	3.78	126.73	0.33	127.06	3.79
PTC SKS Power	40.50	142.84	0.00	0.00	2.38	34.06	0.05	34.11	2.39
<b>Power Purchase Cost</b>		<b>22092.41</b>		<b>3638.55</b>		<b>5648.91</b>	<b>347.19</b>	<b>9634.65</b>	<b>4.36</b>

Name of The Source	Share allocated (MW)	Units purchased (MU)	Fixed Cost (Rs. Crore /MW)	Fixed charge (Rs Crs)	Energy Cost (Rs/kWh)	Energy cost (Rs Crs)	Miscellaneous cost (Rs Crs)	Total Cost (Rs Crs)	Average Cost (Rs./kWh)
<b>Transmission and Other Charges</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>1903.60</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>1903.60</b>	
SLDC	0	0	0.00	4.86	0.00	0.00	0.00	4.86	
BGCL	0	0	0.00	245.09	0.00	0.00	0.00	245.09	
BSPTCL	0	0	0.00	599.76	0.00	0.00	0.00	599.76	
POSOCO	0	0	0.00	5.86	0.00	0.00	0.00	5.86	
Pr Pd PGCIL	0	0	0.00	13.06	0.00	0.00	0.00	13.06	
PGCIL	0	0		1034.97		0.00	0.00	1034.97	
<b>Total</b>	<b>4727.79</b>	<b>22092.41</b>	<b>1.17</b>	<b>5542.15</b>	<b>2.56</b>	<b>5648.91</b>	<b>347.19</b>	<b>11538.25</b>	<b>5.22</b>

**Net Power Purchase Cost**

In the MYT Order for FY 2022-23 to FY 2024-25 dated 25<sup>th</sup> March, 2022, the Commission has considered the net power purchase cost after deducting 1% rebate on power purchase cost including transmission charges. Accordingly, 1% Rebate is deducted on the total power purchase cost excluding prior period expenses and UI cost as detailed in the Table below:

**Table 4.23: Net Power Purchase Cost approved for FY 2021-22**

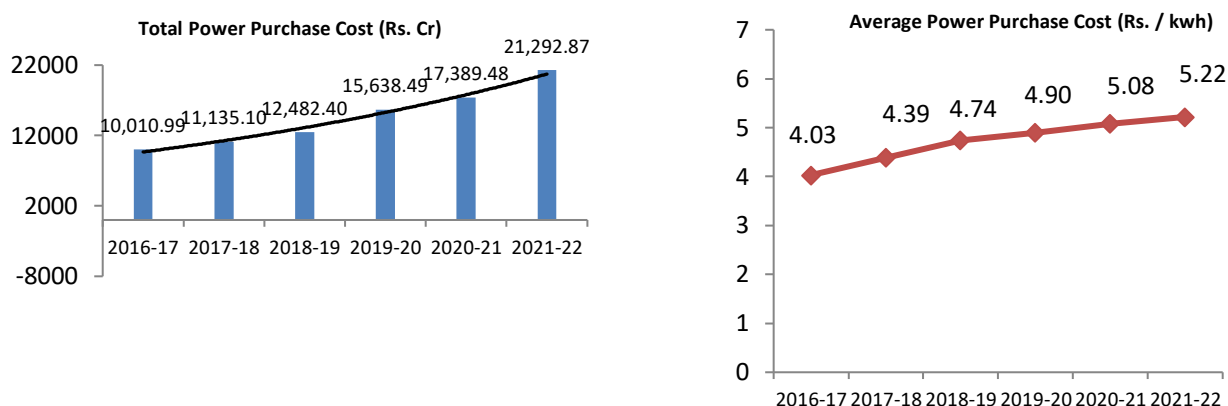
Sl. No	Particulars	Unit	NBPDCCL	SBPDCL
1	Energy Purchase	MU	18706.13	22092.41
2	Power Purchase Cost	Rs. Cr	8152.71	9634.65
3	Transmission Charges	Rs. Cr	1601.91	1903.60
	a) PGCIL	Rs. Cr	882.39	1053.89
	b) BSPTCL	Rs. Cr	507.85	599.76
	c) BGCL	Rs. Cr	207.53	245.09
	d) SLDC	Rs. Cr	4.13	4.86
4	Total Power Purchase Cost (2+3)	Rs. Cr	9754.62	11538.25
5	Less: 1% Rebate	Rs. Cr	97.55	115.38
6	Net Power Purchase Cost (4-5)	Rs. Cr	9657.07	11422.87
7	Less: Surplus Energy Sold	Rs. Cr	797.33	941.82

Accordingly, the Commission has approved power purchase quantum of 18706.13 MUs and net power purchase cost of Rs.9657.07 Crore, for NBPDCCL and power purchase quantum of 22092.41 MUs and power purchase cost of Rs. 11422.87 Crore, for SBPDCL in True-up of FY 2021-22.

The total power purchase cost for the Discoms during the past 6 years i.e. FY 2016- 17 to FY 2021-22 is as given Table below

**Table 4.24: Power Purchase Cost for past 6 Year (FY 2016-17 to FY 2021-22)**

Year	Power Purchase		Transmission Charges (Rs. Cr)			Transmission Charges	Total Power	Average
	(MU)	(Rs. Cr)	BSPTCL	BGCL	PGCIL		Purchase Cost (Rs. Cr)	Cost (Rs./kwh)
2016-17	24605.04	8911.15	237.55		862.29	1099.84	10010.99	4.07
2017-18	25392.68	9403.9	623.77	204.49	902.94	1731.20	11135.10	4.39
2018-19	26311.27	9908.22	1194.37	276.04	1103.77	2574.18	12482.40	4.74
2019-20	31907.5	13278.7	989.14	207.84	1162.81	2359.79	15638.49	4.90
2020-21	34207.58	14754.9	855.25	460.2	1319.13	2634.58	17389.48	5.08
2021-22	40798.54	17787.36	1116.60	452.62	1936.29	3505.51	21292.87	5.22

**Figure 12: Power Purchase Cost of Discoms for FY 2016-17 to FY 2021-22**

#### 4.7. Additional Power Purchase due to excess distribution loss

##### Petitioners' submission

The Petitioners have submitted that in view of the efforts made to reduce the losses with increased supply hours and growth in domestic consumers, the Commission is requested to adopt the actual distribution loss of 20.12% for NBPDCCL and 22.06% of SBPDCL for FY 2021-22 for calculation of disallowance of power purchase cost due to excess distribution loss than that approved.

However, the Petitioner in compliance to the BERC MYT Distribution Regulations, 2018, has shown the surplus energy on account of power purchase corresponding to the Distribution losses more than that approved by the Commission. The Petitioner has considered the average power purchase rate (APPC) (excluding transmission cost) of FY 2021-22 to arrive at the additional power purchase cost on account of the Distribution losses more than that approved by the Commission. The Table below provides Summary of the Power purchase corresponding to the Distribution losses more than that approved by the Commission.

**Table 4.25: Power purchase corresponding to the Distribution losses more than that claimed for NBPDCCL & SBPDCL**

(Rs. Crore)

Sl. No	Particulars	Unit	NBPDCCL		SBPDCL	
			With Actual Distribution loss	With Approved Distribution loss	With Actual Distribution loss	With Approved Distribution loss
<b>A</b>	<b>Energy Requirement</b>					
1	Energy sales	MU	12,540.17	12,540.17	14,310.26	14,310.26
2	Less: Sales	MU	184.74	184.74	218.18	218.18

Sl. No	Particulars	Unit	NBPDC		SBPDCL	
			With Actual Distribution loss	With Approved Distribution loss	With Actual Distribution loss	With Approved Distribution loss
	corresponding to SLDC deviation					
3	Less: Inter-State Sales	MU	630.85	630.85	-	-
4	Energy sales (exc SLDC deviation and interstate Sales)	%	11,724.59	11,724.59	14,092.08	14,092.08
5	Distribution Loss	MU	20.12%	15.00%	22.06%	15.00%
6	Add: Distribution Loss	MU	2,953.16	2,069.05	3,988.60	2,486.84
7	<b>Energy required at Distribution periphery</b>	MU	<b>14,677.75</b>	<b>13,793.64</b>	<b>18,080.67</b>	<b>16,578.91</b>
8	Add: sales corresponding to SLDC deviation	MU	184.74	184.74	218.18	218.18
9	Add: interstate sales	MU	630.85	630.85	-	-
10	<b>Total energy required at Distribution periphery</b>	MU	<b>15,493.34</b>	<b>14,609.22</b>	<b>18,298.85</b>	<b>16,797.09</b>
11	<b>Additional Energy Required to meet the actual Distribution losses</b>	MU		<b>884.12</b>		<b>1,501.76</b>
12	Average Power Purchas cost (exc Transmission)	Rs/kWh		<b>4.38</b>		4.38
13	<b>Additional PP Cost @APPC</b>	Rs. Cr		<b>387.53</b>		<b>658.26</b>

As above, the additional power purchase requirement for meeting the actual Energy requirement at actual Distribution losses more than the approved Distribution losses is Rs 387.53 Cr for NBPDC and Rs. 658.26 Cr for SBPDCL. As per the BERC MYT Distribution Regulations, 2018 in case of controllable factors, losses are to be absorbed by the licensee in the ratio of 2/3 while any gains will be absorbed by the licensee in the ratio of 1/3. So, 2/3<sup>rd</sup> of the total loss due to additional power purchase cost of Rs 387.53 Cr is to be absorbed by NBPDC which comes to be Rs 258.35 Cr and rest will be passed on to the consumers.

Similarly, 2/3<sup>rd</sup> of the total loss due to additional power purchase cost of 658.26 Cr. Is to be absorbed by SBPDCL which come to Rs. 438.64 Cr. and rest will be passed on to the consumer

In view of the aforementioned Regulatory provisions, the Petitioner is hereby



submitting the summary of the Gain/(Loss) on account of controllable and uncontrollable factors of power purchase as per the regulatory provisions specified in the BERC MYT Distribution Regulations, 2018, in the table below:

**Table 4.26 Gains/(Loss) on account of controllable and uncontrollable factors for Power Purchase for FY 2021-22 submitted by Petitioners**

					(Rs. Crore)
Particulars	Approved in the Tariff Order dated 26.03.2021	Actual Claimed in Truing up	Gains/ (Loss)	Gain/(Loss) due to controllable factors to be absorbed by the licensee	Pass through on account of uncontrollable factors
<b>NBPDC</b>					
Purchase of power	7,590.47	8,194.23	(603.76)	(258.35)	(345.40)
Transmission Charges	1,199.68	1,601.89	(402.21)		(402.21)
Revenue from Sale of Surplus Power	1,884.91	797.47	(1,087.44)		(1,087.44)
<b>Total</b>	<b>10,675.06</b>	<b>10,593.59</b>	<b>(2093.41)</b>	<b>(258.35)</b>	<b>(1835.05)</b>
<b>SBPDCL</b>					
Purchase of power	8,910.62	9,683.68	(773.06)	(438.84)	(334.22)
Transmission Charges	1,408.33	1,907.89	(499.56)		(499.56)
Revenue from Sale of Surplus Power	2,271.26	941.83	(1,329.43)		(1,329.43)
<b>Total</b>	<b>12,590.21</b>	<b>12,533.40</b>	<b>(2602.05)</b>	<b>(438.84)</b>	<b>(2163.21)</b>

Further, it is submitted that the Bihar Govt. provided AT&C loss subsidy of Rs 1422 Cr (SBPDCL- 923.04 and NBPDC - 498.96) for FY 2021-22 for meeting the power purchase requirement as per the actual Distribution losses. While NBPDC received Rs 498.96 Cr as AT&C loss subsidy against the disallowance made in the Power purchase corresponding to the Distribution losses more than that approved by the Commission, the disallowance as computed above is Rs 258.35 Cr only. So, the excess amount of Rs 240.61 Cr has been reduced from the ARR of the Petitioner for FY 2021-22.

Similarly, while SBPDCL received Rs. 923.04 Cr. as AT&C loss subsidy against the disallowance made in the Power purchase corresponding to the Distribution losses more than that approved by the Commission, the disallowance as computed above is Rs 484.20 Cr only. So, the excess amount of Rs 438.84 Cr has been reduced from the

ARR of the Petitioner for FY 2021-22. The treatment of the same has been done while computing the Net Revenue gap for FY 2021-22.

**Commission's analysis:**

The Commission has been approving the power purchase quantum and its cost based on the energy requirement computed considering the approved distribution loss target of 15% for both the Discoms. The Discoms are not able to achieve the approved distribution loss target and therefore purchasing more quantum of power than approved by the Commission.

As per Regulation 9.2 (b) of BERC (Multi Year Distribution Tariff) Regulations 2018, Variations in distribution losses which shall be measured as the difference between the units input into the distribution system and the units billed for the same year are considered as Controllable factor.

Accordingly, the Commission has computed the variation in power purchase incurred by the petitioners due to higher actual distribution losses as compared to power purchased that would have been incurred at the target distribution loss for FY 2021-22.

The Commission has computed additional energy procured by the Petitioners due to excess distribution loss as shown in the Table 4.27 below. The Commission is of the opinion that this additional energy requirement due to higher distribution loss than the stipulated target not only leads to incremental power purchase from various sources, but it also leads to additional contracted capacity as compared to contracted capacity, the Petitioners would have required had they met the distribution loss target. Consequently, it also leads to higher Transmission charges and line losses incidental to additional energy requirement.

Therefore, the DISCOMs are once again directed to take all the needful measures to control the losses below 15% with better performance.

Accordingly, the Commission has computed additional power purchase cost due to excess distribution loss as shown in the Table below:

**Table 4.27: Additional Power Purchase Cost for FY 2021-22 as computed by the Commission**

Sl. No	Particulars	Unit	NBPDC Actual FY 2021-22	SBPDCL Actual FY 2021-22
<b>A</b>	<b>Energy Requirement</b>			
1	Energy sales	MU	12,486.61	14,038.27
2	Less: Inter-state sales	MU	630.85	0.00
3	Less: SLDC Deviation	MU	184.74	218.18
4	Energy sales excluding Inter-state sales & SLDC Deviation	MU	11,671.02	13,820.09
5	Distribution Loss	%	15%	15%
6	Add: Distribution Loss	MU	2,059.59	2,438.84
7	<b>Total energy required at Distribution periphery (excluding inter-state sales)</b>	<b>MU</b>	13,730.61	16,258.93
11	Add: Inter-state sales	MU	630.85	0.00
12	Add: SLDC Deviation	MU	184.74	218.18
10	Energy required at Transmission periphery	MU	14,546.20	16,477.11
8	State Transmission Loss	%	3.94%	3.94%
9	Add: State Transmission Loss	MU	596.63	675.83
13	<b>Total energy required at State Transmission Periphery</b>	<b>MU</b>	<b>15,142.83</b>	<b>17,152.94</b>
14	Losses in Regional Transmission System	%	2.69%	2.69%
15	Losses in Regional Transmission System	MU	418.60	474.17
16	<b>Total Energy Requirement at State Periphery</b>	<b>MU</b>	<b>15,561.43</b>	<b>17,627.10</b>
17	Total Energy Purchased	MU	18706.13	22092.41
18	Surplus Energy Purchased	MU	3,144.70	4,465.31
	Surplus Energy Sold	MU	2,074.03	2,449.72
	Balance additional power purchase	MU	1,070.67	2,015.59
21	Additional power purchase cost @APPC including PGCIL charges (Rs. 4.83/kWh)	Rs. Crore	517.60	974.41

**Note:** The Commission has arrived at the CTU losses at 1098.57 MU on power purchased from Central Stations, IPP etc., from outside the State. For estimating the additional power purchase cost due to excess distribution loss, the total power purchase from various sources has been worked out considering the impact of average regional transmission loss  $[2.69\% = (1098.57/40798.54) \times 100]$  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., State Generating stations, Renewable Energy sources, Nepal etc.,

The losses incurred due to controllable factor (i.e., distribution loss in this case) are to be shared in terms of Regulation 11.1 (b) (i) of BERC (Multi Year Distribution Tariff) Regulation, 2018 which is reproduced below:

Aggregate Loss:

- (i) One-third of the amount of such loss shall normally be a pass through as an adjustment in the tariff of the Distribution Licensee as specified in these Regulations and as may be determined in the Order of the Commission passed

*under these Regulations, provided the Commission is satisfied that such loss is not on account of deliberate action of the Distribution Licensee;*

- (ii) *The balance two-third of the amount of such loss shall be on account of Distribution Licensee.*

*Explanation:- If the State Government is providing resource gap grant, Aggregate Loss shall be reduced by that amount for the purpose of computation of Aggregate Loss to be qualified for a pass through.*

The Commission has computed the sharing of gain / (loss) on account of additional power purchase due to excess distribution loss as shown below:

**Table 4.28: Sharing of Gain/(loss) on account of variation in distribution losses for FY 2021-22**

(Rs. Crore)				
Particulars	Approved Power purchase Expense of FY 2021-22	Gain/(Loss) due to Controllable Factors	1/3 <sup>rd</sup> (Loss) to be passed on to Consumers	2/3 <sup>rd</sup> (Loss) to be absorbed by petitioner
A	B	C	F	G
<b>NBPDC</b>				
Power Purchase Cost (including Transmission & SLDC charges)	9754.62	517.60	172.53	345.07
<b>SBPDCL</b>				
Power Purchase Cost (including Transmission & SLDC charges)	11538.25	974.41	324.80	649.61
<b>Total</b>	<b>21292.87</b>	<b>1492.02</b>	<b>497.33</b>	<b>994.68</b>

The Commission has approved the loss of Rs.345.07 Crore and Rs.649.61 Crore for NBPDC and SBPDCL to be absorbed by the licensee on account of additional power purchase expenses due to excess distribution losses.

#### **Treatment of Subsidy from GoB for Power Purchase**

The Government of Bihar has extended a subsidy to the DISCOMs to meet their financial losses arises due to higher AT&C loss beyond the trajectory fixed by the Hon'ble Commission. This Financial support is primarily to facilitate the Discoms to pay the power purchase bills and accordingly the Government has arranged a monthly subsidy of Rs.118.50 Crore per month (i.e. Rs. 1422/- Crore for FY 2021-22) for both Discoms combinedly. The audited accounts of Discoms also depict the subsidy amount of Rs.498.96 Crore for NBPDC and Rs. 923.04 Crore for SBPDCL totalling to Rs.1422 crore for FY 2021-22.

The Commission has approved billing efficiency of 85% (ie. Distribution loss of 15%) and collection efficiency of 100% for both Discoms for FY 2021-22.

The actual distribution losses are at 20.48% for NBPDCCL and 23.56% for SBPDCL and collection efficiency are at 93.65% for NBPDCCL and 84.46% for SBPDCL in FY 2021-22. With such higher distribution losses and lower collection efficiency, the Discoms monthly revenue realisation from sale of energy is less than expected. As such the GoB has arranged subsidy of Rs.118.50 crore every month (total Rs.1422 crore for FY 2021-22) to be directly paid to NTPC by Reserve Bank of India towards power purchase bills.

The Commission vide orders dated 07.11.2022 in Case no.7/2022 (NBPDCCL) and Case no.8/2022 (SBPDCL) has observed as follows:

***“factual position is clear that this Subsidy of Rs. 1266 Cr (Combinedly for SBPDCL and NBPDCCL) provided by the State Government is for DISCOMs to compensate their financial loss due to higher AT&C loss; and if it is treated as Income/Revenue in the ARR, it will get passed on to the Consumers and in spite of State Government’s Compensation this amount does not remain available with the DISCOMs to pay the amount of power purchase cost attributable to such higher AT&C losses. And, accordingly claim of the petitioner to remove, from the revenue of FY 20-21, the amount of subsidy received towards excess AT&C loss is seems to be acceptable. So far as accounting treatment of above said compensatory subsidy in the audited regulatory account is concerned, there are no chances of double claim in near future in which the same is actually adjusted as it is a matter of inter head adjustment which will nullify the inter-head balances. However, in the instant case, it is being observed that financial loss to the DISCOMs due to higher AT&C loss beyond the trajectory fixed by the Commission is Rs. 1264.38 Cr (i.e. Rs.452.28 Cr for NBPDCCL and Rs.812.10 Cr for SBPDCL) which are lesser than the subsidy of Rs. 1266 crore made available by the State Govt. to compensate such financial losses. And, accordingly, as claimed by the petitioner, removal of subsidy from the revenue of FY 20-21, in excess of Rs. 1264.38 Cr (i.e. actual financial loss of both the DISCOMs due to higher AT&C loss) is not justified in the instant case where audited account which is the basis of truing up reports this amount as other income.”***

Accordingly, in truing up of FY 2021-22, an amount of above-said subsidy which are in excess of Rs. 994.67 Cr (i.e. actual financial loss of both the DISCOMs due to higher AT&C loss) has been considered as passed through as detailed in the table below:

**Table 4.29: Sharing of subsidy on account of variation in distribution losses for FY 2021-22**

(Rs. Crore)			
Particulars	NBPDCCL	SBPDCL	Total
Total Subsidy provided by the State Government to the DISCOMs to compensate their financial loss due to higher AT&C loss	498.96	923.04	1422.00
Less: Actual financial loss of DISCOMs due to higher AT&C loss	345.07	649.61	994.70
Amount of Subsidy considered as passed through	153.89	273.43	427.30

#### 4.8. Renewable Power Purchase Obligation

##### Petitioners' submission:

Petitioners submitted that the Commission has notified the BERC (Renewable Purchase Obligation, its Compliance and REC Framework Implementation) Regulations, 2010 and BERC (Terms and Conditions for Tariff Determination from Solar Energy Sources) Regulations, 2010. Further, Commission notified 2<sup>nd</sup> amendment to the RPO Regulation dated 29<sup>th</sup> March 2017. RPO target specified by the 2<sup>nd</sup> amendment to the RPO Regulation is as shown in Table below:

**Table 4.30 Renewable Purchase Obligation (%)**

From Renewable Sources	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
RPO (%)	6.50%	7.75%	9.25%	11.50%	14.25%	17.00%
Solar (%)	1.50%	2.25%	3.25%	4.75%	6.75%	8.00%
Non-Solar (%)	5.00%	5.50%	6.00%	6.75%	7.50%	9.00%

Petitioners further submitted that the Commission has also come up with its 3<sup>rd</sup> amendment in due course BERC (Renewable Purchase Obligation, its Compliance and REC Framework Implementation) Regulations, 2010 and amended Clause 4 as follows:

*"Provided that on achievement of Solar RPO compliance to the extent of 85% and above in any year, remaining shortfall, if any, may be met by purchase of excess non-solar energy beyond the percentage specified for Non-Solar RPO for that particular year.*

*Provided further that on achievement of Non-Solar RPO compliance to the extent of 85*

*% and above in any year, remaining shortfall, if any, may be met by purchase of excess solar energy beyond the percentage specified for solar RPO for that particular year".*

Petitioners have submitted the details of the Renewable Energy based power procured during FY 2021-22 as given in the table below.

**Table 4.31: RPO details for FY 2021-22 as submitted by NBPDCCL and SBPDCL**

Particular	Formulae	NBPDCCL	SBPDCL
Energy Sale (excluding interstate and DSM sales)	A	11724.59	14092.08
Hydro Power Purchase (incl. DSM Bhutan)	B	1358.34	1604.24
Inter-State Transmission Loss in %	C	3.03%	3.03%
Inter-State Transmission Loss in %	(D=B*C)	41.14	48.59
Intra-State Transmission Loss in %	E	3.94%	3.94%
Intra-State Transmission Loss	F=E*(B-D)	51.86	61.25
Distribution Loss (%)	G	20.12%	22.06%
Distribution Loss	H=G*(B-D-F)	254.59	329.59
Hydro Power Consumed	I=B-D-F-H	1010.75	1164.81
Conventional Power Consumed	J=A-I	10713.84	12927.27
<b>RPO Targets (%)</b>		17.00%	17.00%
<b>Solar %</b>	K	8.00%	8.00%
<b>Non-Solar %</b>	L	9.00%	9.00%
<b>RPO Targets</b>		1821.36	2197.63
Solar	J*K	857.11	1034.18
Non-Solar	J*L	964.25	1163.45
<b>Renewable Power Purchase</b>		1344.39	1581.29
Solar		601.39	625.83
Non-Solar		743	955.46
<b>Captive Consumption – Solar</b>		21.61	16.41
<b>Captive Consumption - Non Solar BERDA</b>		53.7	62.86
<b>REC Purchase</b>		0	0
Solar		0	0
Non Solar		0	0
<b>Total Solar RPO Compliance</b>		623	642.24
<b>Total Non Solar RPO Compliance</b>		796.7	1018.32
<b>RPO Shortfall</b>		401.66	537.07
Solar Shortfall		234.11	391.94
Non-Solar Shortfall		167.55	145.13

The Petitioners further submitted that they had entered into PPAs with SECI & NTPC for purchase of renewable power (Solar and Non-Solar) to the tune of 2,000 MW which were expected to be in commercial operation by FY 2020-21. However, the plants have extended their SCD date to second half of FY 2021-22 owing to various technical and commercial reasons one of which is the impact of COVID-19. The Petitioner had planned its power purchase in FY 2021-22 as per the original SCD of the

upcoming plants. However, due to the extension in SCD of the renewable plants, the planning of the petitioner is less likely to materialize and therefore, the RPO shortfall can be observed in fulfilling its RPO obligation.

Further, Adani Green of 50 MW and Torrent Power of 49.80 MW that were likely to come in FY 2021-22 did not commission and are now likely to exit from their PPA. It is therefore requested to the Commission that the Petitioner may not be held accountable for the parameters/reasons which are uncontrollable in nature for the Petitioner.

Further, the Petitioner has already been drawing solar power from a few sources like SECI, Welspun, ACME clean tech, Avantika and Azure Power. The Petitioner has also accounted RE purchases from new sources in FY 2021-22 such as Renew Sunwaves (SECI Phase- III), NTPC Solar of 300 MW, GRT Jewellers (SECI Phase-V).

Therefore, the Petitioner submits that the shortfall in FY 2021-22 based on actual power purchase may either please be allowed to be waived off or the RPO targets may please be relaxed for the FY 2021-22 as all the related factors in fulfilling the set RPO target are uncontrollable in nature for the DISCOM. The Petitioner further submits that it is not able to purchase RECs for the purpose of fulfilling the RPO due to the fact that the REC market has not started its operations post the COVID lockdown.

Further, the Discoms in the Tariff Petition for FY 2020-21 (SBPDCL vide letter dated 18.01.2020 and NBPDCCL vide letter no.67 of 20.01.2020) have submitted the details of RECs purchased earlier (SBPDCL Rs.149.39 Crore and NBPDCCL Rs.106.50 Crore) and cost of which was already factored into the ARR of respective Discoms till FY 2017-18 in truing up. It was submitted by the Discoms that they have fulfilled their RPO Obligations till 2018-19 and requested the Commission to adjudge the RPO related decisions based on units to be purchased instead of the cost associated to it. However, the Commission's vide Tariff Order dated 20<sup>th</sup> March 2020 directed the Petitioner to deposit into the Regulatory Fund Rs 357.56 Cr (NBPDCCL Rs.147.67 crore and SBPDCL Rs.209.89 crore) towards RPO obligation in a separate bank account.

The Petitioner would like to inform the Commission that it had filed an Appeal in APTEL



vide DFR No. 384/2020 dated 02.11.2020 challenging the directions of the Commission to deposit into the Regulatory Fund Rs.357.56 Crore (NBPDCCL Rs.147.67 crore and SBPDCL Rs.209.89 crore) towards RPO obligation in a separate bank account. This appeal is sub-judice with the Hon'ble Appellate Tribunal.

In the backdrop of the above, the Petitioners would like to request the Commission that till the time the appeal is pending before the APTEL, the Petitioner may not be asked to deposit into the Regulatory Fund of Rs.147.67 Crore by NBPDCCL and Rs.209.89 Crore by SBPDCL towards RPO obligation.

**Commission's analysis:**

BERC (Renewable Purchase Obligation, its compliance and REC Framework implementation) Regulations 2010, as amended from time to time, stipulates the RPO targets for Discoms. RPO targets are stipulated as a set percentage of its total energy consumption, excluding consumption from hydropower, as shown in the table below:

**Table 4.32: RPO Target for FY 2021-22**

Sl. No.	Renewable Sources	RPO Target
1	Renewable Purchase Obligation	17.00%
2	Solar	8.00. %
3	Non-Solar	9.00%

As noted from the Power Purchase, for RPO computation, NBPDCCL and SBPDCL have submitted renewable power purchase of 1331.60 MU (Solar 597.07 MU + Non Solar 734.53 MU) and 1572.65 MU (Solar 705.16 MU + Non-solar 867.49 MU respectively for FY 2021-22.

Further, 21.61 MU of captive consumption of solar and 53.70 MU captive consumption of Non-solar are also shown by NBPDCCL and similarly 16.41 MU captive consumption of solar and 62.86 MU captive consumption of Non-solar are shown by SBPDCL under RPO compliance.

The Commission has considered the RE energy purchase as provided in the petition which are validated as per the bills provided by SBPDCL and NBPDCCL.

SBPDCL and NBPDCCL further clarified during the Technical Validation Session dated 07.02.2023 that meters have been installed for recording the power purchase from consumers of BREDA off grid plants.

NBPDCCL and SBPDCL have also considered 5.57 MU and 6.53 MU from Small Hydro

Sources of BSPHC as shown below, for which Power Purchase is not yet approved by the Commission. This quantum of power is also not shown in the power purchase from BSPHC. Therefore this quantum of energy is not considered for RPO compliance.

The Commission has worked out shortfall/(surplus) RPO of SBPDCL and NBPDC as detailed below:

**Table 4.33: RPO compliance computed for FY 2021-22**

Sl. No	Particular	Legend	units	NBPDC	SBPDCL
1	Energy Sale (excluding interstate sales)	A	MUs	11671.02	13820.09
2	Hydro Power Purchase	B1	MUs	1350.11	1594.52
3	Hydro Power purchase by Bhutan under deviation (B2)	B2	MUs	8.23	9.72
4	Total Hydro Power Purchase	B	MUs	1358.34	1604.24
5	Inter-State Transmission Loss	C	%	3.29%	3.29%
6	Inter-State Transmission Loss	$D=B \times C$	MUs	44.69	52.78
7	Intra-State Transmission Loss	E	%	3.94%	3.94%
8	Intra-State Transmission Loss	$F=E \times (B-D)$	MUs	51.76	61.13
9	Distribution Loss	G	%	15.00%	15.00%
10	Distribution Loss	$H=G \times (B-D-F)$	MUs	189.28	223.55
11	Hydro Power Consumed	$I=B-D-F-H$	MUs	1072.61	1266.78
12	Conventional Power Consumed	$J=A-I$	MUs	10598.41	12553.31
13	<b>RPO Targets (%)</b>		<b>%</b>	<b>17%</b>	<b>17%</b>
14	Solar RPO %	K	%	8%	8%
15	Non-Solar RPO %	L	%	9%	9%
16	<b>RPO Targets (MU)</b>		<b>MUs</b>	<b>1801.73</b>	<b>2134.06</b>
17	Solar RPO	$M=J \times K$	MUs	847.87	1004.26
18	Non-Solar PRO	$N=J \times L$	MUs	953.86	1129.80
19	<b>Renewable Power Purchased</b>		<b>MUs</b>	<b>1331.60</b>	<b>1572.65</b>
20	Solar Power Purchased	O	MUs	538.71	636.23
21	Non-Solar Power Purchased	P	MUs	734.53	867.49
22	IEX GTAM	Q		58.36	68.93
23	<b>Captive Consumption Solar</b>	<b>R</b>	<b>MUs</b>	<b>21.61</b>	<b>16.41</b>
24	BREDA Off-grid solar		MUs	0.12	2.52
25	BREDA GCRT solar		MUs	0.72	0.33
26	DDG Standalone		MUs	1.69	2.34
27	DDG Mini grid		MUs	2.58	3.7
29	Net/Gross Meter Consumer		MUs	16.50	7.52
31	<b>Captive Consumption Non- Solar BERDA</b>	<b>S</b>	<b>MUs</b>	<b>53.70</b>	<b>62.86</b>
32	<b>RPO compliance</b>				
33	Total Solar RPO Compliance	$T=O+R$	MUs	618.68	721.57
34	Total Non-Solar RPO Compliance	$U=P+Q+S$	MUs	788.23	930.35
35	<b>RPO Shortfall</b>				

Sl. No	Particular	Legend	units	NBPDCCL	SBPDCL
36	Solar Shortfall/ (Surplus)	V=M-T	MUs	229.19	282.69
37	Non-Solar Shortfall/ (Surplus)	W=N-U	MUs	165.63	199.45
38	Target Achieved				
39	Solar (%)	(T/M)*100	%	72.97%	71.85%
40	Non-Solar (%)	(U/N)*100	%	82.64%	82.35%

The Commission has observed that the Discoms have not been able to achieve their RPO obligations for FY 2021-22 as set out by the Commission and have further sought for to be waived off or the RPO targets may please be relaxed for the FY 2021-22 as all the related factors in fulfilling the set RPO target are uncontrollable in nature for the DISCOM.

The Commission in the T.O dated 26.03.2021, has directed the Discoms to carry forward the short-fall of RPO of FY 2019-20 into FY 2020-21. The BSPHCL vide letter No:256 dated 30.12.2020 has filed a petition (35/2020) for approval to consider waiving of the RPO short-fall for FY 2020-21 after adjusting carry forward of FY 2019-20. The petition is pending disposal.

The Commission observes that inspite of directions to fulfil the RPO Obligation, the DISCOMs have not complied with the RPO Obligation for FY 2021-22 also. The Commission views the inaction of the Discoms seriously and again directs the Discoms to fulfil the RPO short fall of FY 2019-20, 2020-21 and FY 2021-22 and report compliance.

The Commission expects the Petitioners to make all efforts to increase power procurement from Renewable sources.

#### 4.9. Capital Expenditure

##### Petitioners' submission:

NBPDCCL and SBPDCL have submitted the details of opening CWIP, investment and capitalisation during the year and funding of capitalisation showing details of Grants, Equity and Loan for FY 2021-22. The Discoms have requested the Commission to approve the CWIP, capitalisation and funding of capitalisation for FY 2021-22 as given in the Table below:

**Table 4.34: CWIP, Capitalisation and Funding of capitalisation claimed for FY 2021-22**

(Rs. Crore)

Sl. No.	Particulars	Claimed in true up by NBPDC for FY 2021-22	Claimed in true up by SBPDCL for FY 2021-22
1	Opening CWIP	5247.61	4287.07
2	Add: New Investment	1469.28	1785.93
3	Less: Capitalisation (A+B)	<b>5010.91</b>	<b>3311.16</b>
A	Opening CWIP capitalization	4008.73	2648.93
B	New Investment capitalization	1002.18	662.23
4	adjustment from opening CWIP		283.77
5	<b>Closing CWIP (1+2-3-4)</b>	<b>1705.98</b>	<b>2478.07</b>
6	<b>Funding of Capitalisation</b>		
A	<b>CWIP capitalization</b>	4008.73	2648.92
I	Grant	1672.44	1190.68
li	Equity	1699.34	722.52
lii	Loans	636.95	735.72
B	<b>New Investment capitalization</b>	<b>1002.19</b>	<b>662.23</b>
I	Grant	418.11	297.67
li	Equity	424.84	180.63
lii	Loans	159.24	183.93
7	<b>Total Grants</b>	2090.55	1488.35
8	<b>Total Equity</b>	2124.18	903.15
9	<b>Total Loans</b>	796.19	919.65

**Commission's analysis:**

The Discoms have considered opening CWIP, capital investment and capitalisation for FY 2021-22 as per the audited annual accounts of FY 2021-22 instead of the closing balance of CWIP approved in true up for FY 2020-21 in Tariff Order dated 25.03.2022.

The Discoms have provided the details of scheme-wise capitalisation and source of funding of capitalisation for FY 2021-22 in format 11 and format 14 of the petition respectively.

The Commission, based on the audited figures of opening CWIP, closing CWIP and capitalisation, has derived the value of capital investment/capex made during FY 2021-22 as detailed below:

**Table 4.35: Calculation of new capital investment based on accounts for FY 2021-22**

(Rs. Crore)

Sl. No.	Particulars	NBPDC	SBPDCL
1	Closing CWIP	1705.97	2478.07
2	Add: Capitalization	6183.27	3311.19

Sl. No.	Particulars	NBPDCCL	SBPDCL
3	Less: Opening CWIP	5247.62	4287.06
4	<b>New capital investment (1+2-3)</b>	<b>2641.62</b>	<b>1502.20</b>

The Commission had approved closing CWIP at Rs.4497.39 Crore for NBPDCCL and Rs.4009.10 crore for SBPDCL in truing up for FY 2020-21 in Tariff order dated 25.03.2022 and the same shall be considered as opening CWIP for FY 2021-22. However, the Discoms (NBPDCCL and SBPDCL) have adopted opening CWIP as per the audited annual accounts for FY 2021-22 in spite of the decision/ruling of the Commission in Tariff order dated 25.03.2022 which is reproduced hereunder:

*“.....the Discoms vide letter dated 11.12.2021 have submitted that that Ind AS– 16 Property, Plant and Equipment defines carrying cost as the amount at which an asset is recognized after deducting any accumulated depreciation and accumulated impairment losses. As such, the value of Property, Plant and Equipment have been taken at their carrying value and not at the historical cost and hence, there is a difference in the opening balance adopted in the tariff petition for FY 2020-21 with the closing balance of 2019-20 approved in Tariff order dated 26.03.2021. The petitioner hereby contends that by adopting closing balances approved in truing up for FY 2019-20 in TO dated 26.03.2021, there will be complete deviation from the books of accounts. The Petitioners in response to query vide letter no. Case No.16/2021-25 dated 07.01.2022 has replied that they intend to adopt the opening balances as per the audited accounts of FY 2020-21.*

*Regulation 14 (b) of BERC (Multi Year Distribution Tariff) Regulations 2018 specify 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.*

*Regulation 2 (3)(1)(4) specify “Audited accounts or Audited Accounting Statements” for the purpose of licensed or regulated business shall mean (Audited) Regulatory Accounts prepared in accordance with BERC (Power Regulatory Accounting) Regulations, 2018.*

*Regulation 3.1(6) specify "Books of Accounts" for the purpose of licensed or regulated*

*business shall mean Regulatory Books of Accounts drawn up in accordance with BERC (Power Regulatory Accounting) Regulations, 2018.*

*Regulation 8.1 of the BERC (Power Regulatory Accounting) Regulations 2018 specify every licensee shall prepare the Regulatory Accounts under the Historical Cost Convention in accordance with the provisions of the Act and the Regulations notified by the Commission from time to time, Generally Accepted Accounting Principles in India, applicable Accounting Standards as notified by the Central Government within the provisions of section 133 and other relevant provisions of the Companies Act, 2013 and its amendments thereof as well as rules made or refereed under the Act in this regard, wherever applicable. Regulation 9 specify the Accounting Policies for regulatory accounts which specify fixed assets, capital works in progress, etc. shall be considered at historical cost/at cost.*

*The Commission in Tariff order dated 25.02.2019 has opined that the adjustments made by Discoms due to adoption of Ind AS101 in the annual accounts as per change in accounting policy is the presentation requirement to present net value of assets as on 1st April 2016 and there is no impact on the overall historical value of the GFA.*

*Conjoint reading of regulation 14 (b), 3.1(4) and 3.1(6) of BERC (Multi Year Distribution Tariff) Regulations 2018, Regulation 8.1 of the BERC (Power Regulatory Accounting) Regulations 2018 and ruling in Tariff order dated 25.02.2019 emphasis that historical cost shall be considered in respect of opening balances to be carried forward year on year”.*

The Commission, in view of the above, has considered the opening CWIP (Rs.4497.39 crore for NBPDCCL and Rs.4009.10 crore for SBPDCL) for FY 2021-22 based on the closing CWIP approved in truing up for FY 2020-21 in Tariff order dated 25.03.2022.

The Discoms have furnished the work/project wise details of capitalization and source of funding in Format 11 and Format 14 respectively.

NBPDCCL has claimed scheme-wise capex and capitalisation for FY 2021-22 in truing up as given in the table below:

Table 4.36: Capital expenditure and capitalisation claimed by NBPDC for FY 2021-22

(Rs. Crore)

Sl. No.	Name of scheme / Project	Project cost approved in Business Plan in TO dated 25.02.2019	Capital invested to end of FY 2020-21	Capitalisation to end of FY 2020-21	Closing CWIP for FY 2020-21	Capex claimed for FY 2021-22	Capitalisation claimed for FY 2021-22	Closing CWIP to end of FY 2021-22	Total capitalisation to end of FY 2021-22	Balance capex to be invested vs project cost approved	Balance to be capitalised vs project cost approved
A	B	C	D	E	F=D-E	G	H	I=F+G-H	J=E+H	K=C-D-G	L=C-J
1	BRGF	2740.81	2444.25	1572.80	871.45	3.70	834.04	41.11	2406.84	292.86	333.97
2	R-APDRP	231.93	232.82	228.83	3.99	(11.27)	(11.48)	4.20	217.35	10.38	14.58
3	NABARD Phase VIII	20.18	23.94	23.88	0.06	0.20	0.26	(0.00)	24.14	(3.96)	(3.96)
4	NABARD Phase XI	16.53	1.51	0.77	0.74	0.08	0.08	0.74	0.85	14.94	15.68
5	MP/CM LAD	27.54	15.18	15.14	0.04	0.00	0.00	0.04	15.14	12.36	12.40
6	Deposit Scheme	18.92	5.33	0.43	4.90	1.29	1.29	4.90	1.72	12.30	17.20
7	ADB	411.68	79.99	79.99	0.00	0.00	0.00	0.00	79.99	331.69	331.69
8	ACA State Plan	64.09	40.59	39.70	0.89	4.46	5.35	0.00	45.05	19.04	19.04
9	Burnt DTR State Plan	599.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	599.89	599.89
10	State Plan -Others	1823.26	1500.62	820.52	680.10	637.22	764.39	552.93	1584.91	(314.58)	238.35
11	APL Connection	82.84	815.37	636.37	179.00	50.19	140.97	88.22	777.34	(782.72)	(694.50)
12	CM Seven Resolutions (Har Ghar Bijili)	1203.38	109.28	109.28	0.00	0.00	0.00	0.00	109.28	1094.10	1094.10
13	Reconductoring		375.52	252.75	122.77	0.00	183.46	(60.69)	436.21	(375.52)	(436.21)
14	IPDS	78.89	831.43	400.75	430.68	7.80	462.63	(24.15)	863.38	(760.34)	(784.49)
15	RGVY	3983.51	3773.02	3437.94	335.08	175.24	567.26	(56.94)	4005.20	35.25	(21.69)
16	DDUGJY	3393.30	4154.59	2318.32	1836.27	190.57	2012.62	14.22	4330.94	(951.86)	(937.64)
17	Own Sources	331.92	46.84	18.41	28.43	409.80	50.05	388.18	68.46	(124.72)	263.46
	<b>Total</b>	<b>15028.67</b>	<b>14450.28</b>	<b>9955.88</b>	<b>4494.40</b>	<b>1469.28</b>	<b>5010.92</b>	<b>952.76</b>	<b>14966.80</b>	<b>(890.89)</b>	<b>61.87</b>

The Commission has observed from the table above, NBPDC has claimed capitalisation of Rs.183.46 crore in respect of Reconductoring Scheme/project in truing up for FY 2021-22.

The Commission, in Tariff Order dated 26.03.2021 has opined that

*capex under Reconductoring scheme is not approved by the Commission. It was opined that implementation of Reconductoring Scheme is for strengthening of distribution network to provide quality and uninterrupted 24x7 power to all. The Commission noting the fact that, the petitioners have already incurred investment against the scheme without taking prior approval, the Commission after thoughtful consideration has considered capitalisation of Reconductoring Scheme for FY 2019-20.*

*It is also clarified and reiterated its direction to petitioners to take prior approval for each scheme to be undertaken by the DISCOMs.*

The Commission, in Tariff order dated 25.03.2022, in view of submission of DPRs for reconductoring scheme has considered and kept aside the capital expenditure as reported through audited accounts for FY 2020-21 claimed in truing up subject to approval of the scheme. The Commission following the principle of prudence and consistency has not considered capitalisation of Rs.183.46 core relating to reconductoring scheme and the same shall be considered on approval of scheme.

NBPDC has claimed capitalisation of Rs.567.26 crore under RGGVY scheme for FY 2021-22. It is observed that (RGGVY scheme) the capitalisation claimed is higher than the actual capital investment. The actual cumulative capex is at Rs.3773.02 crore against which the cumulative capitalisation of Rs.4005.20 crore is claimed for the period from FY 2018-19 to FY 2021-22 resulting in excess capitalisation by Rs.232.18 crore. As such, the capitalisation (under RGGVY scheme) is restricted to the level of total cumulative capex regulating the capitalisation during FY 2021-22 to Rs.335.08 crore (567.26-232.18) under RGGVY scheme.

Under DDUGJY scheme capitalisation is claimed at Rs.2012.62 crore for FY 2021-22. It is observed that the capitalisation claimed is higher than the project cost approved in Business plan in the Tariff order dated 25.02.2019. The project approved is at



Rs.3393.30 crore and the cumulative capitalisation claimed to end of FY 2021-22 is at Rs.4330.94 crore claimed for the period from FY 2018-19 to FY 2021-22 resulting in excess capitalisation by Rs.937.64 crore. As such, the capitalisation (under DDUGJY scheme) is restricted to the level of project cost approved duly regulating the capitalisation during FY 2021-22 to Rs.1074.98 crore (2012.62-937.64) under DDUGJY scheme.

Similarly, the excess capitalisation, under IPDS scheme, claimed by the petitioner is adjusted and accordingly, Nil capitalisation under IPDS scheme is considered for FY 2021-22.

The Commission has considered scheme-wise capital expenditure and capitalisation for FY 2021-22 in true up as given in the Table below for NBPDC.

**Table 4.37: Capex and capitalisation approved for FY 2021-22 in true up for NBPDC**

(Rs. Crore)					
Sl. No.	Name of scheme / Project	Opening balance of CWIP for FY 2021-22	Capex during FY 2021-22	Capitalization during FY 2021-22	Closing balance of CWIP to end of FY 2021-22
A	B	C	D	E	F=C+D-E
1	BRGF	871.45	3.70	834.04	41.11
2	R-APDRP	3.99	-11.27	-11.48	4.20
3	NABARD Phase VIII	0.06	0.20	0.26	0.00
4	NABARD Phase XI	0.74	0.08	0.08	0.74
5	MP/CM LAD	0.04			0.04
6	Deposit Scheme	4.90	1.29	1.29	4.90
7	ADB	0.00			0.00
8	ACA State Plan	0.89	4.46	5.35	0.00
9	Burnt DTR State Plan	0.00			0.00
10	State Plan -Others	680.10	637.22	764.39	552.93
11	APL Connection	179.00	50.19	140.97	88.22
12	CM 7 resolutions (Har Ghar Bijili)	0.00			0.00
13	Reconductoring	122.77		0.00	122.77
14	IPDS	430.68	7.80		438.48
15	RGGVY	335.08	175.24	333.38	176.94
16	DDUGJY	1836.27	190.57	1074.98	951.86
17	Own Sources	28.43	409.80	50.05	388.18
	<b>Total</b>	<b>4494.40</b>	<b>1469.28</b>	<b>3193.31</b>	<b>2770.37</b>

SBPDCL has claimed scheme-wise capex and capitalisation for FY 2021-22 in truing up as given in the table below:

**Table 4.38: Capital expenditure and Capitalisation claimed by SBPDCL for FY 2021-22**

Sl. No.	Name of scheme / Project	Project cost approved in Business Plan in TO dated 25.02.2019	Capital invested to end of FY 2020-21	Capitalisation to end of FY 2020-21	Closing CWIP for FY 2020-21	Capex claimed for FY 2021-22	Capitalisation claimed for FY 2021-22	Closing CWIP to end of FY 2021-22	Total capitalisation to end of FY 2021-22	Balance capex to be invested vs project cost approved	Balance to be capitalised Vs project cost approved
A	B	C	D	E	F=D-E	G	H	I=F+G-H	J=E+H	K=C-D-G	L=C-J
1	BRGF	1665.81	926.35	282.59	643.76	181.15	59.40	765.51	341.99	558.31	1323.82
2	R-APDRP	1084.59	877.63	696.69	180.94	69.79	250.94	(0.21)	947.63	137.17	136.96
3	NABARD Phase VIII	1.28	6.18	6.39	(0.21)	0.27	0.00	0.06	6.39	(5.17)	(5.11)
4	NABARD Phase XI	27.18	0.58	0.59	(0.01)	0.00	0.00	(0.01)	0.59	26.60	26.59
5	MP/CM LAD	10.05	1.85	1.08	0.77	0.19	0.00	0.96	1.08	8.01	8.97
6	Deposit Scheme	20.45	7.25	4.93	2.32	4.14	3.27	3.19	8.20	9.06	12.25
7	ADB	107.21	79.00	0.02	78.98	0.82	0.00	79.80	0.02	27.39	107.19
8	ACA State Plan	50.57	47.54	31.06	16.48	(0.85)	0.00	15.63	31.06	3.88	19.51
9	Burnt DTR State Plan	17.50	0.80	0.00	0.80	0.32	0.00	1.12	0.00	16.38	17.50
10	State Plan - Others	582.02	821.42	502.90	318.52	579.04	338.79	558.77	841.69	(818.44)	(259.67)
11	APL Connection	316.78	380.73	285.24	95.49	32.85	28.89	99.45	314.13	(96.80)	2.65
12	CM Seven Resolutions (Har Ghar Bijili)	1307.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1307.00	1307.00
13	Reconductoring		617.37	213.21	404.16	124.36	286.41	242.11	499.62	(741.73)	(499.62)
14	IPDS	1121.99	1287.68	672.66	615.02	251.29	687.18	179.13	1359.84	(416.98)	(237.85)
15	RGGVY	1649.16	1750.78	1649.16	101.62	214.03	169.25	146.40	1818.41	(315.65)	(169.25)
16	DDUGJY	2421.71	2953.34	1642.80	1310.54	287.24	1485.47	112.31	3128.27	(818.87)	(706.56)
17	Own Sources	488.09	261.43	21.51	239.92	41.29	1.56	279.65	23.07	185.37	465.02
	<b>Total</b>	<b>10871.39</b>	<b>10019.93</b>	<b>6010.83</b>	<b>4009.10</b>	<b>1785.93</b>	<b>3311.16</b>	<b>2483.87</b>	<b>9321.99</b>	<b>(934.47)</b>	<b>1549.40</b>

The Commission following the principle of prudence and consistency has not considered capitalisation of Rs.286.41 crore relating to reconductoring scheme claimed by SBPDCL in truing up for FY 2021-22, however the same shall be considered on approval of scheme. The Commission, in view of submission of DPRs for reconductoring scheme has considered the capital investment of Rs.124.36 crore as reported through audited accounts for FY 2021-22 subject to approval of the scheme.

It is also observed that SBPDCL has claimed excess capex and capitalisation in respect of State Plan-others, RGGVY, IPDS and DDUGJY schemes than the capital investment approved in the Business plan in Tariff Order dated 25.02.2019 for the control period FY 2019-20 to FY 2021-22. As such the excess capex and capitalisation, in respect of said schemes, is not considered in truing up for FY 2021-22. The Commission has

considered scheme-wise capitalisation for FY 2021-22 in truing up as given in the Table below for SBPDCL.

**Table 4.39: Capex and Capitalisation approved for FY 2021-22 in true up for SBPDCL**

(Rs. Crore)

Sl. No.	Name of scheme / Project	Opening balance of CWIP for FY 2021-22	Capex during FY 2021-22	Capitalization during FY 2021-22	Closing balance of CWIP to end of FY 2021-22
A	B	C	D	E	F=C+D-E
1	BRGF	643.76	181.15	59.40	765.51
2	R-APDRP	180.94	69.79	250.94	-0.21
3	NABARD Phase VIII	-0.21	0.27	0.00	0.06
4	NABARD Phase XI	-0.01	0.00	0.00	-0.01
5	MP/CM LAD	0.77	0.19	0.00	0.96
6	Deposit Scheme	2.32	4.14	3.27	3.19
7	ADB	78.98	0.82	0.00	79.80
8	ACA State Plan	16.48	-0.85	0.00	15.63
9	Burnt DTR State Plan	0.80	0.32	0.00	1.12
10	State Plan -Others	318.52	579.04	79.12	818.44
11	APL Connection	95.49	32.85	28.89	99.45
12	CM 7 resolutions (Har Ghar Bijili)	0.00	0.00	0.00	0.00
13	Reconductoring	404.16	124.36	0.00	528.52
14	IPDS	615.02	251.29	449.33	416.98
15	RGGVY	101.62	214.03	0.00	315.65
16	DDUGJY	1310.54	287.24	778.91	818.87
17	Own Sources	239.92	(242.45)*	1.56	(4.09)
	<b>Total</b>	<b>4009.10</b>	<b>1502.19</b>	<b>1651.42</b>	<b>3859.87</b>

\* including Rs.283.74 crore adjustment

The Commission, accordingly, considers the funding of capitalization for FY 2021-22 in truing up.

**Table 4.40: Funding of Capitalisation approved for FY 2021-22 in true up for NBPDCCL**

(Rs. Crore)

Sl. No.	Name of scheme /Project	Funding pattern			Funding			
		Loan	Grant	Equity	Capitalisation	Loan	Grant	Equity
1	BRGF			100%	834.04	0.00	0.00	834.04
2	R-APDRP	100%			-11.48	-11.48	0.00	0.00
3	NABARD Phase VIII		100%		0.26	0.00	0.26	0.00
4	NABARD Phase XI		100%		0.08	0.00	0.08	0.00
5	MP/CM LAD		100%		0.00	0.00	0.00	0.00
6	Deposit Scheme		100%		1.29	0.00	1.29	0.00

Sl. No.	Name of scheme /Project	Funding pattern			Funding			
		Loan	Grant	Equity	Capitalisation	Loan	Grant	Equity
7	ADB	100%			0.00	0.00	0.00	0.00
8	ACA State Plan			100%	5.35	0.00	0.00	5.35
9	Burnt DTR State Plan			100%	0.00	0.00	0.00	0.00
10	State Plan - Others			100%	764.39	0.00	0.00	764.39
11	APL Connection		100%		140.97	0.00	140.97	0.00
12	CM 7 resolutions (Har ghar bijili)		100%		0.00	0.00	0.00	0.00
13	Reconductoring			100%	0.00	0.00	0.00	0.00
14	IPDS	30%	60%	10%	0.00	0.00	0.00	0.00
15	RGGVY	10%	90%		333.38	33.34	300.04	0.00
16	DDUGJY	30%	60%	10%	1074.98	322.49	644.99	107.50
17	Own Sources			100%	50.05	0.00	0.00	50.05
	<b>Total</b>				<b>3193.31</b>	<b>344.35</b>	<b>1087.63</b>	<b>1761.33</b>

**Table 4.41: Funding of Capitalisation approved for FY 2021-22 in true up for SBPDCL****(Rs. Crore)**

Sl. No.	Name of scheme /Project	Funding pattern			Funding			
		Loan	Grant	Equity	Capitalisation	Loan	Grant	Equity
1	BRGF			100%	59.40	0.00	0.00	59.40
2	R-APDRP	100%			250.94	250.94	0.00	0.00
3	NABARD Phase VIII		100%		0.00	0.00	0.00	0.00
4	NABARD Phase XI		100%		0.00	0.00	0.00	0.00
5	MP/CM LAD		100%		0.00	0.00	0.00	0.00
6	Deposit Scheme		100%		3.27	0.00	3.27	0.00
7	ADB	100%			0.00	0.00	0.00	0.00
8	ACA State Plan			100%	0.00	0.00	0.00	0.00
9	Burnt DTR State Plan			100%	0.00	0.00	0.00	0.00
10	State Plan -Others			100%	79.12	0.00	0.00	79.12
11	Reconductoring		100%		28.89	0.00	28.89	0.00
12	IPDS		100%		0.00	0.00	0.00	0.00
13	RGGVY	30%	60%	10%	449.33	134.80	269.60	44.93
14	DDUGJY	10%	90%		0.00	0.00	0.00	0.00
15	APL Connection	15%	75%	10%	778.91	116.84	584.18	77.89
16	Own Sources			100%	1.56	0.00	0.00	1.56
	<b>Total</b>				<b>1651.42</b>	<b>502.58</b>	<b>885.94</b>	<b>262.90</b>

The Commission, accordingly, has considered the opening CWIP, capex and capitalisation during FY 2021-22 and funding of capitalisation as detailed in the table below:

**Table 4.42: Opening CWIP, Capex, Capitalisation and funding of capitalisation approved for FY 2021-22 in true up****(Rs. Crore)**

Sl. No.	Particulars	Approved in truing up for FY 2021-22 for NBPDC	Approved in truing up for FY 2021-22 for SBPDCL	Total
1	Opening CWIP (as per closing CWIP approved in true up for FY 2020-21)	4497.39	4009.10	8506.49
2	Add: New Investment	1469.28	1502.19	2971.47
3	Less: Capitalisation	<b>3193.31</b>	<b>1651.42</b>	<b>4844.73</b>
4	<b>Closing CWIP (1+2-3)</b>	<b>2773.36</b>	<b>3859.87</b>	<b>6633.23</b>
5	Funding of Capitalisation (a+b+c)	3193.31	1651.42	4844.73
a	Grant	1087.63	769.10	1856.73
b	Equity	1761.33	262.90	2024.23
c	Loans	344.35	619.42	963.77

The Commission accordingly approves the Opening CWIP, New Investment, Capitalisation, Closing CWIP and funding of capitalisation for FY 2021-22 in truing up as detailed in the Table above.

**Variation in capex and capitalisation:**

Regulation 9.2 of BERC (Multi Year Distribution Tariff) Regulations, 2018 specify the “controllable factors” shall comprise but not limited to variations in capital expenditure on account of time and/or cost overruns/ efficiencies in the implementation of a capital project not attributable to an approved change in scope of such project, change in statutory levies or force majeure events.

Regulation 9.2 (a) of BERC (Multi Year Distribution Tariff) Regulations 2018 specify variation in capital cost on account of time and/or cost overruns/ efficiencies in the implementation of a capital expenditure project and its impact on ARR components such as RoE, Depreciations, Interest on Loan as controllable factor. Regulation 11 specifies that variation in capitalisation is subject to mechanism of sharing of gain and losses. The Commission accordingly has inclined to undertake detailed analysis of scheme-wise deviation in project cost.

The Discoms have submitted the scheme-wise capex and capitalisation details. However, the work-wise details under each scheme were not provided to verify, whether the works have been carried out and completed within the scheduled time

period, material and cost variations due to change/modifications in specifications, etc. to ascertain cost due to uncontrollable factors, etc. In the absence of required information, determining the variation in capitalisation is on account of performance efficiencies / inefficiencies of the utilities or due to uncontrollable / controllable factors is not feasible. It is pertinent to state that due to COVID pandemic and imposition of lockdown / restrictions may also have impacted the performance of the utilities.

As such the variation in capex and capitalisation is considered to be due to uncontrollable force majeure factors and dependent ARR factors of Depreciation, Interest on Loan, Return on Equity, etc. are also considered as uncontrollable and pass through in the ARR.

#### 4.10. Gross Fixed Assets

##### Petitioners' submission

The Discoms have submitted that Opening GFA is considered as per the audited annual accounts as on 31<sup>st</sup> March 2021 and computed the GFA based on the capitalisation for FY 2021-22 as detailed in the table below:

**Table 4.43: Gross Fixed Assets claimed for FY 2021-22**

				(Rs. Crore)
Sl. No.	Particulars	Claimed in true up by NBPDC	Claimed in true up by SBPDCL	Total
1	Opening GFA	16677.96	12989.81	29667.77
2	Additions during the year	5010.92	3311.08	8322
3	Less: Disposal/Sale/Transfer	155.08		155.08
4	<b>Closing GFA (1+2-3)</b>	<b>21533.80</b>	<b>16300.89</b>	<b>37834.69</b>

##### Commission's analysis:

The Discoms have submitted that Opening GFA is considered as per the audited annual accounts as on 31<sup>st</sup> March 2021. The Commission has comprehensively deliberated (in the earlier paragraph 4.9 above) the issue of adjustments made in the books of accounts by the Discoms due to adoption of Ind AS 101 and adoption of opening balances for the purpose of tariff, which is not stated here due to brevity.

The Commission, in view of the deliberations and in accordance with the provisions of

Regulation 8.1 and Regulation 9 of BERC (Power Regulatory Accounting) Regulations 2018, has adopted the opening GFA based on the closing GFA approved in the truing up for FY 2020-21.

The Commission had approved closing GFA at Rs.17971.16 Crore for NBPDCCL and Rs.13769.58 Crore for SBPDCL in true up for FY 2020-21 in the Tariff Order dated 25.03.2022 and the same is considered as opening GFA in truing up for FY 2021-22.

The Commission, accordingly, has considered the opening GFA, additions to GFA and closing GFA as detailed in the table below:

**Table 4.44: Gross Fixed Assets approved for FY 2021-22**

(Rs. Crore)

Sl. No.	Particulars	Approved in True up by NBPDCCL	Approved in True up by SBPDCL	Total
1	Opening GFA	17971.16	13769.58	31740.74
2	Additions during the year	3193.31	1651.42	4844.73
3	Direct additions			0.00
4	Less: Disposal/Sale/Transfer	155.08	0.11	155.19
5	<b>Closing GFA (1+2+3-4)</b>	<b>21009.39</b>	<b>15420.89</b>	<b>36430.28</b>

**The Commission, accordingly, approves Gross Fixed Assets for FY 2021-22 in true up as above.**

#### 4.11. Depreciation

##### **Petitioners' submission:**

NBPDCCL and SBPDCL have submitted that depreciation is claimed as per regulation 23 of BERC (Multi Year Distribution Tariff) Regulations 2018 after reducing the value of land, depreciation on grants and consumer contribution amortized in the ratio of depreciation. The Discoms have claimed the depreciation for FY 2021-22 as detailed in the table below:

**Table 4.45: Depreciation claimed for FY 2021-22**

(Rs. Crore)

Sl. No.	Particulars	Claimed in truing up by NBPDCCL for FY 2021-22	Claimed in truing up by SBPDCL for FY 2021-22	Total
1	Opening GFA	16677.96	12989.81	29667.77
2	Less: Value of land	1035.61	1544.71	2580.32
3	<b>Net Opening GFA (1-2)</b>	<b>15642.35</b>	<b>11445.10</b>	<b>27087.45</b>

Sl. No.	Particulars	Claimed in truing up by NBPDCCL for FY 2021-22	Claimed in truing up by SBPDCL for FY 2021-22	Total
4	Net Additions during the year (excl. land)	5005.46	3309.62	8315.08
5	Adjustment for assets sold/discarded, etc	155.08	0.11	155.19
6	Closing GFA (3+4-5)	20492.73	14754.61	35247.34
7	Average GFA $\{(3+6)/2\}$	18067.54	13099.86	31167.40
8	Weighted average rate of depreciation	4.38%	4.80%	
9	Depreciation (7*8)	791.19	629.23	1420.41
10	Opening Grants	9732.00	5482.00	15214.00
11	Grants during the year	2091.00	1488.00	3579.00
12	Less: Grants utilised for Land during the year (as reported in Format 14)	67.00		67.00
13	Closing Grants (10+11-12)	11756.00	6970.00	18726.00
14	Average Grants $\{(10+13)/2\}$	10744.00	6226.00	16970.00
15	Weighted average rate of depreciation	4.51%	5.30%	
16	Depreciation for GFA on Grants (14*15)	484.40	329.73	814.12
17	<b>Net Depreciation (9-16)</b>	<b>306.79</b>	<b>299.50</b>	<b>606.29</b>

The Discoms have proposed the gains/(loss) on account of depreciation for FY 2021-22 as given in the table below:

**Table 4.46: Gains/(Loss) on account of Depreciation for FY 2021-22**

(Rs. Crore)

Name of the Discom	Approved in the Tariff Order for FY 2021-22	Actual Claimed in Truing up	Deviation	Gain/(Loss) due to Controllable Factors	Pass through on account of Uncontrollable Factors
NBPDCCL	215.30	306.79	(91.49)		91.49
SBPDCL	257.54	299.50	(41.96)		41.96

#### Commission's analysis:

The Commission has examined the computation of depreciation claimed by the Discoms for FY 2021-22.

Regulation 23 of BERC (Multi Year Distribution Tariff) Regulations 2018, specify;

#### *"23. Treatment of Depreciation*

- Depreciation shall be calculated for each year of the control period on the original cost of the fixed assets of the corresponding year.*
- Depreciation shall not be allowed on assets funded by capital subsidies, consumer contributions or grants.*
- Depreciation shall be calculated annually on the basis of assets capitalised and*



*put to use based on the straight-line method over the useful life of the asset at rate not exceeding the rate specified by the Central Electricity Regulatory Commission for Transmission utility.*

- d) The residual value of assets shall be considered as 10% and depreciation shall be allowed to a maximum of 90% of the original cost of the asset.*

*The Distribution Licensee shall submit separate detail of fully depreciated asset along with year of commissioning and year of attaining ninety percent depreciation with the tariff petition.*

*Provided that freehold 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.*

*Provided further that cost of leasehold land shall be amortized evenly within the leased period.*

- e) Depreciation shall be charged from the first year of commercial operation of the asset.*

*Provided that in case the operation of the asset is for a part of the year, depreciation shall be charged on proportionate basis.*

- f) A provision of replacement of assets shall be made in the capital investment plan.”*

Regulation 23 (a) specify, depreciation shall be calculated annually on the assets capitalised/put to use (from the date of commercial operation) on straight line method over the useful life of the asset at rates specified by the CERC for Transmission utility. Depreciation shall not be allowed on assets funded by capital subsidies, grants or consumer contributions and the cumulative depreciation shall be limited to 90% of the original cost of the asset. Land is not depreciable asset and cost of land shall be excluded for computing depreciation. The Commission has verified the procedures being followed by the Discoms from the Notes to Accounts – Significant Accounting Policies specified in the Audited accounts of the Discoms.

According to the audited accounts for FY 2021-22, the opening GFA includes land of Rs.1544.71 crore for SBPDCL and Rs.1035.62 crore for NBPDCCL. During the year FY 2021-22, SBPDCL has land addition of Rs.1.57 crore and NBPDCCL of Rs.5.45 crore. The Commission accordingly considered the land value as above to calculate weighted average rate of depreciation for FY 2021-22.

The Commission, in order to arrive effective weighted average rate of depreciation, has considered the opening GFA (historical cost) for FY 2021-22 based on the closing GFA as approved in the truing up for FY 2020-21 in Tariff order dated 25.03.2022. The opening GFA and addition to GFA during the year 2021-22 includes value of land. 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 for FY 2021-22. The Commission has considered addition to GFA as detailed in Table 4.44. The effective weighted average rate of depreciation is worked out on the depreciable assets i.e. excluding land value for FY 2021-22 as detailed hereunder in table below:

**Table 4.47: Effective weighted average rate of depreciation on Assets**

Sl. No.	Particulars	NBPDCCL	SBPDCL
1	Opening GFA balance of depreciable assets for FY 2021-22 (as per closing depreciable assets approved in true up for FY 2020-21 Table 4.46 of Tariff order dated 25.03.2022)	17175.88	12632.95
2	Additions during the year (Net of Assets Sold/Transfer/Disposed)	6028.19	3311.08
3	Less: Value of land added during the year	5.45	1.57
4	Closing GFA (Closing depreciable assets) (1+2-3)	23198.62	15942.46
5	Average GFA (3+6)/2	20187.25	14287.71
6	Net Depreciation as per accounts	815.80	629.23
7	<b>Weighted average rate of Depreciation (6/5)*100</b>	<b>4.04%</b>	<b>4.40%</b>

The Discoms have furnished the details of grants utilised for creation of assets and depreciation charged thereon in Format No.14 and Format No.15 for truing up for FY 2021-22 of the tariff petition. The Commission has found that depreciation on assets created through grants claimed by the SBPDCL is in agreement with the audited accounts (Amortisation of Grant) vis-à-vis Format 15.

The Commission, observes that opening balance of depreciable assets created out of grant is neither in agreement with the closing balance approved in true up for FY 2020-

21 nor in agreement with audited figures. Hence, the Commission, in the absence of the information, has adopted the rate of depreciation on assets created through grants equivalent to the rate of depreciation considered for depreciable assets.

The Commission has approved the closing depreciable assets at Rs.16928.46 Crore for NBPDC & Rs.12224.87 Crore for SBPDCL in true up for FY 2020-21 in Tariff Order dated 25.03.2022. The Commission has also approved the closing grants utilised for creation of assets at Rs.10990.85 Crore for NBPDC & Rs.6756.48 Crore for SBPDCL in true up for FY 2020-21 in Tariff Order dated 25.03.2022. Accordingly, the Commission, for the purpose of computation of depreciation for FY 2021-22, has considered the opening depreciable assets and opening grants for FY 2021-22 based on the closing depreciable assets and closing grants approved in true up for FY 2020-21 in Tariff Order dated 25.03.2022.

The opening GFA, additions to GFA, closing GFA, rate of depreciation on assets, depreciation on assets and prorated depreciation on assets created out of grants and net depreciation considered as pass through in the ARR in true up for FY 2021-22 is as detailed in the table below:

**Table 4.48: Depreciation approved for FY 2021-22**

(Rs. Crore)

Sl. No.	Particulars	Approved in true up for NBPDC	Approved in true up for SBPDCL	Total
1	Opening depreciable assets (as per closing depreciable assets approved in true up for FY 2020-21 Table 4.47 in TO dated 25.03.2022)	16928.46	12224.87	29153.33
2	Net Additions during the year (excl. land and disposal/withdrawal of assets)	3032.78	1649.74	4682.52
3	Closing depreciable assets (1+2)	19961.24	13874.61	33835.85
4	Average depreciable assets $\{(1+3)/2\}$	18444.85	13049.74	31494.59
5	Weighted average rate of depreciation	4.04%	4.40%	
6	Depreciation (4*5)	<b>745.39</b>	<b>574.71</b>	<b>1320.10</b>
7	Opening Grants (as per closing grants approved in true up for FY 2017-18)	10990.85	6756.48	17747.33
8	Grants during the year	1087.63	768.39	1856.02
9	Less: Grants used for Land during the year (as reported in Format 14)	67.06		67.06
10	Closing Grants for depreciable assets (7+8-9)	12011.42	7524.87	19536.29
11	Average Grants for Depreciable Assets $\{(7+10)/2\}$	11501.14	7140.68	18641.81

Sl. No.	Particulars	Approved in truing up for NBPDC	Approved in truing up for SBPDCL	Total
12	Weighted average rate of depreciation	4.04%	4.40%	
13	Depreciation on assets created out of grants (11*12)	464.78	314.48	779.25
14	Net Depreciation (6-13)	280.61	260.24	540.84

**The Commission, accordingly, approves depreciation for FY 2021-22 in true up as above.**

**Sharing of Gain/(Loss) on account of controllable factors:**

The Commission, as deliberated in paragraph 4.9 above, the variation in capex and capitalisation is considered to be due to uncontrollable force majeure factors and dependent ARR factors of Depreciation, Interest on Loan, Return on Equity, etc. are also considered as uncontrollable and pass through in the ARR.

The Commission accordingly has not considered sharing of gains/(losses) on account of variation in depreciation approved vis-à-vis depreciation trued up for FY 2021-22.

#### **4.12. Interest on Loans**

**Petitioners' submission:**

Discoms have submitted that interest on loans include loans against schemes, Central and state Government loans, Bank overdrafts, public bonds, etc. Repayment is considered equivalent to depreciation claimed for FY 2021-22. The weighted average rate of interest on actual loan portfolio is calculated for computing interest on normative loan as given in the tables below:

**Table 4.49: Weighted Average Rate of Interest for SBPDCL**

Particulars	RoI	OB	Additions	Repayment	CB	Average Loan	Interest
REC (RGGVY) Term Loan	11.00%	143.75	2.34	13.00	133.09	138.42	14.96
REC (R-APDRP) Term Loan	10.40%	358.70		35.12	323.58	341.14	34.03
PFC (R-APDRP) Term Loan	9.00%	292.34	5.43	165.47	132.30	212.32	15.21
REC (DDUGJY) Term Loan	10.19%	745.61		0.32	745.29	745.45	70.22
REC (IPDS) Term Loan	10.19%	302.69		0.06	302.63	302.66	27.37

Particulars	RoI	OB	Additions	Repayment	CB	Average Loan	Interest
State Govt.-Non-Plan Loan	13.00%	84.61	28.00		112.61	98.61	12.53
BSPHCL (ADB) Loan	13.00%	6.28			6.28	6.28	0.82
Total		1933.98	35.77	213.97	1755.78	1844.88	175.14
Weighted average rate of interest							10.31%

**Table 4.50: Weighted Average Rate of Interest for NBPDC**

Particulars	RoI	OB	Additions	Repayment	CB	Average Loan	Interest
REC (RGGVY) Term Loan	10.50%	287.82	12.99	4.20	296.61	292.22	29.75
PFC (R-APDRP) Term Loan	9.00%	48.34		2.06	46.28	47.31	4.09
PFC (R-APDRP) Term Loan	9.00%	15.85		15.85	0.00	7.93	
PFC (counterpart)	11.00%	90.61		7.28	83.33	86.97	11.05
REC (IPDS) Term Loan	10.22%	277.59	25.00		302.59	290.09	25.60
REC (DDUGJY) Term Loan	10.22%	914.93	118.23		1033.16	974.05	91.44
State Govt.-Non-Plan Loan	10.50%	275.25	31.85	65.04	242.06	258.66	22.57
BSPHCL (ADB) Loan	10.50%	56.01			56.01	56.01	7.28
Total		1966.40	188.07	94.43	2060.04	2013.22	191.78
Weighted average rate of interest							10.29%

Discoms have claimed interest charges for FY 2021-22 in truing up as detailed in the table below:

**Table 4.51: Interest on loans claimed for FY 2021-22****(Rs. Crore)**

Sl. No.	Particulars	Claimed in True up by NBPDC	Claimed in True up by SBPDCL
1	Opening loan	3967.00	3031.07
2	Addition during the year	2044.00	1276.00
3	Less: Repayment during the year	306.79	299.50
4	Closing loan (1+2-3)	5704.21	4007.57
5	Average Loan (1+4)/2	4835.61	3519.32
6	Weighted average rate of Interest	10.29%	10.31%
7	<b>Interest on loan (5*6 )</b>	<b>497.58</b>	<b>362.92</b>

The Discoms have proposed the gains/(loss) on account of interest on loans for FY 2021-22 as given in the table below:

**Table 4.52: Gains/(Loss) on account of interest on loans for FY 2021-22**

(Rs. Crore)					
Name of the Discom	Approved in the Tariff Order for FY 2020-21	Actual Claimed in Truing up	Deviation	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
NBPDC	340.46	497.58	(157.12)		157.12
SBPDCL	289.32	362.92	(73.58)		73.58

**Commission's analysis:**

The Commission has approved closing loans at Rs.3967.04 Crore for NBPDC and Rs.3031.07 Crore for SBPDCL in truing up to end of FY 2020-21 in the Tariff Order dated 25.03.2022 and the same is considered as opening loan for FY 2021-22 for NBPDC and SBPDCL respectively. Addition to loan is considered to the extent of permitted Debt Equity ratio under regulation 25 (j) read with regulation 27 (a) of Bihar Electricity Regulatory Commission (Multi Year Distribution Tariff) Regulations, 2018, based on capitalisation approved for FY 2021-22. Funding of capitalisation is considered in Debt Equity Ratio of 70 : 30 of net capitalisation of grants.

The Commission has accordingly considered the debt equity for FY 2021-22 in truing up as given below:

**Table 4.53: Debt Equity approved for FY 2021-22 in truing up**

(Rs. Crore)		
Particulars	NBPDC	SBPDCL
Net Capitalisation during FY 2021-22 (incl. withdrawal/disposal/transfer of assets) – A	4342.04	1651.31
Less: Capitalisation through Grants – B	2154.93	885.94
Net capitalisation – C = (A-B)	2187.11	765.37
Equity 30% of C	656.13	229.61
Debt 70% of C	1530.98	535.76

Regulation 25 (e) of BERC (Multi Year Distribution Tariff) Regulations 2018 specify repayment shall be deemed to be equal to the depreciation allowed for the year. The Commission accordingly considered the repayment of loan equal to the depreciation allowed for the year.

*Regulation 25 (g) of BERC (Multi Year Distribution Tariff) Regulations, 2018 specify:*

*“(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 nonconvertible 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 if no actual loan is outstanding but normative loan is still outstanding and the last available weighted average rate of interest is also not available, rate of interest equal to the State Bank one-year Marginal Cost of Funds-based Lending Rate ('MCLR') shall be applicable;*

*Provided further that the interest on loan shall be calculated on the normative weighted 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;"*

Regulation 25 specify interest shall be provided loan-wise, project-wise, utilisation-wise and interest on project loans only shall be considered for computing the weighted average rate of interest for the purpose of ARR.

The Commission has examined the weighted average rate of interest computed by the Discoms for FY 2021-22 and observed that SBPDCL has considered weighted average rate of interest of 10.31%. However, the Commission has worked out the weighted average interest rate at 10.03% for SBPDCL as given in the table below.

**Table 4.54: SBPDCL – Weighted average rate of interest for FY 2021-22**

Sl. No	Particulars	RoI	Opening Balance	Additions	Repayment	CB	Average Loan	Interest
1	REC (RGGVY) Term Loan	10.33%	143.75	2.34	13.00	133.09	138.42	14.30
2	REC (R-APDRP) Term Loan	10.00%	358.70		35.12	323.58	341.14	34.11

Sl. No	Particulars	Roi	Opening Balance	Additions	Repayment	CB	Average Loan	Interest
3	PFC (R-APDRP) Term Loan	9.00%	292.34	5.43	165.47	132.30	212.32	19.11
4	REC (IPDS) Term Loan	10.00%	302.69		0.06	302.63	302.66	30.27
5	REC (DDUGJY) Term Loan	10.22%	745.61		0.32	745.29	745.45	76.18
6	State Govt.- Non-Plan Loan	10.50%	84.61	28.00		112.61	98.61	10.35
7	BSPHCL (ADB) Loan	10.50%	6.28			6.28	6.28	0.66
8	Total		1933.98	35.77	213.97	1755.78	1844.88	184.99
9	Weighted average rate of interest							10.03%

The weighted average rate of interest for NBPDC works out to 10.30% as against 10.29% claimed by NBPDC (which may be due to rounding off decimal places to the nearest higher value) as shown in the table below. However, the Commission has considered weighted average rate of interest at 10.29% for NBPDC in truing up for FY 2021-22 as claimed by the NBPDC.

**Table 4.55: NBPDC - Weighted average rate of interest for FY 2021-22**

Sl. No	Particulars	Roi	OB	Additions	Repayment	CB	Average Loan	Interest
1	REC (RGGVY) Term Loan	10.50%	287.82	12.99	4.20	296.61	292.22	30.68
2	REC (R-APDRP) Term Loan	9.00%	15.85		15.85	0.00	7.93	0.71
3	PFC (R-APDRP) Term Loan	9.00%	48.62		2.34	46.28	47.45	4.27
4	PFC (counterpart)	11.00%	90.23		6.90	83.33	86.78	9.55
5	REC (DDUGJY) Term Loan	10.22%	914.93	118.23		1033.16	974.05	99.55
4	REC (IPDS) Term Loan	10.22%	277.61	25.00		302.61	290.11	29.65
6	State Govt.- Non-Plan Loan	10.50%	275.27	31.85	65.06	242.06	258.67	27.16
7	BSPHCL (ADB) Loan	10.50%	56.01			56.01	56.01	5.88
8	Total		1966.34	188.07	94.35	2060.06	2013.20	207.45
9	Weighted average rate of interest							10.30%



**Table 4.56: Debt Equity approved for FY 2021-22 for NBPDC**

Sl. No.	Name of scheme / Project	Capitalisation	Loan	Grant	Equity
1	BRGF	834.04	583.83	0.00	250.21
2	R-APDRP	-11.48	-11.48	0.00	0.00
3	NABARD Phase VIII	0.26	0.00	0.26	0.00
4	NABARD Phase XI	0.08	0.00	0.08	0.00
5	MP/CM LAD	0.00	0.00	0.00	0.00
6	Deposit Scheme	1.29	0.00	1.29	0.00
7	ADB	0.00	0.00	0.00	0.00
8	ACA State Plan	5.35	3.75	0.00	1.61
9	Burnt DTR State Plan	0.00	0.00	0.00	0.00
10	State Plan -Others	764.39	535.07	0.00	229.32
11	APL Connection	140.97	0.00	140.97	0.00
12	CM 7 resolutions (Har ghar bijili)	0.00	0.00	0.00	0.00
13	Reconductoring	0.00	0.00	0.00	0.00
14	IPDS	0.00	0.00	0.00	0.00
15	RGVY	333.38	33.34	300.04	0.00
16	DDUGJY	1074.98	322.49	644.99	107.50
17	Own Sources	50.05	35.04	0.00	15.02
18	<b>Sub-total</b>	<b>3193.31</b>	<b>1502.03</b>	<b>1087.63</b>	<b>603.65</b>
19	Less: Disposal of assets (considered as per format 11)	155.08	0	67.06	88.02
20	<b>Total</b>	<b>3038.23</b>	<b>1502.03</b>	<b>1020.57</b>	<b>515.63</b>

**Table 4.57: Debt Equity approved for FY 2021-22 for SBPDCL**

Sl. No.	Name of scheme / Project	Capitalisation	Loan	Grant	Equity
1	BRGF	59.40	41.58	0.00	17.82
2	R-APDRP	250.94	250.94	0.00	0.00
3	NABARD Phase VIII	0.00	0.00	0.00	0.00
4	NABARD Phase XI	0.00	0.00	0.00	0.00
5	MP/CM LAD	0.00	0.00	0.00	0.00
6	Deposit Scheme	3.27	0.00	3.27	0.00
7	ADB	0.00	0.00	0.00	0.00
8	ACA State Plan	0.00	0.00	0.00	0.00
9	Burnt DTR State Plan	0.00	0.00	0.00	0.00
10	State Plan -Others	79.12	55.38	0.00	23.74
11	APL Connection	28.89	0.00	28.89	0.00
12	CM 7 resolutions (Har ghar bijili)	0.00	0.00	0.00	0.00
13	Reconductoring	0.00	0.00	0.00	0.00
14	IPDS	449.33	134.80	269.60	44.93
15	RGVY	0.00	0.00	0.00	0.00
16	DDUGJY	778.91	233.67	467.35	77.89
17	Own Sources	1.56	1.09	0.00	0.47

Sl. No.	Name of scheme / Project	Capitalisation	Loan	Grant	Equity
18	<b>Sub-total</b>	<b>1651.42</b>	<b>717.47</b>	<b>769.10</b>	<b>164.85</b>
19	Less: Disposal of assets (considered as per format 11)	0.11	0.08		0.03
20	<b>Total</b>	<b>1651.31</b>	<b>717.39</b>	<b>769.10</b>	<b>164.82</b>

The Commission, accordingly, has considered the weighted average rate of interest on loan at 10.03% for SBPDCL and 10.29% for NBPDCCL for computation of interest on normative loan for FY 2021-22 in truing up as detailed in the Table below:

**Table 4.58: Interest on loans approved for FY 2021-22**

(Rs. Crore)				
Sl. No.	Particulars	Approved in Truing up for NBPDCCL	Approved in Truing up for SBPDCL	Total
1	Opening loan balance	3967.04	3031.07	6998.11
2	Additions during the year	1502.04	717.39	2219.43
3	Normative Repayment	280.61	260.24	540.84
4	Closing Loans (1+2-3)	5188.47	3488.22	8676.70
5	Average Loans $\{(1+4)/2\}$	4577.76	3259.65	7837.40
6	Interest rate	10.29%	10.03%	
7	Interest Charges (5*6)	<b>471.05</b>	<b>326.94</b>	<b>797.99</b>

**The Commission, accordingly, approves interest on loans for FY 2021-22 in true up as above.**

**Sharing of Gain/(Loss) on account of controllable factors:**

The Commission, as deliberated in paragraph 4.9 above, has considered the variation in capex and capitalisation is considered to be due to uncontrollable force majeure factors and dependent ARR factors of Depreciation, Interest on Loan, Return on Equity, etc. are also considered as uncontrollable and pass through in the ARR. The Commission accordingly has not considered sharing of gains/(losses) on account of variation in interest on loans approved vis-à-vis interest on loans trued up for FY 2021-22.

#### 4.13. Other Interest and Finance Charges

##### Petitioners' submission:

NBPDCCL and SBPDCL have submitted that other finance charges include discount to consumers for timely payment of bills, interest to suppliers, bank charges, etc. and claimed based on audited annual accounts for FY 2021-22 as detailed in the Table below:

**Table 4.59: Other Interest and Finance Charges claimed for FY 2021-22**

(Rs. Crore)				
Sl. No.	Particulars	Claimed in true up by NBPDCCL	Claimed in true up by SBPDCL	Total
1	Discount/Rebate to consumers for timely payment of bills	37.32	49.43	86.75
2	Power factor Rebate	0.57		0.57
3	Interest on bill discounting	31.83	47.44	79.27
4	Other Bank charges	5.57	9.07	14.64
5	LC Commission	3.78		3.78
6	<b>Total</b>	<b>79.08</b>	<b>105.94</b>	<b>185.01</b>

The Discoms have proposed the gains/(loss) on account of other finance charges for FY 2021-22 as given in the table below:

**Table 4.60: Gains/(Loss) on account of other finance charges for FY 2021-22**

(Rs. Crore)					
Name of the Discom	Approved in the Tariff Order for FY 2021-22	Actual Claimed in Truing up	Deviation	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
NBPDCCL	42.44	79.09	(36.65)		36.65
SBPDCL	69.77	105.95	(36.18)		36.18

##### 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 26.03.2021 for FY 2021-22 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 2021-22, the NBPDCCL and SBPDCL have allowed discount to consumers for timely payment of bills (Rebate) of Rs.37.32 Crore and Rs.49.43 Crore respectively.

**The Commission, accordingly, approves rebate to consumers for prompt payment of bills for FY 2021-22 in truing up.**

**Power factor rebate to consumers**

The Commission in Tariff Principles, Design and Tariff Schedule – Terms and Conditions of LT Tariff and HT Tariff notified through the Tariff Order dated 26.03.2021 for FY 2021-22 has specified that *power factor rebate/incentive for load factor will be allowed as per the rates prescribed in the tariff order*. As per the audited accounts for FY 2021-22, the NBPDCCL has allowed Power factor rebate of Rs.0.57 crore to consumers.

**The Commission, accordingly, approves power factor rebate to NBPDCCL for FY 2021-22 in truing up.**

**Bill discounting finance charges**

NBPDCCL and SBPDCL have claimed Rs.31.83 crore and Rs.47.44 Crore respectively towards bill discounting finance charges for FY 2021-22 based on the audited accounts.

*Bill Discounting facility is a short-term finance and is source of funding the working capital requirement availed by the generators/power traders, etc. wherein they can sell unpaid invoices due on a future date, to financial institutions. The Bank purchases the bill and credits the bill's value after a discount charge to the borrower ie. Generators/power suppliers. The Bank then presents the Bill to the borrower's customer (instant case Discoms) on the due date of the Bill and collects the total amount. If the bill is delayed, the borrower or his customer pays the Bank a pre-determined interest depending upon the terms of transaction.*

The bill discount charges claimed by Discoms represent and relates to power purchase bills payment and shall be considered as working capital financing charges. **The Commission has considered and allowed interest on working capital separately and hence these charges are not approved in true up for FY 2021-22.**

**LC Commission**

NBPDC has claimed Rs.3.78 Crore towards LC commission based on the audited accounts for FY 2021-22. The LC commission is paid to the Banks for opening LC for arranging payment of power purchase bills. **The Commission, accordingly considers Rs.3.78 Crore for NBPDC towards LC commission in true up for FY 2021-22 based on the audited accounts.**

**Bank charges**

NBPDC and SBPDCL have claimed Rs.5.57 crore and Rs.9.07 Crore respectively towards bank charges for FY 2021-22 based on the audited accounts. These bank charges represent bank collection charges, other finance charges, etc. **The Commission, accordingly considers Rs.5.57 Crore for NBPDC and Rs.9.07 Crore for SBPDCL towards bank charges in true up for FY 2021-22 based on the audited accounts.**

Thus, the Commission considers other finance charges for FY 2021-22 as given in the Table below:

**Table 4.61: Other Finance Charges approved for FY 2021-22**

(Rs. Crore)				
Sl. No.	Particulars	Approved in true up for NBPDC	Approved in true up for SBPDCL	Total
1	Discount/Rebate to consumers for timely payment of bills	37.32	49.43	86.75
2	Power factor rebate	0.57		
3	Bill discounting finance charges of power purchase	0	0	0
4	Other Bank charges	5.57	9.07	14.64
5	Bank/LC charges	3.78		3.78
6	<b>Total</b>	<b>47.24</b>	<b>58.50</b>	<b>105.17</b>

**The Commission, accordingly, approves other finance charges to the Discoms for FY 2021-22 in true up as above.**

**Sharing of Gain/(Loss) on account of controllable factors:**

The Commission has approved other finance charges at Rs.42.44 crore for NBPDC and Rs.69.77 crore for SBPDCL for FY 2021-22 in Tariff Order dated 26.03.20211

Regulation 9.1 (d) of BERC (Multi Year Distribution Tariff) Regulations 2018 specifies; variations in metered sales are uncontrollable. Similarly, the bank charges and LC charges are payable for drawal of funds which are beyond the control of the Discoms/ borrowers/beneficiaries.

The Commission, accordingly in terms of regulation 10, has considered sharing of gains/(losses) on account of other finance charges approved vis-à-vis trued up expenses approved for FY 2021-22 as given in the table below.

**Table 4.62: Gains/(Loss) on account of other finance charges for FY 2021-22**

(Rs. Crore)					
Name of the Discom	Approved in the Tariff Order for FY 2021-22	Actual Claimed in Truing up	Deviation	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
NBPDC	42.44	47.24	(4.80)		(4.80)
SBPDCL	69.77	58.50	11.27		11.27

**4.14. Return on Equity****Petitioners' submission:**

Discoms have submitted that as per regulation 27 of the BERC MYT regulations 2018, Return on Equity is claimed for FY 2021-22 in truing up. It is further submitted that the actual equity infused in the company is greater than the norm of 30% of capital base. However, in line with the regulation 27, the return on equity is calculated on 30% of the capital base.

Discoms have claimed the return on equity for FY 2021-22 as detailed in the table below:

**Table 4.63: Return on Equity claimed for FY 2021-22**

(Rs. Crore)				
Sl. No.	Particulars	Claimed in true up by NBPDC	Claimed in true up by SBPDCL	Total
1	Closing equity to end of 31.03.2016	440.86	638.06	1078.92
2	Rate of return on equity %	14.00%	14.00%	

Sl. No.	Particulars	Claimed in true up by NBPDCCL	Claimed in true up by SBPDCL	Total
3	Return on Equity	61.72	89.33	151.05
	<b>Equity with effect from 1<sup>st</sup> April 2016</b>			
4	Opening equity	1474.27	1084.53	2558.80
5	Equity addition during the year	876.11	546.85	1422.96
6	Closing equity (4+5)	2350.38	1631.38	3981.76
7	Average equity (4+6)/2	1912.33	1357.96	3270.28
8	Rate of return on equity with effect from 1.4.2016	15.50%	15.50%	
9	Return on equity (7*8)	296.41	210.49	506.90
10	Total Return on equity (3+9)	<b>358.13</b>	<b>299.82</b>	<b>657.95</b>

The Discoms have proposed the gains/(loss) on account of Return on Equity for FY 2021-22 as given in the table below:

**Table 4.64: Gains/(Loss) on account of Return on equity for FY 2021-22**

(Rs. Crore)

Name of the Discom	Approved in the Tariff Order for FY 2021-22	Actual Claimed in Truing up	Deviation	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
NBPDCCL	264.87	358.13	(93.26)		93.26
SBPDCL	250.95	299.82	(48.95)		48.95

### Commission's analysis

Regulation 27 (c) of the BERC (Multi Year Distribution Tariff) Regulations 2018 specify; Return on Equity shall be computed at the rate of 15.5% for the project which is commissioned w.e.f. 01.04.2016. However, Return on Equity for the projects commissioned prior to 01.04.2016 shall be allowed at the rate of 14%.

The Commission, in truing up for FY 2020-21, has approved closing Equity for the projects commissioned prior to the end of 31.03.2016 and equity for the projects commissioned w.e.f. from 1<sup>st</sup> April 2016 onwards and to end of 31.03.2021 for NBPDCCL and SBPDCL as given in the table below:

**Table 4.65: Details of Closing Equity approved in truing up for FY 2021-22**

Particulars	UoM	NBPDCCL	SBPDCL
Equity to end of 31.3.2016	Rs. Crore	440.86	638.06
Equity from 1.4.2016 to end of 31.3.2021	Rs. Crore	1474.27	1084.58

Accordingly, the above equity is considered as opening equity for FY 2021-22 for computing RoE. Addition to equity during FY 2021-22 is considered to the extent of permitted Debt-equity ratio, under regulation 27 of BERC (Multi Year Distribution Tariff) Regulation 2018, based on the funding of capitalization approved in Table 4.53 for FY 2021-22.

The Commission in terms of Regulation 27 (c) of the BERC (Multi Year Distribution Tariff) Regulations 2018 has considered rate of Return on Equity at 14% on closing equity as on 31.03.2016 and Rate of Return on Equity at 15.50% in respect of equity for the projects commission w.e.f. from 1<sup>st</sup> April 2016 onwards and to end of 31.03.2022. Accordingly, the Commission has computed return on equity for FY 2021-22 as detailed in the table below:

**Table 4.66: Return on Equity approved for FY 2021-22**

(Rs. Crore)				
Sl. No.	Particulars	Approved in trueing up for NBPDCCL	Approved in trueing up for SBPDCL	Total
1	Closing equity to end of 31.03.2016	440.86	638.06	1078.92
2	Rate of return on equity %	14.00%	14.00%	
3	Return on Equity	61.72	89.33	151.05
	<b>Equity with effect from 1<sup>st</sup> April 2016</b>			
4	Opening equity	1474.27	1084.58	2558.85
5	Equity addition during the year	515.63	164.82	680.45
6	Closing equity (4+5)	1989.90	1249.4	3239.30
7	Average equity (4+6)/2	1732.09	1166.99	2899.08
8	Rate of return on equity	15.50%	15.50%	15.50%
9	Return on equity (7*8)	268.47	180.88	449.36
10	Total Return on equity (3+9)	<b>330.19</b>	<b>270.21</b>	<b>600.41</b>

**The Commission, accordingly, approves Return on Equity as above in true up for FY 2021-22 for the Discoms.**

**Sharing of Gain/(Loss) on account of controllable factors:**

The Commission, as deliberated in paragraph 4.9 above, has considered the variation in capex and capitalisation is considered to be due to uncontrollable force majeure factors and dependent ARR factors of Depreciation, Interest on Loan, Return on Equity, etc. are also considered as uncontrollable and pass through in the ARR.



The Commission accordingly has not considered sharing of gains/(losses) on account of variation in Return on Equity approved vis-à-vis Return on Equity tried up for FY 2021-22.

#### 4.15. Employees Cost

##### Petitioners' submission:

Discoms have submitted that the employee expenses were determined based on norms in accordance with regulation 22 of BERC (Multi Year Distribution Tariff) Regulations 2018 for the MYT control period of FY 2019-20 to FY 2021-22 in Tariff order dated 25.02.2019.

The Discoms have computed the employee expenses and claimed in truing up for FY 2021-22 as detailed in the table below:

**Table 4.67: Employee expenses claimed by the Discoms for FY 2021-22**

Sl. No.	Particulars	(Rs. Crore)					
		NBPDCCL			SBPDCL		
		Approved in ARR	Actual		Approved in ARR	Actual	
			Base Value	FY 2020-21		Base Value	FY 2020-21
1	Average annual CPI index	5.34%		5.41%	5.34%		5.41%
2	Norms-Number of personnel per 1000 consumers	0.1676	0.1676	0.1676	0.2667	0.2667	0.2667
3	Norms-Number of personal per substation	16.2870	16.2870	16.2871	19.4782	19.4782	19.4782
4	No. of consumers (1000)	11145		11383	6386		6536
5	No of substations	548		606	525		596
6	Annual expenses per personnel (Rs. Cr)	0.0354	0.0306	0.03584	0.0505	0.043614	0.04899
7	Employee cost per 1000 consumers	66.12		68.38	86.00		85.40
8	Employee cost per substation	315.95		353.76	516.42		568.71
9	Total Employee cost	<b>382.08</b>		<b>422.14</b>	<b>602.42</b>		<b>654.11</b>

The Discoms have proposed the gains/(loss) on account of employee expenses for FY 2021-22 as given in the table below:

**Table 4.68: Gains/(Loss) on account of employee expenses for FY 2021-22**

(Rs. Crore)					
Name of the Discom	Approved in Tariff Order dated 20.03.2020	Claimed in Truing up	Deviation	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
NBPDC	382.08	422.14	(40.06)	26.70	13.35
SBPDCL	602.42	654.11	(51.69)	34.46	17.23

**Commission's analysis:**

The Commission in Tariff Order dated 25.02.2019 had determined the employee norms (in accordance with the regulation 22 and regulation 22.1) and accordingly allowed the employee expenses based on the norms for the control period of FY 2019-20 to FY 2021-22.

The Commission has considered the base value of employee norm for number of employees per 1000 consumers, number of personnel per substation and annual expenses per personnel as determined for FY 2021-22 in the Tariff Order dated 25.02.2019 as detailed in the table below:

**Table 4.69: Employee expense norm approved for NBPDC & SBPDCL in TO dated 25.02.2019**

Particulars	Base employee expense norm for NBPDC	Base employee expense norm for SBPDCL
No. of personnel per substation	16.2871	19.4782
No. of personnel per 1000 consumers	0.1676	0.2667
Annual expenses per personnel (Rs. Crore)	0.0306	0.043614

Regulation 22.1 specify employee cost shall be computed as per the approved norm escalated by consumer price index (CPI) The CPI inflation shall be considered based on the average increase in CPI for immediately preceding three years i.e. FY 2018-19, FY 2019-20, FY 2020-21 and base year of FY 2017-18. The average CPI inflationary increase is computed as given below:

**Table 4.70: CPI inflationary increase for FY 2021-22**

Particulars	2017-18	2018-19	2019-20	2020-21
Average CPI index points for FY	284.42	299.92	322.50	338.69
Increase in CPI index over the previous year		5.45%	7.53%	5.02%
Average CPI inflationary increase				6.00%

Discoms have furnished the actual no. of substations and no. of consumers in Format 7 of the petition for the year FY 2021-22. No. of substations to end of FY 2021-22 in NBPDC are at 606 and SBPDCL at 596. Accordingly, the no. of substations is considered as given below.

Particulars	NBPDC	SBPDCL
No. of substations (format 7)	606	596
No. of consumers (Format 7)	11146.472	6385.591

The Commission has approved the annual expenses per person at Rs.0.03224 crore for NBPDC and Rs.0.04595 crore for SBPDCL in true up for FY 2020-21 and same is considered as base norm for FY 2021-22.

The Commission in terms of regulation 22.1 has computed the employee expenses considering the base value of norms (no. of personnel per substation and no of personnel per 1000 consumers), no. of Substations, no. of consumers and annual expenses per personnel for FY 2021-22 in truing up as given below:

**Table 4.71: Normative Employee expenses computed for FY2021-22**

(Rs. Crore)

Sl. No.	Particulars	NBPDC		SBPDCL	
		Base value of norm	Normative expenses computed in truing up	Base value of norm	Normative expenses computed in truing up
1	Average annual CPI index		6.00%		6.00%
2	Norms-Number of personnel per 1000 consumers	0.1676	0.1676	0.2667	0.2667
3	Norms-Number of personal per substation	16.2871	16.2871	19.4782	19.4782
4	No. of consumers (1000)		11,383		6,536
5	No of substations		606		596
6	Annual expenses per personnel (Rs. Crore)	0.03224	0.03417	0.04595	0.04871
7	Employee cost per 1000 consumers		65.20		84.91
8	Employee cost per substation		337.30		565.44
9	<b>Total Employee cost</b>		<b>402.50</b>		<b>650.35</b>

**Sharing of Gain/(Loss) on account of controllable factors:**

The Commission, in Tariff Order dated 26.03.2021, has approved employee expenses of Rs.382.08 crore for NBPDC and Rs.602.42 crore for SBPDCL for FY 2021-22.

Regulation 9.2 (e) of BERC (Multi Year Distribution Tariff) Regulations 2018 specify;

variations in operation and maintenance expenses, except those attributable to directions of the Commission or to change in Government policy/law. The Commission observes that the Discoms have not claimed any uncontrollable expenses towards change in law, etc. The Discoms have considered the variation in employee expenses as controllable factor.

According to the audited annual accounts for FY 2021-22, the employee expenses are at Rs.411.07 crore for NBPDCCL and Rs.714.63 crore for SBPDCL.

The Commission, accordingly has considered sharing of gains/(losses) on account of variation in actual employee expenses incurred vis-à-vis normative employee expenses approved in true up for FY 2021-22 as given in the table below.

**Table 4.72: Gains/(Loss) on account of Employee expenses for FY 2021-22**

**(Rs. Crore)**

Name of the Discom	Actual employee expenses for FY 2021-22	Normative employee expenses computed in True up	Deviation	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
NBPDCCL	411.07	402.50	(8.57)	(8.57)	
SBPDCL	714.63	650.35	(64.28)	(64.28)	

#### **4.16. Repairs and Maintenance (R&M) Expenses**

##### **Petitioners' submission:**

Discoms have submitted that R&M expenses are claimed as a percentage of GFA excluding land cost in terms of Regulation 22.2 of BERC (Multi Year Distribution Tariff) Regulations 2018. It was submitted that the Commission had determined R&M norm i.e. K factor at 1.66% for NBPDCCL and 2.16% for SBPDCL for the MYT control period of FY 2019-20 to FY 2021-22 in the Tariff Order dated 25.02.2019 and accordingly the R&M expenses were claimed as per norm in truing up for FY 2021-22 by the Discoms as given in the table below:

**Table 4.73: Repairs and Maintenance expenses claimed for FY 2021-22**

(Rs. Crore)			
Particulars	Claimed in truing up by NBPDCCL	Claimed in truing up by SBPDCL	Total
Opening GFA	16677.96	12989.80	29667.76
Less: Opening land cost	1035.62	1544.70	2580.32
Opening GFA (excl. land cost)	15642.34	11445.10	27087.44
K factor	1.66%	2.16%	
R&M expenses	259.66	247.21	506.88

The Discoms have proposed the gains/(loss) on account of R&M expenses for FY 2021-22 as given in the table below:

**Table 4.74: Gains/(Loss) on account off R&M expenses for FY 2021-22**

(Rs. Crore)					
Name of the Discom	Approved in the Tariff Order for FY 2021-22	Actual Claimed in Truing up	Deviation	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
NBPDCCL	230.45	259.66	(29.06)	19.48	9.74
SBPDCL	236.51	247.21	(10.70)	7.14	3.57

### Commission's analysis

Regulation 22.2 specifies, R&M expenses shall be calculated as per the norm determined of Opening Gross Fixed Assets excluding land cost for year governed by following formulae:

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

Where:

*R&M<sub>n</sub>* : Repairs & Maintenance expense for nth year

*GFAn* : Opening Gross Fixed Assets for nth year

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

The Commission, in terms of regulation 22(b) of the BERC (Multi Year Distribution Tariff) Regulations 2018, has approved 'K' factor at 1.66% for NBPDCCL and 2.16% for SBPDCL for the MYT control period of FY 2019-20 to FY 2021-22 in Tariff order dated 25.02.2019.

The Commission accordingly considers 'K' factor approved in Tariff order dated 25.02.2019 for FY 2021-22 and approves R&M expenses on opening GFA as detailed in the table below:

**Table 4.75: Normative R&M expenses computed for FY 2021-22****(Rs. Crore)**

Sl. No.	Particulars	Approved in true up for NBPDCCL	Approved in true up for SBPDCL	Total
1	Opening GFA excluding land ( Table 4.44)	16928.46	12224.87	29153.33
2	'K' factor	1.66%	2.16%	
3	<b>R &amp; M Cost (1*2)</b>	<b>281.01</b>	<b>264.06</b>	<b>545.07</b>

**Sharing of Gain/(Loss) on account of controllable factors:**

The Commission, in Tariff Order dated 26.03.2021, has approved R&M expenses of Rs.230.45 crore for NBPDCCL and Rs.236.51 crore for SBPDCL for FY 2021-22.

Regulation 9.2 (e) of BERC (Multi Year Distribution Tariff) Regulations 2018 specify; variations in R&M expenses, except those attributable to directions of the Commission or to change in Government policy/law. The R&M expenses is a component of O&M expenses and the O&M expenses is controllable factor. The Discoms have also considered the variation in R&M expenses as controllable factor.

According to the audited annual accounts for FY 2021-22, the R&M expenses are at Rs.161.96 crore for NBPDCCL and Rs.166.18 crore for SBPDCL. The Commission due prudence check considers the actual R&M expenses as reported in the annual accounts for FY 2021-22

The Commission, accordingly has considered sharing of gains/(losses) on account of variation in actual R&M expenses vis-à-vis R&M expenses approved in true up for FY 2021-22 as given in the table below.

**Table 4.76: Gains/(Loss) on account of R&M expenses for FY 2021-22****(Rs. Crore)**

Name of the Discom	Actual R&M expenses for FY 2021-22	Normative R&M expenses computed in True up	Deviation	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
NBPDCCL	161.96	281.01	119.05	119.05	
SBPDCL	166.18	264.06	97.88	97.88	

**4.17. Administrative and General (A&G) Expenses****Petitioners' submission**

Discoms have submitted that A&G expenses are claimed based on norms determined by the Commission as per the Regulation 22.2 of BERC (Multi Year Distribution Tariff) Regulations 2018. It was submitted that the Commission had determined A&G expense norm for the MYT control period of FY 2019-20 to FY 2021-22 in the Tariff Order dated 25.02.2019 and accordingly the A&G expenses were claimed as per norm in truing up for FY 2021-22 by the Discoms as given in the table below:

**Table 4.77: Administration and General Expenses claimed for FY 2021-22****(Rs. Crore)**

Sl. No.	Particulars	NBPDCCL			SBPDCL		
		Approved in TO dated 26.03.2021	Actual		Approved in TO dated 26.03.2021	Actual	
			Base Value	2020-21		Base Value	2020-22
1	Average annual WPI index	2.96%		5.32%	2.96%		5.32%
2	Norms-A&G expenses per 1000 consumers	1.1174	1.1174	1.1174	1.778	1.778	1.778
3	No. of consumers (1000)	11145.21		11383	6385.59		6536
4	No. of employees	12453.66		12719	11354		11622
5	Annual expenses per 1000 consumers (Rs. Cr)	0.0055	0.004978	0.00582	0.0039	0.003562	0.00416
6	Annual expenses per employee (Rs. Cr)	0.0082	0.007576	0.00885	0.0103	0.00942	0.01101
7	A&G cost per 1000 consumers	61.30		66.20	24.90		27.20
8	A&G cost per employees	102.12		112.58	116.95		127.90
9	<b>Normative A&amp;G cost</b>	<b>163.42</b>		<b>178.78</b>	<b>141.85</b>		<b>155.11</b>
	Rental charges for smart prepaid meter			1.74			15.34
	<b>Total A&amp;G cost</b>			<b>180.52</b>			<b>170.44</b>

The Discoms have proposed the gains/(loss) on account of A&G expenses for FY 2021-22 as given in the table below:

**Table 4.78: Gains/(Loss) on account of A&G expenses for FY 2021-22****(Rs. Crore)**

Name of the Discom	Approved in the Tariff Order for FY 2021-22	Claimed in Truing up	Deviation	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
NBPDCCL	163.42	180.52	(17.10)	11.40	5.70
SBPDCL	141.85	170.44	(28.59)	19.06	9.53

**Commission analysis:**

The Commission in Tariff Order dated 25.02.2019 had determined the A&G expense norms (in accordance with the regulation 22 and regulation 22.1) and accordingly allowed the A&G expenses based on the norms for the MYT control period of FY 2019-20 to FY 2021-22.

The Commission has considered the base value of A&G expense norm per 1000 consumers and A&G expense per employee and annual A&G expenses per 1000 consumers and per employee as determined for FY 2021-22 in the Tariff Order dated 25.02.2019 as detailed in the table below:

**Table 4.79: A&G expense norm approved for NBPDC & SBPDCL in TO dated 25.02.2019**

Particulars	Base A&G expense norm for NBPDC	Base A&G expense norm for SBPDCL
No. of personnel per 1000 consumers	1.1174	1.7780
Annual expenses per 1000 consumers (Rs. Crore)	0.004978	0.003562
A&G expenses per employee (Rs. Crore)	0.007576	0.009420

Regulation 22.3 specifies A&G expenses shall be computed as per the approved norm escalated by wholesale price index (WPI). The WPI inflation shall be considered based on the average increase in WPI for immediately preceding three years. The WPI inflationary increase for FY 2021-22 is computed as given below:

**Table 4.80: WPI inflationary increase for FY 2020-21**

Particulars	2017-18	2018-19	2019-20	2020-21
Average WPI index points for FY	114.88	119.79	121.80	123.38
Increase in WPI index over the previous year		4.27%	1.68%	1.30%
Average WPI inflationary increase				2.42%

The Commission in terms of regulation 22.3 has computed the A&G expenses considering the base value of norms, no. of employees and no. of consumers for FY 2021-22 in truing up as given below:



Table 4.81: Normative A&amp;G expenses computed for FY 2021-22

(Rs. Crore)

Sl. No.	Particulars	NBPDC		SBPDCL	
		Base value of norm	Normative expenses computed in truing up for NBPDC	Base value of norm	Normative expenses computed in truing up for SBPDCL
1	Average annual WPI index		2.42%		2.42%
2	Norms-A&G expenses per 1000 consumers	1.1174	1.1174	1.778	1.778
3	No. of consumers (1000)		11,383		6,536
4	No of employees		12719		11622
5	Annual expenses per 1000 consumers (Rs. Crore)	0.004978	0.00510	0.003562	0.00365
6	Annual expenses per employee (Rs. Crore)	0.007576	0.00776	0.00942	0.00965
7	A&G cost for 1000 consumers (2*4*6)		58.04		23.85
8	A&G cost for employees (3*5*7)		98.69		112.13
9	<b>Total A&amp;G expenses (G+H) (Rs. Crore)</b>		<b>156.73</b>		<b>135.97</b>

**Sharing of Gain/(Loss) on account of controllable factors:**

The Commission, in Tariff Order dated 26.03.2021, has approved A&G expenses of Rs.163.42 crore for NBPDC and Rs.141.85 crore for SBPDCL for FY 2021-22.

Regulation 9.2 (e) of BERC (Multi Year Distribution Tariff) Regulations 2018 specify; variations in operation and maintenance expenses, except those attributable to directions of the Commission or to change in Government policy/law. The Commission observes that the Discoms have not claimed any uncontrollable expenses towards change in law, etc. The Discoms have considered the variation in A&G expenses as controllable factor.

According to the audited annual accounts for FY 2021-22, the A&G expenses are at Rs.258.65 crore for NBPDC and Rs.195.56 crore for SBPDCL. The Commission due prudence check considers the actual R&M expenses as reported in the annual accounts for FY 2021-22.

The Commission, accordingly has considered sharing of gains/(losses) on account of variation in A&G expenses approved vis-à-vis trued up for FY 2020-21 as given in the table below.

**Table 4.82: Gains/(Loss) on account of A&G expenses for FY 2021-22**

(Rs. Crore)

Name of the Discom	Actual A&G expenses for FY 2021-22	Normative A&G expenses approved in True up	Deviation	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
NBPDC	258.65	156.73	(101.92)	(101.92)	
SBPDCL	195.56	135.97	(59.59)	(59.59)	

#### 4.18. Total O & M expenses

**Table 4.83:Gains/(Loss) on account of O&M expenses for FY 2021-22 approved for NBPDC**

(Rs. Crore)

Sl. No	Particulars	Actual expenses considered as per accounts for FY 2021-22	Normative expenses computed in truing up	Deviation Gains / (loss)	Controllable	Uncontrollable	2/3rd Gain or 1/3rd (Loss) of controllable expenses to be passed on to Consumers	1/3rd Gain or 2/3rd (Loss) controllable expenses to be absorbed by licensee
1	Employee expenses	411.07	402.50	(8.57)	(8.57)		(2.86)	(5.71)
2	R&M expenses	161.96	281.01	119.05	119.05		79.36	39.69
3	A&G expenses	258.65	156.73	(101.92)	(101.92)		(33.97)	(67.95)
	<b>Total O&amp;M expenses</b>	<b>831.68</b>	<b>840.24</b>	<b>8.56</b>	<b>8.56</b>	<b>0.00</b>	<b>42.53</b>	<b>(33.97)</b>

**Table 4.84:Gains/(Loss) on account of O&M expenses for FY 2021-22 approved for SBPDCL**

(Rs. Crore)

Sl. No.	Particulars	Actual expenses considered as per accounts for FY 2021-22	Normative expenses computed in truing up	Deviation Gains / (loss)	Controllable	Uncontrollable	2/3rd Gain or 1/3rd (Loss) of controllable expenses to be passed on to Consumers	1/3rd Gain or 2/3rd (Loss) controllable expenses to be absorbed by licensee
1	Employee expenses	714.63	650.35	(64.28)	(64.28)		(21.43)	(42.85)
2	R&M expenses	166.18	264.06	97.88	97.88		65.26	32.62
3	A&G expenses	195.56	135.97	(59.59)	(59.59)		(19.86)	(39.73)
	<b>Total O&amp;M expenses</b>	<b>1076.37</b>	<b>1050.38</b>	<b>(25.99)</b>	<b>(25.99)</b>	<b>0.00</b>	<b>23.97</b>	<b>(49.96)</b>

#### 4.19. Holding Company Expenses

##### Petitioners' submission

Discoms have submitted that Holding Company expenses for FY 2021-22 are claimed

as per the provisions of Transfer Scheme, 2012 and the actual claim based on the audit accounts as furnished are given below:

**Table 4.85: Holding Company Expenses claimed for FY 2021-22****(Rs. Crore)**

Particulars	Claimed by NBPDCCL in truing up	Claimed by SBPDCL in truing up	Total
Holding company expenses	22.55	23.71	46.26

The Discoms have proposed the gains/(loss) on account of holding company expenses for FY 2021-22 as given in the table below:

**Table 4.86: Gains/(Loss) on account of holding company expenses for FY 2021-22****(Rs. Crore)**

Name of the Discom	Approved in the Tariff Order for FY 2021-22	Actual Claimed in Truing up	Deviation	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
NBPDCCL	23.99	22.55	3.01		3.01
SBPDCL	25.22	23.71	3.80		3.80

**Commission's analysis:**

The Bihar State Electricity Reforms Transfer Scheme, 2012 Schedule 'D' Holding undertaking Part-III defines the Functions and Duties of Bihar State Power (Holding) Company Limited. As per Clause (i) of the schedule 'D', the Holding Company shall handle all issues relating to the subsidiary companies in respect of business of purchasing, importing, exporting and trading of power subject to the provision of Electricity Act, 2003 and to supply electric power generated by other plants to transmission companies, distribution companies, trading companies, other generation companies and other persons, and in this regard execute agreements with Central and State Generating authorities, departments or companies, independent Power Producers and other persons. Schedule 'F' specifies, the Holding Company shall handle all issues relating to the subsidiary companies in respect of "Common Services". BSPHCL provides common services to all the segregated entities. Clause (i) of the Schedule-D of the Bihar State Electricity Reforms Transfer Scheme, 2012, also states the operating expenses of BSPHCL (Holding Company) shall be shared between all the subsidiary Companies in the ratio of their respective equity.

NBPDC & SBPDCL have claimed the holding company expenses of Rs.22.55 Crore and Rs.23.71 Crore in true up for FY 2021-22 based on the audited accounts.

The Commission therefore in terms of Bihar State Electricity Reforms Transfer Scheme 2012 has considered the holding company expenses based on audited accounts for FY 2021-22 as detailed in the table below:

**Table 4.87: Holding Company expenses approved for FY 2021-22**

Particulars	Approved in true up for NBPDC	Approved in true up for SBPDCL	(Rs. Crore)
			Total
Holding company expenses	22.55	23.71	46.26

**The Commission approves Holding Company Expenses for FY 2021-22 in True up as above.**

**Sharing of Gain/(Loss) on account of controllable factors:**

The Commission, in Tariff Order dated 26.03.2021, has approved holding company expenses of Rs.23.99 crore for NBPDC and Rs.25.22 crore for SBPDCL for FY 2021-22.

Regulation 9.2 (e) of BERC (Multi Year Distribution Tariff) Regulations 2018 specify; variations in operation and maintenance expenses, except those attributable to directions of the Commission or to change in Government policy/law. The petitioners have submitted that as per the Clause (i) of the Schedule-D of the Bihar State Electricity Reforms Transfer Scheme 2012, the operating expenses of BSPHCL (Holding Company) shall be shared between all the subsidiary Companies in the ratio of their respective equity. Hence the expenses allocated to SBPDCL are beyond the control of the company as these are incurred by BSPHCL.

The Commission, accordingly does not consider sharing of gains/(losses) on account of variation in holding company expenses for FY 2021-22.

**Summary of O & M expenses:**

The summary of O&M expenses approved for FY 2021-22 in true up are as detailed in the table below:

**Table 4.88: Summary of O & M expenses approved for FY2021-22 in true up**  
(Rs. Crore)

Sl. No.	Particulars	NBPDC		SBPDCL	
		Actual expenses considered as per accounts for FY 2021-22	Normative expenses approved in true up	Actual expenses considered as per accounts for FY 2021-22	Normative expenses approved in true up
1	Employee expenses	411.07	402.50	714.63	650.35
2	R&M expenses	161.96	281.01	166.18	264.06
3	A&G expenses	258.65	156.73	195.56	135.97
4	<b>Total O&amp;M expenses</b>	<b>831.68</b>	<b>840.24</b>	<b>1076.37</b>	<b>1050.38</b>

The Commission in accordance with regulation has considered the sharing of gains in the ARR for FY 2021-22 in true up.

#### **4.20. Interest on Security Deposit**

##### **Petitioners' submission**

Discoms have 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 BERC (Multi Year Distribution Tariff) Regulations 2018, Regulation 26 (iii) specifies that *"Provided further that interest shall be allowed on consumer security deposits and security deposits from Distribution system users held during the year at the Bank Rate as of the date on which the petition for determination of tariff is accepted by the Commission"*.

The Discoms have submitted that as per the regulations interest on consumer's security deposit is being passed on to the consumers. Discoms have claimed interest on security deposit for FY 2021-22 as details in the table below:

**Table 4.89: Interest on security deposit claimed for FY 2021-22**

Sl. No.	Particulars	(Rs. Crore)	
		Claimed by NBPDC in truing up	Claimed by SBPDCL in truing up
1	Opening Security Deposit	442.70	694.02
2	Addition / (Deletion)	41.49	63.50
3	Closing Security Deposit (1+2)	484.19	757.51
4	Average Security Deposit (1+3)/2	463.45	725.77
5	RBI Bank Rate	4.25%	4.25%
6	Interest on Security Deposit (5*6)	19.70	30.85
7	Opening balance of interest payable to consumers	141.56	225.99
8	Interest payable during FY 2020-21	18.04	30.93
9	Sub-total (7+8)	159.60	256.92
10	Closing balance of interest payable to consumers	150.75	246.14
11	Interest actually paid to the consumers (9-10)	8.85	10.78

The Discoms have proposed the gains/(loss) on account of interest on consumer security deposits for FY 2021-22 as given in the table below:

**Table 4.90: Gains/(Loss) on account of interest on consumer security deposits for FY 2021-22**

Name of the Discom	Approved in the Tariff Order for FY 2021-22	Actual Claimed in Truing up	Deviation	(Rs. Crore)	
				Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
NBPDC	19.70	8.85	10.85		10.85
SBPDCL	30.85	10.78	20.07		20.07

### Commission's analysis

*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 2018, Regulation 26 (iii) specifies that “*Provided further that interest shall be allowed on consumer security deposits and security deposits from Distribution system users held during the year at the Bank Rate as of the date on which the petition for determination of tariff is filed*”.

According to the audited accounts for FY 2021-22, the interest on consumer security deposit is at Rs.18.04 crore for NBPDC and Rs.30.93 crore for SBPDCL,

The Commission observes that Discoms have made provision towards interest on security deposit 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 2021-22. As such, the Commission considers actual interest payment to the consumers in true up for FY 2021-22 as detailed hereunder:

**Table 4.91: Interest on SD to the consumers**

(Rs. Crore)				
Sl. No.	Particulars	NBPDC	SBPDCL	Total
1	Opening balance of interest payable to consumers (Note 20 (NBPDC) & Note 19 (SBPDCL)-Other current liabilities of the annual accounts)	141.56	225.99	367.55
2	Interest payable during FY 2021-22 (Note 30 of NBPDC and Note 29 of SBPDCL annual accounts)	18.04	30.93	48.97
3	Sub-total (1+2)	159.60	256.92	416.52
4	Closing balance of interest payable to consumers (Note 20 (NBPDC) & Note 19 (SBPDCL)-Other current liabilities of the annual accounts)	150.75	246.14	396.89
5	Interest actually paid to consumers (3-4)	8.85	10.78	19.63

The Commission, accordingly, considers the interest on consumers' security deposit for FY 2021-22 in truing up as given in the table below:

**Table 4.92: Interest on security deposit approved for FY 2021-22**

(Rs. Crore)			
Particulars	Approved for NBPDC in truing up	Approved for SBPDCL in truing up	Total
Interest on Security Deposit	8.85	10.78	19.63

**The Commission approves interest on Consumer's Security Deposit for FY 2021-22 in true up.**

**Sharing of Gain/(Loss) on account of controllable factors:**

The Commission, in Tariff Order dated 26.03.2021, has approved interest on consumer Security Deposit of Rs.19.70 crore for NBPDC and Rs.30.85 crore for SBPDCL for FY 2021-22.

The Consumers Security Deposits represent *security in respect of the electricity supplied to such person and collected in accordance with Section 47(1)(a) of the Electricity Act, 2003*. Regulation 9.2 (d) of BERC (Multi Year Distribution Tariff) Regulations 2018 specify; variations in variation in metered sales i.e. sale of power to consumers as uncontrollable factor.

The Commission, accordingly has considered sharing of gains/(losses) on account of variation in interest on consumer's security deposit approved vis-à-vis trued up for FY 2021-22 as given in the table below.

**Table 4.93: Gains/(Loss) on account of interest on consumers security deposit for FY 2021-22**

(Rs. Crore)

Name of the Discom	Approved in the Tariff Order for FY 2021-22	Actual Claimed in Truing up	Deviation	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
NBPDCCL	19.70	8.85	10.85		10.85
SBPDCL	30.85	10.78	20.07		20.07

#### 4.21. Non-Tariff Income

##### Petitioners' submission:

Discoms have claimed Non-tariff income for FY 2021-22 as detailed in the table below:

**Table 4.94: Non-tariff Income claimed for FY 2021-22**

(Rs. Crore)

Sl. No.	Particulars	NBPDCCL		SBPDCL	
		Approved in Tariff order dated 26.03.2021	Claimed in truing up for FY 2021-22	Approved in Tariff order dated 26.03.2021	Claimed in truing up for FY 2021-22
1	Interest on Advances to Suppliers/Contractors		18.10		0.06
2	Interest on Saving Accounts		21.25		35.80
3	interest on mobilisation advance				34.92
4	Interest from others		314.47		
5	Delayed Payment Surcharge from Consumers		238.15		199.90
6	Income from sale of Tender paper		0.56		
7	Miscellaneous Receipts		10.71		79.90
8	Subsidy from PFC				35.47
9	Rebate and Discount Received		19.50		48.25
10	SCED Benefits		8.83		10.43
11	Consumer Contribution Income *		1.04		0.86
12	Rental Income		0.48		0.59



Sl. No.	Particulars	NBPDCCL		SBPDCL	
		Approved in Tariff order dated 26.03.2021	Claimed in truing up for FY 2021-22	Approved in Tariff order dated 26.03.2021	Claimed in truing up for FY 2021-22
13	Supervision Charges		13.59		17.35
14	Misc charges		42.22		0.39
15	Sale of scrap		38.94		2.09
16	Rebate special COVID-19		1.91		
17	Meter rent/service line rentals		8.57		8.16
18	interest on TDS refund				1.12
19	Liquidated damages recovery from Agencies				6.08
20	Excess provision written back		3.44		
21	<b>Total Non-tariff income (1 to 20)</b>		<b>741.78</b>		<b>481.37</b>
22	Delayed Payment Surcharge from Consumers		238.15	0.00	199.90
23	Principal amount on which DPS Charged (18/18%)		1323.04		1332.67
24	Interest Rate of funding DPS		8.50%		8.50%
25	Interest on funding Principal (19*20)		112.46		113.28
26	<b>Net Non-Tariff Income (21-25)</b>	<b>366.98</b>	<b>629.33</b>	<b>446.04</b>	<b>368.09</b>

#### Commission's analysis:

The Non-Tariff income as per the audited annual accounts of NBPDCCL is at Rs.1725.15 Crore (including Amortisation of grant of Rs.484.41 crore i.e depreciation on assets created out of grants which is considered separately in the paragraph related to Depreciation). The Commission has also not considered revenue subsidy of Rs.498.96 crore as non-tariff income as this amount is received from GoB to meet the revenue loss due to higher AT&C losses. Accordingly, the revenue subsidy and Amortization of grant are not considered as Non-tariff income.

Non-tariff income of SBPDCL is at Rs.1734.14 crore (including Amortisation of grant of Rs.329.73 crore i.e depreciation on assets created out of grant which is considered separately in the paragraph related to depreciation). The Commission has also not considered revenue subsidy of Rs.923.04 crore as non-tariff income as this amount is received from GoB to meet the revenue loss due to higher AT&C losses. Accordingly, the revenue subsidy and Amortization of grant are not considered as Non-tariff income.

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.

According to the audited accounts for FY 2021-22 of NBPDCCL and SBPDCL, the rebate received for timely payment of power purchase bills is at Rs.26.59 Crore and Rs.25.34 Crore respectively.

The total power purchases (including transmission charges) for NBPDCCL are at Rs.9796.13 Crore for FY 2021-22 and the rebate @ 1% works out to Rs.97.96 Crore and for SBPDCL the rebate works out to Rs.115.92 Crore @1% on the total power purchase of Rs.11591.57 Crore. Accordingly, the Commission has considered rebate @1% of the total power purchases (including transmission charges) for FY 2021-22 in the true up.

The Discoms have considered the financing cost on DPS and adjusted the same against the non-tariff income and net non-tariff income claimed in true up for FY 2021-22 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 2021-22, the Non-tariff income includes Delayed Payment Surcharge (DPS) from consumers. The Discoms charge DPS @ 18% per annum (1.5% per month) in accordance with the DPS specified in the Tariff Order dated 26.03.2021. The Commission has allowed rate of interest of 8.50% (7.00% being the weighted average MCLR (1 year tenor) during FY 2021-22 plus 150 basis points i.e.1.50%) in accordance with regulation 26 (iii) of BERC (Multi Year Distribution Tariff) Regulations 2018 towards the financing cost of DPS. The Commission accordingly computed and allowed the financing cost as shown in the table below:

**Table 4.95: Financing cost of DPS**

Particulars	(Rs. Crore)	
	Approved for NBPDCCL	Approved for SBPDCL
DPS as per audited accounts (@1.5% pm)	238.15	199.90
Principal amount on which DPS charged	1323.04	1110.56
Interest rate for funding Principal of DPS	8.50%	8.50%
Interest on funding of Principal DPS	112.46	94.40

The Commission, in its earlier true-ups for FY 2017-18, FY 2018-19 and FY 2019-20 had

considered the interest earned/(refunded) on capital funds as a part of Non-Tariff Income for NBPDCCL and SBPDCL. It was directed (in true up for FY 2017-18) to maintain proper records for/of actual interest earned/ utilised on scheme wise grant, equity and loan fund and to claim separately the refund or utilization made in the year in which such amount is actually refunded or utilized. It is observed from the figures reported in the audited accounts of SBPDCL for FY 2021-22, utilisation of net interest is at Rs.3.40 crore during FY 2021-22 as detailed hereunder.

Sl. No.	Particulars	SBPDCL
1	Closing balance as on 31.03.2022 stated in Note no.19 of the audited annual accounts for FY 2021-22 (Rs. Cr.)	292.21
2	Interest earned on Capital fund already recognised in Regulatory Accounts as on 31.03.2021 (Rs. Cr.)	295.61
3	Net Interest earned/(refunded/utilised) on Capital fund during FY 2021-22 (a-b) (Rs. Cr.)	-3.40

Accordingly, the amount of Rs.3.40 crore is reduced from the Non-tariff income for SBPDCL.

It is observed from Note no.20 of the audited annual accounts of NBPDCCL, the closing balance of interest accrued on capital funds to end of FY 2021-22 is depicted as Nil. NBPDCCL vide letter no.130 dated 27.02.2023 has submitted that they have mistakenly considered the Accretion of Interest on Capital Fund under the head Non-Tariff Income and requested to reduce the non-tariff income to the extent of Rs.222.03 crores for FY 2021-22. According to the audited annual accounts of NBPDCCL for FY 2021-22, the opening balance is at Rs.221.67 crore. Further, the Commission, in true up for FY 2020-21 has considered Rs.221.67 crore as closing balance to end of FY 2020-21. As such, the Commission considers Rs.221.67 crore and accordingly reduced the amount from the Non-tariff income in truing up for FY 2021-22.

The Commission, as deliberated above, has computed the non-tariff income for FY 2021-22 as detailed in the table below:

**Table 4.96:Non-tariff income approved for FY 2021-22****(Rs. Crore)**

Sl. No.	Particulars	Approved in truing up for FY 2021-22 for NBPDC	Approved in truing up for FY 2021-22 for SBPDCL	Total
1	Interest on Advances to Suppliers/Contractors	18.10	0.06	18.16
2	Interest on Saving Accounts	21.25	35.80	57.05
3	interest on mobilisation advance		34.92	34.92
4	Interest from others	314.47		314.47
5	Delayed Payment Surcharge from Consumers	238.15	199.90	438.05
6	Income from sale of Tender paper	0.56		0.56
7	Miscellaneous Receipts	10.71	79.90	90.61
8	Subsidy from PFC		35.47	35.47
9	Rebate and Discount Received	19.50	48.25	67.75
10	SCED Benefits	8.83	10.43	19.26
11	Consumer Contribution Income *	1.04	0.86	1.90
12	Rental Income	0.48	0.59	1.07
13	Supervision Charges	13.59	17.35	30.94
14	Misc charges	42.22	0.39	42.61
15	Sale of scrap	38.94	2.09	41.03
16	Rebate special COVID-19	1.91		1.91
17	Meter rent/service line rentals	8.57	8.16	16.73
18	interest on TDS refund		1.12	1.12
19	Liquidated damages recovery from Agencies		6.08	6.08
20	Excess provision written back	3.44		3.44
21	<b>Sub-total (1 to 20)</b>	<b>741.76</b>	<b>481.37</b>	<b>1223.13</b>
22	Less: Financing cost of DPS	(112.46)	(94.40)	(206.86)
23	Less: Interest income on capital funds	(221.67)	(3.40)	(225.07)
24	Less: Rebate as per audited accounts for FY 2021-22	(19.50)	(48.25)	(67.75)
25	Add: Rebate @1% on power purchase (incl. transmission charges)	97.55	115.38	212.93
26	<b>Non-tariff income</b>	<b>485.68</b>	<b>450.71</b>	<b>936.38</b>

**The Commission, accordingly, approves non-tariff income as above for FY 2021-22 in true up.**

#### **4.22. Interest on working capital**

##### **Petitioners' submission:**

Discoms have submitted that it has arrived at the working capital requirement according to applicable norms for Distribution function provided in Regulation 26 of the BERC (Multi Year Distribution Tariff) Regulations 2018. The regulations are reproduced hereunder:

*“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 one-year Marginal Cost of Funds-based Lending Rate ('MCLR') as of the date on which petition for determination of tariff is filed plus 150 basis points. The rate of interest for the purpose of Truing-up shall be the weighted average MCLR of the concern Financial Year plus 150 basis points.*

*Provided further that interest shall be allowed on consumer security deposits and security deposits from Distribution System users held during the year at the Bank Rate as of the date on which petition for determination is filed. The interest allowed shall be subject to true up at weighted average Bank Rate of the concern Financial Year.*

*Provided also that if, the State Government is providing resource gap grant and/or direct subsidy to consumers, the working capital shall be reduced by two months equivalent of that amount."*

Discoms have submitted that, maintenance spares at 40% of R&M expense for one month and two months equivalent revenue requirement after deducting non-tariff income has been considered for calculation of gross working capital requirement.

The Gross working capital requirement is then reduced by closing Security deposits from consumers in FY 2021-22. Depreciation and RoE equivalent to two months and

the power purchase cost inclusive of transmission charges for one month is reduced from the gross working capital requirement. Interest rate @ 8.50% at weighted average MCLR + plus 150 basis points for FY 2021-22 is considered.

Discoms have claimed interest on working capital for FY 2021-22 computed as per norms as detailed in the table below:

**Table 4.97: Interest on working capital claimed for FY 2021-22**

(Rs. Crore)

Sl. No.	Particulars	Claimed by NBPDCCL in truing up	Claimed by SBPDCL in truing up
1	Maintenance spares 40% of R&M expenses for one month	8.66	8.24
2	Receivables - 2 months	1757.65	2082.03
3	<b>Total working capital (1+2)</b>	<b>1766.30</b>	<b>2090.27</b>
4	<b>Less:</b> a. Power purchase cost, transmission charges and load dispatch charges of one month	749.89	887.48
	b. Depreciation, RoE and contingency reserve	110.82	99.89
	c. Security deposit from consumers	419.91	678.28
	d. Grant received from State Govt. for purchaser of power and other O&M expenses	--	--
	<b>Sub-total (a+b+c+d)</b>	<b>1280.62</b>	<b>1665.65</b>
5	<b>Net working capital requirement (3-4)</b>	<b>485.69</b>	<b>424.62</b>
6	Rate of interest %	8.50%	8.50%
7	<b>Interest on working capital (5*6)</b>	<b>41.28</b>	<b>36.09</b>

**Table 4.98: Gains/(Loss) on account of interest on working capital claimed for FY 2021-22**

(Rs. Crore)

Name of the Discom	Approved in the Tariff Order for FY 2021-22	Actual Claimed in Truing up	Deviation	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
NBPDCCL	24.54	41.28	(16.74)		16.74
SBPDCL	12.94	36.09	(23.15)		23.15

### Commission's analysis

The Discoms have computed the interest on working capital as per the norms prescribed in Regulation 26 of the BERC (Multi Year Distribution Tariff) Regulations, 2018. Maintenance spares is considered @40% of the R&M expenses for FY 2021-22. Receivables equivalent to two months is considered based on the ARR (net of Non-tariff income). The working capital requirement for FY 2021-22 is considered after deducting one month power purchase cost (incl. transmission and SLDC charges), two months equivalent of depreciation and RoE and closing balance of consumer SD approved in the truing up for FY 2021-22.

Regulation 26 of BERC (Multi Year Distribution Tariff) Regulations 2018 specify that *“provided also that if the State Government is providing resource gap grant and/or direct subsidy to consumers, the working capital shall be reduced by two months equivalent of that amount”*.

The Government of Bihar vide **Memo Pragyan 02/Board Misc.-21/2010 (Part-1)-1066 / Patna, dated 07.04.2021** has sanctioned and extended tariff subsidy of Rs.6042.96 crore (@Rs.503.58 crore/pm) to be credited directly to the consumers for FY 2021-22. During FY 2021-22 the consumer sales (MU) is at 14614.40 MU for NBPDCCL and 16759.98 MU for SBPDCL. The sales ratio works out to 46.58% and 53.42% to total sales for NBPDCCL and SBPDCL respectively and accordingly, the tariff subsidy is allocated and considered for working capital requirement. The Commission, as specified in regulation 26 has considered two months equivalent of subsidy and reduced from the working capital requirement.

The SBI 1 year MCLR remained static/unchanged at 7.00% during FY 2021-22. The Commission, accordingly considered the rate of interest on working capital at 8.50% (weighted average SBI MCLR of 7.00% plus 1.50%) as per regulation 26 (iii).

Based on the expenses/costs approved, the working capital requirement and interest on working capital is computed in truing up for FY 2021-22 as detailed in the table below:

**Table 4.99: Interest on working capital approved for FY 2021-22**

(Rs. Crore)			
Sl. No.	Particulars	Approved for NBPDCCL in Truing up	Approved for SBPDCL in Truing up
1	Maintenance spares 40% of R&M expenses for one month	9.37	8.80
2	Receivables - 2 months	1662.21	1870.57
3	<b>Total working capital (1+2)</b>	<b>1671.57</b>	<b>1879.37</b>
4	<b>Less:</b>		
	a). Power purchase cost, transmission charges and load dispatch charges of one month	812.88	961.52
	b). Depreciation, RoE and contingency reserve	101.80	88.41
	c). Security deposit from consumers	436.45	730.78
	d). Grant received from State Govt. for purchase of power and other O&M expenses	469.14	538.02
	<b>Sub-total (a+b+c+d)</b>	<b>1820.27</b>	<b>2318.73</b>
5	<b>Net working capital requirement (3-4)</b>	<b>(148.70)</b>	<b>(439.36)</b>

Sl. No.	Particulars	Approved for NBPDC in Truing up	Approved for SBPDCL in Truing up
6	Rate of interest %	8.50%	8.50%
7	Interest on working capital (5*6)	--	---

The Commission, accordingly, approves 'NIL' interest on working capital as above in true up for FY 2021-22.

**Sharing of Gain/(Loss) on account of controllable factors:**

The Commission, in Tariff Order dated 26.03.2021, has approved interest on working capital of Rs.19.70 crore for NBPDC and Rs.30.85 crore for SBPDCL for FY 2021-22.

Regulation 9.2 (c) of BERC (Multi Year Distribution Tariff) Regulations 2018 specify; variations in variation in RoE, depreciation and working capital requirement as controllable factor. However, if the Commission is satisfied that the variation in the working capital requirement is attributable to any uncontrollable factors, the same may be considered as uncontrollable factor.

The Commission opines that around 90% of the working capital requirement constitutes power purchase cost which is uncontrollable. The regulation 9.1 (d) specifies, the sale of power is also uncontrollable factor. As such the working capital requirement and interest there on is considered as uncontrollable factor.

The Commission, accordingly has not considered sharing of gains/(losses) on account of variation in interest on working capital for FY 2021-22.

**4.23. Revenue from sale of power with existing tariff for FY 2021-22**

**Petitioner's submission**

Petitioners submitted details of category wise revenue based on the tariff approved for FY 2021-22 as shown in the Tables below:

**Table 4.100 Revenue from sale of power claimed by NBPDC for FY 2021-22**

Sl. No	Category of Consumers	Sales (MU)	Total (Rs Crores)	ABR (Rs/kWh)
1	Domestic	8,191.10	5,329	6.51
A	Kutir Jyoti	2,254.23	1,415	6.28
I	Unmetered	-	-	-
li	Metered 0-50	2,254.23	1,415	6.28



Sl. No	Category of Consumers	Sales (MU)	Total (Rs Crores)	ABR (Rs/kWh)
<b>B</b>	<b>DS I Rural</b>	<b>4,054.63</b>	<b>2,628</b>	<b>6.48</b>
I	Unmetered	-	-	-
II	Metered	4,054.63	2,628	6.48
A	First 50 Units	2,302.52	1,405	6.10
B	51-100 Units	919.53	588	6.40
C	101-200 Units	832.59	558	6.70
D	Above 200 Units	-	-	-
<b>C</b>	<b>DS II Demand Based</b>	<b>1,881.97</b>	<b>1,285</b>	<b>6.83</b>
I	First 100 Units	1,218.01	743	6.10
II	101-200 Units	355.69	247	6.95
III	201-300 Units	308.28	248	8.05
IV	Above 300 Units	-	-	-
<b>D</b>	<b>DS III</b>	<b>0.26</b>	<b>0.21</b>	<b>7.80</b>
<b>2</b>	<b>Non-Domestic Service</b>	<b>1508.88</b>	<b>1,188</b>	<b>7.88</b>
<b>A</b>	<b>NDS I – Metered</b>	<b>341.49</b>	<b>253</b>	<b>7.41</b>
I	First 100 Units	203.41	130	6.40
II	101-200 Units	44.04	31	7.00
III	Above 200 Units	94.04	71	7.55
<b>B</b>	<b>NDS II - Demand Based</b>	<b>1,167.39</b>	<b>935.48</b>	<b>8.04</b>
I	Contract Demand <0.5 kW	1.67	2	9.33
II	Contract Demand >0.5 kW	1,165.71	814	6.98
A	First 100 Units	411.84	261	6.35
B	101-200 Units	91.27	62	6.85
C	Above 200 Units	662.60	490	7.40
<b>3</b>	<b>Street Light Services</b>	<b>99.90</b>	<b>90</b>	<b>8.98</b>
<b>A</b>	<b>SS Metered</b>	<b>10.85</b>	<b>9.14</b>	<b>8.43</b>
<b>B</b>	<b>SS Unmetered</b>	<b>89.05</b>	<b>81</b>	<b>9</b>
<b>4</b>	<b>Irrigation &amp; Allied Services</b>	<b>467.49</b>	<b>319</b>	<b>6.81</b>
<b>A</b>	<b>IAS I</b>	<b>363.75</b>	<b>236</b>	<b>6.48</b>
i	Unmetered	5.91	5	8.68
ii	Metered	357.84	231	6.45
<b>B</b>	<b>IAS II</b>	<b>103.73</b>	<b>83</b>	<b>7.97</b>
i	Metered	103.73	83	7.97
<b>5</b>	<b>Public Service Connections</b>	<b>240.27</b>	<b>186</b>	<b>7.75</b>
A	Public Water Works	59.50	60	10.11
B	Har Ghar Nal	180.77	126	6.97
<b>6</b>	<b>Low Tension Industrial Services</b>	<b>372.39</b>	<b>311</b>	<b>8.35</b>
A	LTIS I (0-19 kW)	338.58	284	8.40
B	LTIS II (>19 kW - 74 kW)	33.81	27	7.93
<b>7</b>	<b>High Tension</b>	<b>768.42</b>	<b>617</b>	<b>8.03</b>
A	HTS I - 11 kV	483.29	397	8.22
B	HTS II - 33 kV	187.72	147	7.83
C	HTS III -132 kV	54.52	48	8.75
D	HTS IV - 220 kV	-	-	-
E	HTSS	42.88	25	5.82
<b>8</b>	<b>Railway Traction Services</b>	<b>67.55</b>	<b>56</b>	<b>8.36</b>
<b>9</b>	<b>Nepal</b>	<b>630.85</b>	<b>436</b>	<b>6.91</b>
<b>10</b>	<b>SLDC Deviation Charges</b>	<b>184.74</b>	<b>134.09</b>	<b>7.26</b>

Sl. No	Category of Consumers	Sales (MU)	Total (Rs Crores)	ABR (Rs/kWh)
11	Sale to Other State	-	-	
12	Sale to Sugar Mills & others	8.02	4	5.46
13	Sale to Solar Companies	0.59	0.48	
14	Sale of Power to IEX through PTC	1,841.95	672	
15	Sale of Power to IEX through BSPHCL	232.28	125.33	
17	Total	14,614.41	9,467.97	6.48

# Subsidy included in the total revenue from sale of power

**Table 4.101: Revenue from sale of power claimed by SBPDCL for FY 2021-22**

Sl. No	Category of Consumers	Sales (MU)	Total (Rs Crores)	ABR (Rs/kWh)
<b>1</b>	<b>Domestic</b>	<b>8,480.32</b>	<b>5,670.75</b>	<b>6.69</b>
<b>A</b>	<b>Kutir Jyoti</b>	<b>793.81</b>	<b>511.67</b>	<b>6.45</b>
I	Unmetered	-	-	-
li	Metered 0-50	793.81	512.00	6.45
<b>B</b>	<b>DS I Rural</b>	<b>4,979.45</b>	<b>3,272.03</b>	<b>6.57</b>
I	Unmetered	-	-	-
li	Metered	4,979.45	3,272.00	6.57
A	First 50 Units	1,454.24	887.00	6.10
B	51-100 Units	2,026.92	1,297.00	6.40
D	Above 100 Units	1,498.29	1,003.85	6.70
<b>C</b>	<b>DS II Demand Based</b>	<b>2,706.82</b>	<b>1,886.69</b>	<b>6.97</b>
I	First 100 Units	1,502.88	916.00	6.10
li	101-200 Units	926.39	643.00	6.95
lv	Above 200 Units	277.55	223.00	8.05
<b>D</b>	<b>DS III</b>	<b>0.24</b>	<b>0.36</b>	<b>7.42</b>
<b>2</b>	<b>Non-Domestic Service</b>	<b>1,509.37</b>	<b>1,245.78</b>	<b>8.25</b>
<b>A</b>	<b>NDS I – Metered</b>	<b>512.77</b>	<b>366.26</b>	<b>7.14</b>
I	First 100 Units	184.54	118.00	6.40
li	101-200 Units	181.15	127.00	7.00
lii	Above 200 Units	147.08	111.00	7.55
<b>B</b>	<b>NDS II - Demand Based</b>	<b>996.60</b>	<b>879.52</b>	<b>8.83</b>
I	Contract Demand <0.5 kW	4.91	5.00	10.06
li	Contract Demand >0.5 kW	991.69	875.00	8.82
A	First 100 Units	420.67	267.00	6.35
B	101-200 Units	120.04	82.00	6.85
C	Above 200 Units	450.98	334.00	7.40
<b>3</b>	<b>Street Light Services</b>	<b>133.68</b>	<b>135.77</b>	<b>10.16</b>
<b>A</b>	<b>SS Metered</b>	<b>49.25</b>	<b>37.36</b>	<b>7.59</b>
<b>B</b>	<b>SS Unmetered</b>	<b>84.43</b>	<b>98.41</b>	<b>11.66</b>
<b>4</b>	<b>Irrigation &amp; Allied Services</b>	<b>1,176.53</b>	<b>720.58</b>	<b>6.12</b>
<b>A</b>	<b>IAS I</b>	<b>1,065.95</b>	<b>638.84</b>	<b>5.99</b>
I	Unmetered	590.28	368.03	6.23
li	Metered	475.67	270.81	5.69
<b>B</b>	<b>IAS II</b>	<b>110.58</b>	<b>81.74</b>	<b>7.39</b>
I	Metered	110.58	81.74	7.39
<b>5</b>	<b>Public Service</b>	<b>341.22</b>	<b>265.98</b>	<b>7.80</b>

Sl. No	Category of Consumers	Sales (MU)	Total (Rs Crores)	ABR (Rs/kWh)
	<b>Connections</b>			
<b>A</b>	<b>Public Water Works</b>	<b>119.02</b>	<b>112.43</b>	<b>9.45</b>
<b>B</b>	<b>Har Ghar Nal</b>	<b>222.20</b>	<b>153.56</b>	<b>6.91</b>
<b>6</b>	<b>Low Tension Industrial Services</b>	<b>403.32</b>	<b>349.95</b>	<b>8.68</b>
<b>A</b>	LTIS I (0-19 kW)	234.98	207.62	8.84
<b>B</b>	LTIS II (>19 kW - 74 kW)	168.34	142.33	8.45
<b>7</b>	<b>High Tension</b>	<b>1,987.09</b>	<b>1,525.25</b>	<b>7.68</b>
<b>A</b>	HTS I - 11 kV	648.72	616.45	9.50
<b>B</b>	HTS II - 33 kV	414.28	379.23	9.15
<b>C</b>	HTS III -132 kV	* 266.68	*128.60	4.82
<b>D</b>	HTS IV - 220 kV	-	-	-
<b>E</b>	HTSS	657.41	400.97	6.10
<b>8</b>	<b>Railway Traction Services</b>	<b>60.56</b>	<b>57.21</b>	<b>9.45</b>
<b>A</b>	RTS	60.56	57.21	9.45
<b>9</b>	<b>SLDC Deviation Charges</b>	<b>218.18</b>	<b>158.36</b>	
<b>10</b>	<b>IEX through PMC</b>	<b>274.33</b>	<b>148.01</b>	
<b>11</b>	<b>Sale of Power to PTC</b>	<b>2,175.39</b>	<b>793.81</b>	
<b>12</b>	<b>Total</b>	<b>16,759.98</b>	<b>11,071.45</b>	<b>6.61</b>

# Subsidy included in the total revenue from sale of power

#### Commission's analysis

As per audited annual accounts for FY 2021-22, the revenue from sale of power is as shown in the table below:

**Table 4.102: Revenue from sale of power as shown in audited accounts for FY 2021-22**

Sl. No	Particulars	(Rs. Crore)	
		NBPDCCL	SBPDCL
1.	Sales through Discom	8670.51	10129.66
2.	Sale of power to IEX through PTC	672.14	793.81
3.	Sale of power to IEX through BHPCL/PMC	125.33	148.01
<b>4</b>	<b>Total</b>	<b>9467.98</b>	<b>11071.48</b>

The Petitioners have considered only sales through Discom as revenue from energy sales and revenue from sale of surplus energy is shown as a separate item in the ARR claimed in truing for FY 2021-22. The Commission has accepted the same for the purpose of truing up for FY 2021-22.

#### 4.24. Annual Revenue Requirement and sharing of gains/(losses) for FY 2021-22

##### Petitioners' submission:

Discoms have 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 Discoms have computed the total revenue requirement for FY 2021-22 as detailed in the table below:

**Table 4.103: ARR, Gains/(Losses) due to controllable & uncontrollable variations claimed by SBPDCL for FY 2021-22**

(Rs. Crore)

Sl. No.	Particulars	Approved for FY 2021-22	Claimed by SBPDCL for FY 2021-22 in trueing up	Deviation	Gain/(Loss) due to controllable factors	Gain/(Loss) due to uncontrollable factors
1	Purchase of power (excluding rebate)	6639.36	9683.68	(773.06)	(438.84)	(334.22)
2	Transmission charges	1408.33	1907.89	(499.56)		(499.56)
3	Revenue from Surplus Power	2271.26	941.83	(1,329.43)		(1,329.43)
4	O & M Expenses (A+B+C+D)	1006.00	1095.47	(89.47)		
A	Employee expenses	602.42	654.11	(51.69)	(34.46)	(17.23)
B	R&M expenses	236.51	247.21	(10.70)	(7.14)	(3.57)
C	A&G expenses	141.85	170.44	(28.59)	(19.06)	(9.53)
D	Holding company expenses	25.22	23.71	1.51		1.51
5	Depreciation	257.54	299.50	(41.96)		(41.96)
6	Interest on loan			(109.78)		(109.78)
7	Other finance charges	359.09	468.87			
8	Return on equity	250.95	299.82	(48.87)		(48.87)
9	Interest on SD	30.85	10.78	20.07		20.07
10	Interest on working capital	12.94	36.09	(23.15)		(23.15)
11	Total Revenue requirement (1 to 10)	9965.08	12860.28	(2,895.22)		
12	Less: Non-tariff income	402.23	368.09	(34.14)		(34.14)
13	<b>Net Revenue requirement (11-12)</b>	<b>9562.85</b>	<b>12492.19</b>	<b>(2,929.36)</b>	<b>(499.50)</b>	

**Table 4.104: ARR, Gains/(Losses) due to controllable & uncontrollable variations claimed by NBPDCCL for FY 2021-22**

(Rs. Crore)

Sl. No.	Particulars	Approved for FY 2021-22	Claimed by NBPDCCL for FY 2021-22 in trueing up	Deviation	Gain/(Loss) due to controllable factors	Gain/(Loss) due to uncontrollable factors
1	Purchase of power (excluding rebate)	5,705.57	8,194.23	(603.76)	(258.35)	(345.40)
2	Transmission charges	1,199.68	1,601.89	(402.21)		(402.21)
3	Revenue from Surplus Power		797.47	(1,087.44)		(1,087.44)

Sl. No.	Particulars	Approved for FY 2021-22	Claimed by NBPDCCL for FY 2021-22 in trueing up	Deviation	Gain/(Loss) due to controllable factors	Gain/(Loss) due to uncontrollable factors
4	O & M Expenses (A+B+C+D)	799.94	884.87	(84.93)		
A	Employee expenses	382.08	422.14	(40.06)	(26.70)	(13.35)
B	R&M expenses	230.45	259.66	(29.21)	(19.48)	(9.74)
C	A&G expenses	163.42	180.52	(17.10)	(11.40)	(5.70)
D	Holding company expenses	23.99	22.55	1.44		1.44
5	Depreciation	215.30	306.79	(91.49)		(91.49)
6	Interest on loan	382.90	576.66	(193.76)		(193.76)
7	Other finance charges					
8	Return on equity	264.87	358.13	(93.26)		(93.26)
9	Interest on SD	19.70	8.85	10.85		10.85
10	Interest on working capital	24.54	41.28	(16.74)		(16.74)
11	<b>Total Revenue requirement (1 to 10)</b>	<b>8,612.49</b>	<b>11,175.22</b>	<b>(2,563)</b>		
12	Less: Non-tariff income	212.92	629.33	(416)		(416.41)
13	<b>Net Revenue requirement (11-12)</b>	<b>8,399.58</b>	<b>10,545.90</b>	<b>(2,146)</b>	<b>(315.93)</b>	

#### Commission's analysis:

Regulation 10 and 11 of the BERC (Multi Year Distribution Tariff) Regulations, 2018 specify the procedure for sharing of the gains/losses on account of controllable and uncontrollable factors. The relevant Regulations are extracted here under:

#### ***“Regulation 10. Mechanism for pass-through of gains or losses on account of uncontrollable factors***

*10.1 The approved aggregate gain or loss to the Distribution Licensee on account of uncontrollable factors shall be a pass through as an adjustment in the tariff of the Distribution Licensee as specified in these Regulations and as may be determined in the Order of the Commission passed under these Regulations.*

*10.2 The Distribution Licensee shall submit such details of the variation between actual and the figures approved by the Commission along with the detailed computations and supporting documents as may be required by the Commission.*

#### ***Regulation 11. Mechanism for sharing of gains or losses on account of controllable factors***

*11.1 The approved aggregate gain to the Distribution Licensee on account of controllable factors shall be dealt with separately for aggregate gain and aggregate loss in the following manner:*

##### ***(a) Aggregate gain:***

*(i) Two-third of the amount of such gain shall be a pass through as an adjustment in the tariff of the Distribution licensee, as specified in these regulation and as*

may be determined in the order of the Commission passed under these regulation;

- (ii) The balance one third of the amount of such gain shall be on account of Distribution licensee and such amount shall be utilized at the discretion of Distribution Licensee.

(b) **Aggregate Loss:**

- (i) One third of the amount of such loss shall normally be a pass through as an adjustment in the tariff of the Distribution Licensee as specified in these regulations and as may be determined in the order of the Commission passed under these regulations, provided the Commission is satisfied that such loss is not on account of deliberate action of the Distribution licensee:

- (ii) The balance two third of the amount of such loss shall be on account of Distribution licensee.

**Explanation:** If the State Government is providing resource gap grant, aggregate loss shall be reduced by that amount for the purpose of computation of aggregate loss to be qualified for a pass through.

- 11.2 The Distribution licensee shall submit such details of variation for sharing of approved aggregate gain or loss on account of controllable factors along with the detailed computations and supporting documents as may be required for verification by the Commission.

The Commission based on the Aggregate Revenue Requirement (ARR) approved for FY 2021-22 in the Tariff order dated 26.03.2021, the actuals claimed in truing up by the Discoms and as approved by the Commission in truing up, has computed the variations due to controllable factors and uncontrollable factors and sharing of Gains/(Losses) in accordance with the BERC (Multi Year Distribution Tariff) Regulations, 2018 as given in the Table below:

**Table 4.105: ARR approved in truing up for FY 2021-22 for Discoms**

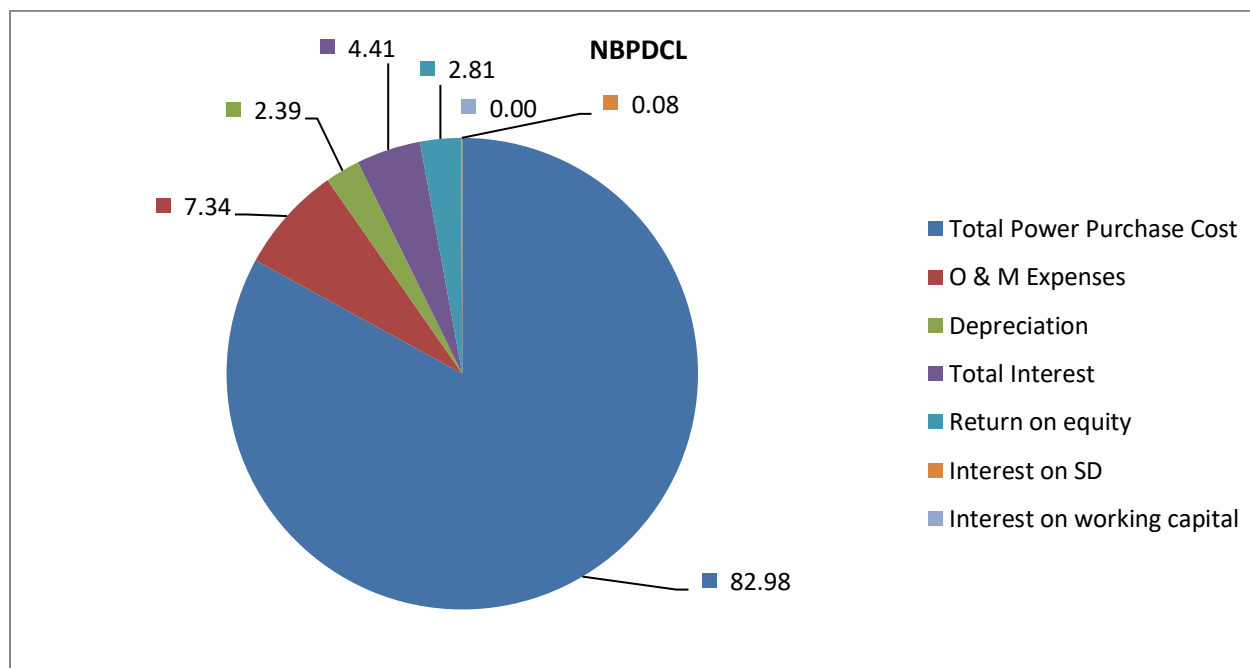
(Rs. Crore)

Sl. No.	Particulars	NBPDCCL			SBPDCL		
		Approved in Tariff order dated 26.03.2021	Claimed by NBPDCCL in truing up for FY 2021-22	Now approved in truing up for FY 2021-22	Approved in Tariff order dated 26.03.2021	Claimed by SBPDCL in truing up for FY 2021-22	Now approved in truing up for FY 2021-22
1	Purchase of power	5705.57	8194.23	8152.71	6639.36	9683.69	9634.65
2	PGCIL & Other transmission charges	466.58	882.40	882.39	547.73	1055.51	1053.89
3	BSPTCL transmission charges	520.11	504.19	507.85	610.57	598.11	599.76
4	BGCL transmission charges	208.21	211.19	207.53	244.41	249.41	245.09
5	SLDC charges	4.78	4.11	4.13	5.62	4.86	4.86
6	Sale of surplus power		(797.47)	(797.47)		(941.83)	(941.83)
7	Gains /(Loss) on account of power purchase cost			(345.07)			(649.61)

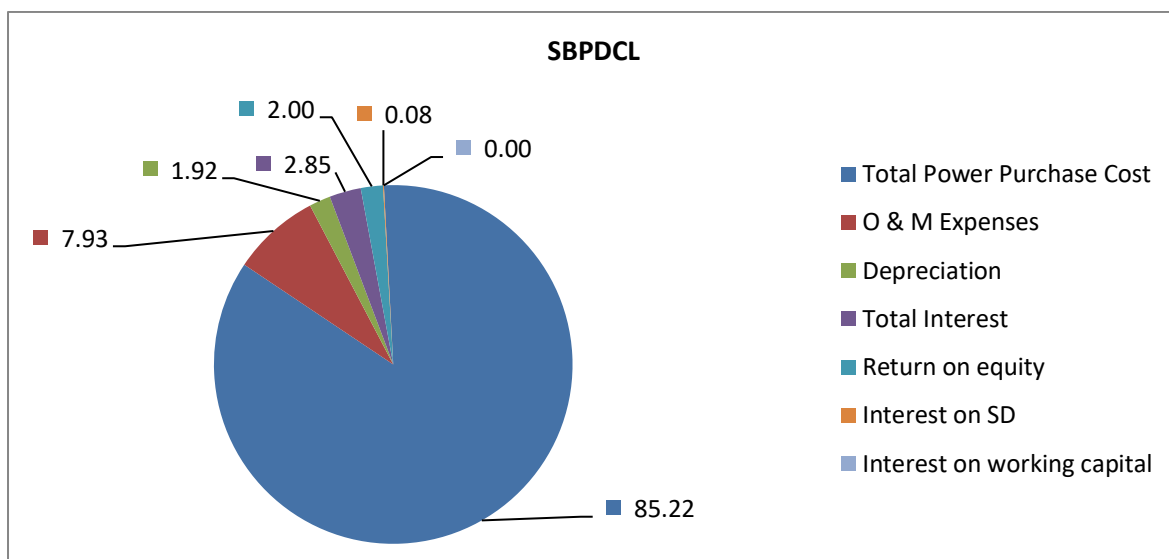
Sl. No.	Particulars	NBPDC			SBPDCL		
		Approved in Tariff order dated 26.03.2021	Claimed by NBPDC in truing up for FY 2021-22	Now approved in truing up for FY 2021-22	Approved in Tariff order dated 26.03.2021	Claimed by SBPDCL in truing up for FY 2021-22	Now approved in truing up for FY 2021-22
	to be absorbed by licensee						
8	<b>O &amp; M Expenses (A+B+C+D)</b>	<b>799.94</b>	<b>884.87</b>	<b>862.79</b>	<b>1006.00</b>	<b>1095.47</b>	<b>1074.09</b>
A	Employee expenses	382.08	422.14	402.50	602.42	654.11	650.35
B	R&M expenses	230.45	259.66	281.01	236.51	247.21	264.06
C	A&G expenses	163.42	180.52	156.73	141.85	170.44	135.97
D	Holding company expenses	23.99	22.55	22.55	25.22	23.71	23.71
9	Depreciation	215.30	306.79	280.61	257.54	299.50	260.24
10	Interest on loan	328.97	497.58	471.05	289.32	362.93	326.94
11	Other finance charges	53.93	79.08	47.24	69.77	105.94	58.50
12	Return on equity	264.87	358.13	330.19	250.95	299.82	270.21
13	Interest on SD	19.70	8.85	8.85	30.85	10.78	10.78
14	Interest on working capital	24.54	41.28	0.00	12.94	36.09	0.00
15	Less: Non-tariff income	(212.92)	(629.33)	(485.68)	(402.23)	(368.09)	(450.71)
16	<b>ARR for the year</b>	<b>8399.58</b>	<b>10545.90</b>	<b>10127.13</b>	<b>9562.83</b>	<b>12492.19</b>	<b>11496.87</b>

The Commission, accordingly has approves the net ARR for FY 2021-22 in truing up for Discoms as detailed in the table above.

Figure 6: The Share of each component of ARR (%) for FY 2021-22 for NBPDC

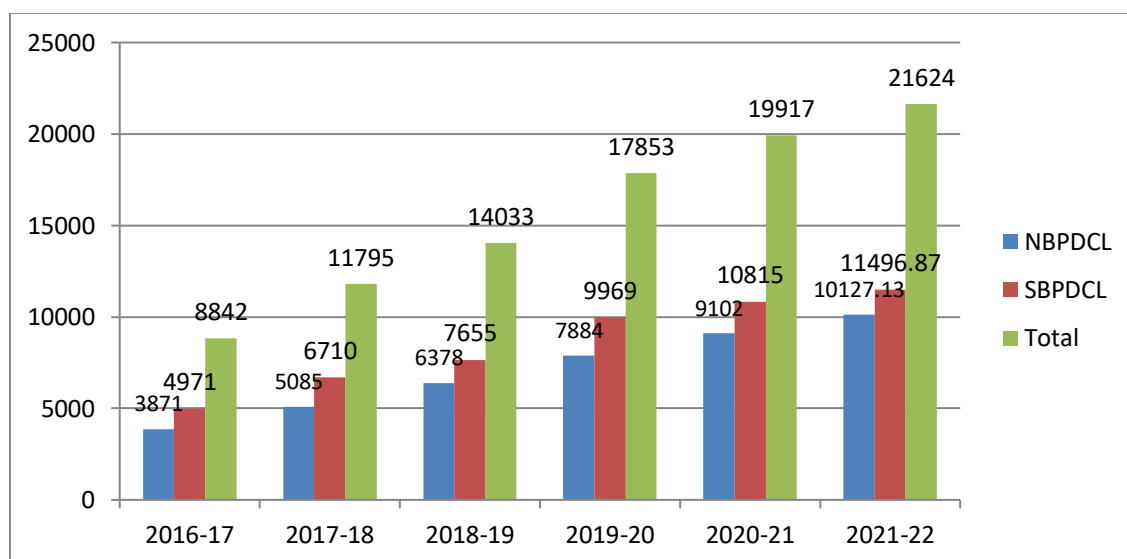


**Figure 7: The Share of each component of ARR (%) for FY 2021-22 for SBPDCL**

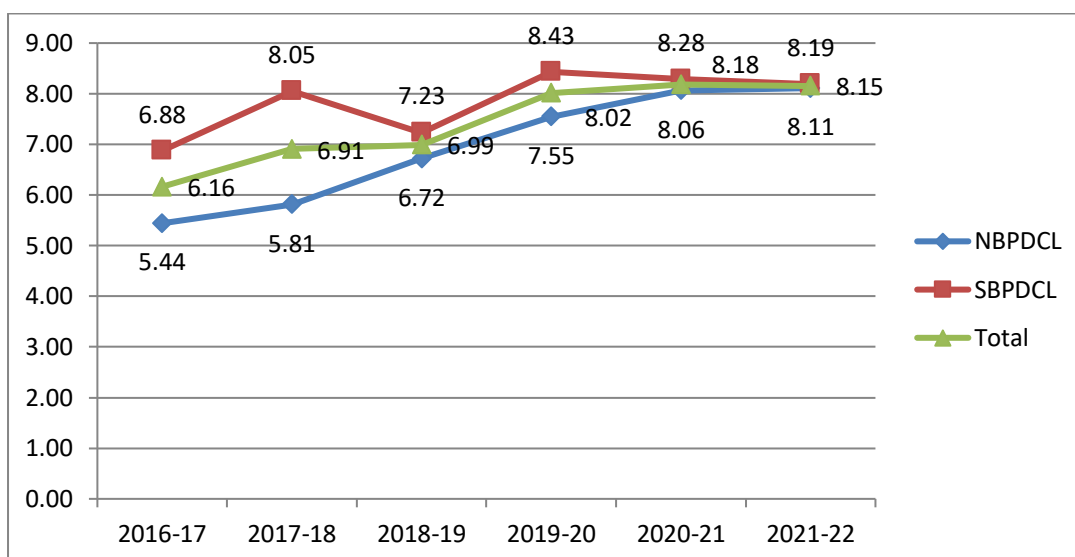


The 6-year trend of ARR & Average Cost of Supply (ACoS) of NBPDCCL & SBPDCL for FY 2016-17 to FY 2021-22 are shown below:

**Figure 8: Net ARR from FY 2016-17 to FY 2021-22 (Rs. Crore)**





**Figure 9: Average cost of supply from FY 2016-17 to FY 2021-22 (Rs/kWh)****4.25. Revenue Gap/(Surplus) for FY 2021-22****Petitioner's submission:**

The Discoms have claimed the revenue gap/(surplus) for FY 2021-22 as detailed in the Table below:

**Table 4.106: Revenue Gap/(Surplus) claimed by the Discoms for FY 2021-22****(Rs. Crore)**

Sl. No.	Particulars	Claimed by NBPDCCL in truing up for FY 2021-22	Claimed by SBPDCL in truing up for FY 2021-22	Total
1	Actual net ARR for FY 2021-22	10545.90	12492.19	23038.09
2	Carried forward trued up revenue gap/(Surplus) of FY 2019-20 along with carrying cost	-1424.67	1894.91	470.24
3	<b>Total revenue requirement (1+2)</b>	<b>9121.23</b>	<b>14387.10</b>	<b>23508.33</b>
4	<b>Less: Gains /(Loss) on account of controllable factor to be passed in tariff</b>	-315.93	-499.50	-815.43
5	<b>Less: Treatment of excess AT&amp;C loss subsidy for meeting power purchase requirement</b>	-240.61	-484.20	-724.81
6	<b>Total revenue requirement (3+4-5)</b>	<b>8564.69</b>	<b>13403.41</b>	<b>21968.09</b>
7	<b>Less: Revenue from existing tariff</b>	8670.50	10129.63	18800.13
8	<b>Revenue Gap / (Surplus) for FY 2021-22 (6-7)</b>	<b>-105.81</b>	<b>3273.78</b>	<b>3167.96</b>

**Commission's analysis:**

The Commission based on the expenses and sharing of Gains/(Losses) due to controllable and uncontrollable factors has approved the ARR for FY 2021-22 in truing

up as detailed in the table below.

**Table 4.107: Revenue Gap/(Surplus) approved in true up for FY 2021-22**

(Rs. Crore)

Sl. No.	Particulars	Approved in truing up for FY 2021-22 for NBPDC	Approved in truing up for FY 2021-22 for SBPDCL	Total
1	ARR approved in True up for FY 2021-22	10127.13	11496.87	21624.00
2	Add: Gains /(Loss) on account of O&M expenses to be passed in to tariff	(42.53)	(23.97)	(66.50)
3	Add: Carried forward trued up revenue Gap/(Surplus) of FY 2019-20 with carrying cost as per TO dated 26.03.2021	(1424.67)	1894.91	470.24
4	Subsidy Received (Amount in excess of financial loss of DISCOMs due to higher AT&C loss)	(153.89)	(273.43)	(427.33)
5	<b>Revised Revenue Requirement (1 to 4)</b>	<b>8506.04</b>	<b>13094.37</b>	<b>21600.41</b>
6	Less: Revenue from existing tariff	8670.51	10129.66	18800.17
7	<b>Revenue Gap / (Surplus) for FY 2021-22 (5-6)</b>	<b>(164.47)</b>	<b>2964.71</b>	<b>2800.24</b>

The Commission approves the **total net consolidated revenue Gap of Rs.2800.24 Crore (NBPDC surplus of Rs.164.47 Crore and SBPDCL gap of Rs.2964.71 Crore)** for Discoms in True up for FY 2021-22.

The Regulation 14(f) of the BERC (Multi Year Distribution Tariff) Regulations 2018, specifies *“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”*.

Accordingly, the net consolidated revenue Gap of Rs.2800.24 Crore (NBPDC surplus of Rs.164.47 Crore and SBPDCL gap of Rs.2964.71 Crore) for Discoms arising out of the truing up for FY 2021-22 is adjusted in the ARR for FY 2023-24 along with applicable carrying cost.

## 5. Annual Performance Review for FY 2022-23

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### 5.1. Background

The Commission had issued MYT Order dated 25<sup>th</sup> March, 2022 approving Aggregate Revenue Requirement for the control period FY 2022-23 to FY 2024-25 to the Bihar Distribution Companies, viz., NBPDCCL and SBPDCL. The distribution licensees have now filed the present individual Tariff Petitions on 15<sup>th</sup> November, 2022 which includes Annual Performance Review (APR) for FY 2022-23. Discoms have stated that the APR for FY 2022-23 is projected based on the actual figures for 6 months (i.e. April 2022 to September 2022) for power purchase, sales and pro-rata projections and escalations over previous year has been considered.

Annual Performance Review (APR) for FY 2022-23 shall be carried out in accordance with the Regulation 8.1 of the BERC (Multi Year Distribution Tariff) Regulations, 2021. Accordingly, the “Review” exercise for FY 2022-23 has been undertaken by the Commission on the basis of Audited Annual Accounts for FY 2021-22 and revised estimates for FY 2022-23 submitted by the Petitioners and as per BERC (Multi Year Distribution Tariff) Regulations, 2021.

However, as per Regulation 14 (f) of BERC (Multi Year Distribution Tariff) Regulations, 2021 the revised estimated gap/surplus as a result of Review (APR) shall not be passed in to the ARR of ensuing year

### 5.2. Number of Consumers, Energy Sales and Connected Load for FY 2022-23 Petitioners’ submission:

#### Number of Consumers

The Petitioners have submitted that while projecting the number of consumers for FY 2022-23, the impact due to Central schemes like Saubhagya and UDAY were considered. The Successful implementation of these schemes ensured that all the willing households are connected to the grid, leaving little scope for addition of new consumers from KJY, DS-I and DS-II categories. These initiatives aim for the overall development of the power sector in the State.

These plans were mainly targeted for rural consumers in KJ, DS-I category and for IAS-I category, many policies at state level were adopted, hence the growth rate in previous years under this category was above the normal CAGR growth as large number of new connections were to be released in the ensuing years. However, since the state of Bihar has achieved 100% electrification, the growth in consumers have normalized in the past 2 years. Considering the same, the Petitioner has considered growth pattern in the last 2-3 years as well as the 6 months provisional data of FY 2022-23 for revising the growth in number of consumers for FY 2022-23. The category-wise number of consumers approved in the Tariff Order dated 25.03.2022 and now projected in APR for FY 2022-23 are as given in Table below:

**Table 5.1: Category-wise number of consumers projected by NBPDC & SBPDCL for FY 2022-23**

Category	NBPDC		SBPDCL	
	Approved in TO, Dt 25.03.2022	Now Projected In APR	Approved in TO, Dt 25.03.2022	Now Projected In APR
<b>Domestic</b>	<b>10561564</b>	<b>10,701,482</b>	<b>5,670,384</b>	<b>5,912,887</b>
Kutir Jyoti	4334245	4,300,806	1,579,135	1,569,629
DS I Rural	4851383	5,029,024	2,699,985	2,840,850
DS II Demand Based	1375862	1,371,570	1,391,060	1,502,217
DS III	74	82	204	190
<b>Non-Domestic Service</b>	<b>731292</b>	<b>778,940</b>	<b>548,507</b>	<b>589,970</b>
NDS I - Metered Now Demand Based	354565	407,884	206,678	221,026
NDS II - Demand Based	376727	371,056	341,829	368,943
Contract Demand <0.5 kW	793	532	2,243	8,818
Contract Demand >0.5 kW	375934	370,524	339,586	3,53,125
<b>Street Light Services</b>	<b>1752</b>	<b>2,169</b>	<b>1,674</b>	<b>2,336</b>
Street Light 1	370	531	826	1,045
Street Light 2	1382	1,637	848	1,291
<b>Irrigation &amp; Allied Services</b>	<b>157728</b>	<b>151,123</b>	<b>274,858</b>	<b>292,313</b>
IAS I	150991	144,560	270,071	287,631
IAS II	6737	6,564	4,787	4,682
<b>Public Service Connections</b>	<b>57622</b>	<b>54,796</b>	<b>39,809</b>	<b>36,982</b>
Public Water Works	1839	1,988	3,228	3,205
Har Ghar Nal	55783	52,808	36,581	33,778
<b>LT Electric Vehicle Charging Station</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>3</b>
<b>Low Tension Industrial Services</b>	<b>65566</b>	<b>74,877</b>	<b>66,409</b>	<b>69,652</b>
LTIS I (0-19 kW)	64110	73,260	61,930	65,030
LTIS II (>19 kW - 74 kW)	1456	1,618	4,479	4,622
<b>High Tension</b>	<b>1274</b>	<b>1,439</b>	<b>1,991</b>	<b>2,172</b>
HTS I - 11 kV	1212	1,369	1,824	1,976
HTS II - 33 kV	56	64	149	178
HTS III -132 kV	5	3	5	5
HTS IV - 220 kV	-	-	-	-

Category	NBPDCCL		SBPDCL	
	Approved in TO, Dt 25.03.2022	Now Projected In APR	Approved in TO, Dt 25.03.2022	Now Projected In APR
HTSS - 33/11 kV	1	3	13	13
HTIS (Oxygen Manufacturers)	0	0	-	33
HT Electric Vehicle Charging Stations.	2	2	4	2
Railway Traction Services	4	5	3	4
Nepal	1	1	-	-
Total	11,576,807	11,764,836	6,603,641	6,906,353

### Category wise Energy Sales

Petitioners submitted that the DISCOMs have already provided electricity access to all willing BPL households in urban areas and both APL & BPL households in rural areas under Saubhagya Scheme.

The category-wise sales are projected based on the CAGR of the previous years' data, the provisional sales for the first half of FY 2022-23 as well as considering factors like available average consumption per consumer per month, new consumers to be added, population data, expected conversion of unauthorized connections, connected load factor and specific growth factors and wherever the data was incongruous such incongruity was ignored while projecting the load growth for the ensuing years.

The forecast model projects the specific consumption level (consumption per consumer) appropriate for each customer category. The Petitioners submitted that this forecast is based on expected growth relationships to income and price, effect of Demand Side Management and impact of hours of service.

Petitioners also submitted that the 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 FY 2022-23.

The category wise sales approved in the Tariff Order dated 25.03.2022 and now projected in APR for FY 2022-23 are as shown in the Table below:

**Table 5.2: Energy Sales (MU) projected by NBPDC & SBPDCL for FY 2022-23**

Category of Consumers	NBPDC		SBPDCL	
	Approved in TO, Dt 25.03.2022	Now Projected In APR	Approved in TO, Dt 25.03.2021	Now Projected In APR
<b>Domestic</b>	<b>9468</b>	<b>9,071</b>	<b>10,709</b>	<b>9236.62</b>
Kutir Jyoti	2601	2,244.52	947	927
DS I Rural	4598	4,589.71	6,129	5,150
DS II Demand Based	2269	2,236.96	3,633	3,159
DS III	0	0.35	0	0.34
<b>Non-Domestic Service</b>	<b>1471</b>	<b>1,733.39</b>	<b>1,575</b>	<b>1,712</b>
NDS I - Metered Now Demand Based	366	463.08	607	521
NDS II - Demand Based	1105	1,270.30	968	1,192
Contract Demand <0.5 kW	2	1.82	6	6
Contract Demand >0.5 kW	1103	1,268.48	961	1,186
<b>Street Light Services</b>	<b>47</b>	<b>69.5</b>	<b>80</b>	<b>150</b>
SS Metered	6	10.47	10	53
SS Unmetered	41	59.03	70	97
<b>Irrigation &amp; Allied Services</b>	<b>523</b>	<b>437.98</b>	<b>1,106</b>	<b>1,385</b>
IAS I	480	341.21	966	1,255
IAS II	43	96.77	140	130
<b>Public Service Connections</b>	<b>202</b>	<b>348.28</b>	<b>225</b>	<b>433.07</b>
Public Water Works	48	48.42	123	139
Har Ghar Nal	154	299.86	102	294
<b>Low Tension Industrial Services</b>	<b>501</b>	<b>542.63</b>	<b>372</b>	<b>436.42</b>
LTIS I (0-19 kW)	455	430.69	226	255
LTIS II (>19 kW - 74 kW)	46	111.94	146	181
<b>LT Electric Vehicle Charging Station</b>	<b>0.05</b>	<b>0.005</b>	<b>0</b>	<b>0.07</b>
High Tension	<b>856</b>	<b>924.2</b>	1,942	2,353
HTS I - 11 kV	514	597.91	587	752
HTS II - 33 kV	202	236.2	520	600
HTS III -132 kV	115	55.89	203	257
HTS IV - 220 kV	-	-	-	-
HTSS	25	34.19	632	743
<b>HTIS (Oxygen Manufacturers)</b>			-	<b>4.93</b>
<b>HT Electric Vehicle Charging Stations.</b>	<b>0.21</b>	<b>0.21</b>	<b>0.42</b>	<b>0.21</b>
<b>Railway Traction Services</b>	<b>28</b>	<b>78.05</b>	<b>46</b>	<b>100.31</b>
<b>Nepal</b>	<b>683</b>	<b>441.3</b>	-	-
<b>Sale to Other State (Banking)</b>	-	-	-	-
<b>Total</b>	<b>13,779.26</b>	<b>*13,646.53</b>	<b>16,055.42</b>	<b>15,812.13</b>

\* Wrongly shown as 15646.53 in the petition

### Connected load

The Petitioners have submitted that the connected load is calculated considering average Load per consumer as per the actuals, analysing CAGR of past years and multiplying it by projected number of consumers to arrive at the connected load for FY 2022-23.

The category wise connected load approved in Tariff Order dated 25.03.2022 and now projected in APR are as shown in the Table below:

**Table 5.3: Connected Load projected by NBPDCCL & SBPDCL for FY 2022-23**

Category of Consumers	NBPDCCL		SBPDCL	
	Approved in TO, Dt 25.03.2022	Now Projected In APR	Approved in TO, Dt 25.03.2022	Now Projected In APR
<b>Domestic</b>	<b>8,889,667</b>	<b>8,932,282</b>	<b>8,006,598</b>	<b>7,995,324</b>
Kutir Jyoti	1,083,561	1,104,531	394,784	425,032
DS I Rural	5,248,191	5,252,593	3,180,071	3,185,191
DS II Demand Based	2,557,607	2,574,758	4,431,332	4,384,660
DS III	308	399	411	441
<b>Non-Domestic Service</b>	<b>1,628,853</b>	<b>1,731,099</b>	<b>1,784,794</b>	<b>1,715,733</b>
NDS I - Metered Now Demand Based	481,250	559,219	357,149	369,119
NDS II - Demand Based	1,147,603	1,149,534	1,427,645	1,346,613
Contract Demand <0.5 kW	412	513	1,558	5,761
Contract Demand >0.5 kW	1,147,191	1,149,021	1,426,087	1,340,852
<b>Street Light Services</b>	<b>23,591</b>	<b>24,616</b>	<b>26,676</b>	<b>43,100</b>
Street Light 1	3,367	4,957	6,682	21,792
Street Light 2	20,224	19,659	19,994	21,308
<b>Irrigation &amp; Allied Services</b>	<b>417,861</b>	<b>3,96,611</b>	<b>874,527</b>	<b>676,110</b>
IAS I	356,752	3,20,826	796,885	622,541
IAS II	61,109	75,785	77,642	53,569
<b>Public Service Connections</b>	<b>159,696</b>	<b>1,52,477</b>	<b>181,023</b>	<b>161,499</b>
Public Water Works	28,019	29,837	53,057	48,809.45
Har Ghar Nal	131,677	1,22,640	127,966	112,689.15
<b>LT Electric Vehicle Charging Stations</b>	<b>115</b>	<b>50</b>	<b>115</b>	<b>150</b>
<b>Low Tension Industrial Services</b>	<b>659,362</b>	<b>732,000</b>	<b>832,951</b>	<b>884,149</b>
LTIS I (0-19 kW)	572,973	638,050	568,609	6,06,529.31
LTIS II (>19 kW - 74 kW)	86,389	93,950	264,342	277,619.42
<b>High Tension</b>	<b>404,730</b>	<b>435,959</b>	<b>979,631</b>	<b>973,267</b>
HTS I - 11 kV	265,215	287,503	434,200	455,351
HTS II - 33 kV	80,948	95,231	298,191	315,162
HTS III -132 kV	45,543	43,349	104,389	67,522
HTS IV - 220 kV	-	-	-	-
HTS IV - 33/11 kV	13,024	9,876	142,851	135,233
HTIS (Oxygen Manufacturers)			-	6,605
<b>HT Electric Vehicle Charging Stations</b>	<b>424</b>	<b>400</b>	<b>897</b>	<b>449</b>
<b>Railway Traction Services</b>	<b>36,241</b>	<b>39,784</b>	<b>31,589</b>	<b>50,223</b>
<b>Nepal</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Total</b>	<b>12,220,540</b>	<b>12,422,930</b>	<b>12,718,801</b>	<b>12,506,607</b>

**Commission's analysis:****Number of Consumers**

Discoms have stated that since the State of Bihar has achieved 100% electrification, the growth in consumers have normalized in the past 2 years as well as the 6 months provisional data of FY 2022-23 for revising the number of consumers for FY 2022-23. The Commission therefore opines that the Discoms are in best position to estimate the growth in number of consumers. Hence, the Commission has provisionally considered the submission of Discoms in this regard. Based on above, the Commission has considered the same projections as requested by the Petitioners and approved the number of consumers for each consumer category in APR of FY 2022-23 as shown in the Table below:

**Table 5.4: Number of Consumers considered for NBPDCCL & SBPDCL for FY 2022-23 (RE)**

Category	NBPDCCL		SBPDCL	
	Projected by Petitioner	Considered by the Commission	Projected by Petitioner	Considered by the Commission
<b>Domestic</b>	<b>10,701,482</b>	<b>10,701,482</b>	<b>5,912,886</b>	<b>5,912,886</b>
Kutir Jyoti	4,300,806	4,300,806	1,569,629	1,569,629
DS I Rural	5,029,024	5,029,024	2,840,850	2,840,850
DS II Demand Based	1,371,570	1,371,570	1,502,217	1,502,217
DS III	82	82	190	190
<b>Non-Domestic Service</b>	<b>778,940</b>	<b>778,940</b>	<b>589,969</b>	<b>582,969</b>
NDS I - Metered Now Demand Based	407,884	407,884	221,026	221,026
NDS II - Demand Based	371,056	371,056	368,943	361,943
Contract Demand <0.5 kW	532	532	8,818	8,818
Contract Demand >0.5 kW	370,524	370,524	3,53,125	3,53,125
<b>Street Light Services</b>	<b>2,168</b>	<b>2,168</b>	<b>2,336</b>	<b>2,336</b>
Street Light 1	531	531	1,045	1,045
Street Light 2	1,637	1,637	1,291	1,291
<b>Irrigation &amp; Allied Services</b>	<b>151,124</b>	<b>151,124</b>	<b>292,313</b>	<b>292,313</b>
IAS I	144,560	144,560	287,631	287,631
IAS II	6,564	6,564	4,682	4,682
<b>Public Service Connections</b>	<b>54,796</b>	<b>54,796</b>	<b>36,983</b>	<b>36,983</b>
Public Water Works	1,988	1,988	3,205	3,205
Har Ghar Nal	52,808	52,808	33,778	33,778
<b>LT Electric Vehicle Charging Station</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>3</b>
<b>Low Tension Industrial Services</b>	<b>74,878</b>	<b>74,878</b>	<b>69,652</b>	<b>69,652</b>
LTIS I (0-19 kW)	73,260	73,260	65,030	65,030
LTIS II (>19 kW - 74 kW)	1,618	1,618	4,622	4,622



Category	NBPDC		SBPDCL	
	Projected by Petitioner	Considered by the Commission	Projected by Petitioner	Considered by the Commission
<b>High Tension</b>	<b>1,441</b>	<b>1,441</b>	<b>2,207</b>	<b>2,207</b>
HTS I - 11 kV	1,369	1,369	1,976	1,976
HTS II - 33 kV	64	64	178	178
HTS III -132 kV	3	3	5	5
HTS IV - 220 kV	0	0	0	0
HTSS - 33/11 kV	3	3	13	13
HTIS (Oxygen Manufacturers)	0	0	33	33
HT Electric Vehicle Charging Stations	2	2	2	2
<b>Railway Traction Services</b>	<b>5</b>	<b>5</b>	<b>4</b>	<b>4</b>
<b>Nepal</b>	<b>1</b>	<b>1</b>		
<b>Total</b>	<b>11,764,837</b>	<b>11,764,837</b>	<b>6,906,353</b>	<b>6899353</b>

Note: # Figure wrongly shown as 368943 instead of 361943

### Connected Load

The Petitioners have submitted that the category-wise connected load is projected considering average connected load per consumer as per actual, CAGR of past years and multiplying it by projected number of consumers to arrive at the connected load.

The Commission has verified the computation of connected load as submitted by the Discoms and found them to be in order except for Kutir Jyoti. It is observed that for Kutir Jyoti Category NBPDC has considered 0.257 KW per consumer and SBPDCL has considered 0.271 KW per consumer for projecting total connected load as against the norm of 0.250 KW per consumer. However, the Commission has considered 0.25 KW for KJ consumer category

The Commission has approved the connected load in review of FY 2022-23 as shown in the Table below:

**Table 5.5: Connected Load (KW) considered for NBPDC & SBPDCL for FY 2022-23 (RE)**

Category of Consumers	NBPDC		SBPDCL	
	Projected by Petitioner	Considered by the Commission	Projected by Petitioner	Considered by the Commission
<b>Domestic</b>	<b>8932281</b>	<b>8902952</b>	<b>7995324</b>	<b>7962699</b>
Kutir Jyoti	1104531	1075202	425032	392407

Category of Consumers	NBPDCCL		SBPDCL	
	Projected by Petitioner	Considered by the Commission	Projected by Petitioner	Considered by the Commission
DS I Rural	5252593	5252593	3185191	3185191
DS II Demand Based	2574758	2574758	4384660	4384660
DS III	399	399	441	441
<b>Non-Domestic Service</b>	<b>1708753</b>	<b>1708753</b>	<b>1715732</b>	<b>1715732</b>
NDS I - Metered Now Demand Based	559219	559219	369119	369119
NDS II - Demand Based	1149534	1149534	1346613	1346613
Contract Demand <0.5 kW	513	513	5761	5761
Contract Demand >0.5 kW	1149021	1149021	1340852	1340852
<b>Street Light Services</b>	<b>24616</b>	<b>24616</b>	<b>43100</b>	<b>43100</b>
Street Light 1	4957	4957	21792	21792
Street Light 2	19659	19659	21308	21308
<b>Irrigation &amp; Allied Services</b>	<b>396611</b>	<b>396611</b>	<b>676110</b>	<b>676110</b>
IAS I	320826	320826	622541	622541
IAS II	75785	75785	53569	53569
<b>Public Service Connections</b>	<b>152477</b>	<b>152477</b>	<b>161499</b>	<b>161499</b>
Public Water Works	29837	29837	48809	48809
Har Ghar Nal	122640	122640	112689	112689
<b>LT Electric Vehicle Charging Stations</b>	<b>50</b>	<b>50</b>	<b>150</b>	<b>150</b>
<b>Low Tension Industrial Services</b>	<b>732000</b>	<b>732000</b>	<b>884149</b>	<b>884149</b>
LTIS I (0-19 kW)	638050	638050	606529	606529
LTIS II (>19 kW - 74 kW)	93950	93950	277619	277619
<b>High Tension</b>	<b>436359</b>	<b>436359</b>	<b>980322</b>	<b>980322</b>
HTS I - 11 kV	287503	287503	455351	455351
HTS II - 33 kV	95231	95231	315162	315162
HTS III -132 kV	43349	43349	67522	67522
HTS IV - 220 kV		-	-	-
HTS IV - 33/11 kV	9876	9876	135233	135233
HTIS (Oxygen Manufacturers)			6605	6605
HT Electric Vehicle Charging Stations	400	400	449	449
<b>Railway Traction Services</b>	<b>39784</b>	<b>39784</b>	<b>50223</b>	<b>50223</b>
<b>Nepal</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total</b>	<b>12422931</b>	<b>12393602</b>	<b>12506608</b>	<b>12473983</b>

### Energy Sales

The Commission notes that the Petitioners have projected category-wise sales for the year by taking average consumption per consumer per month and multiplying the same to the projected number of consumers. The Commission also notes the submission of the Petitioners wherein they have mentioned that the forecast for FY 2022-23 is based on expected growth relationships to income and price, effect of

Demand Side Management and impact of hours of service.

For the purpose of estimation of sales for FY 2022-23, the Commission finds the methodology considered by the Petitioners is acceptable. The Commission has verified the detailed working of sales projections as submitted by Discoms and found them to be in order. It is also observed that for Kutir Jyoti category NBPDCCL has considered 43.50 units / consumer / month whereas SBPDCL has considered 49.20 units / consumer / month as against the norm of 50 units / consumer / month, for projecting total energy sales for this category.

Accordingly, the Commission approves sales (MU) for FY 2022-23 as projected by the Petitioner as shown in Table below:

**Table 5.6: Energy Sales (MU) considered for NBPDCCL & SBPDCL for FY 2022-23 (RE)**

Category of Consumers	NBPDCCL		SBPDCL	
	Projected by Petitioner	Considered by the Commission	Projected by Petitioner	Considered by the Commission
<b>Domestic</b>	<b>9,071.01</b>	<b>9,071.01</b>	<b>9,236.62</b>	<b>9,236.62</b>
Kutir Jyoti	2,244.52	2,244.52	926.72	926.72
DS I Rural	4,589.17	4,589.17	5,150.32	5,150.32
DS II Demand Based	2,236.96	2,236.96	3,159.24	3,159.24
DS III	0.35	0.35	0.34	0.34
<b>Non-Domestic Service</b>	<b>1,733.39</b>	<b>1,733.39</b>	<b>1,712.43</b>	<b>1,712.43</b>
NDS I - Metered Now Demand Based	463.08	463.08	520.76	520.76
NDS II - Demand Based	1,270.30	1,270.30	1,191.67	1,191.67
Contract Demand <0.5 kW	1.82	1.82	5.87	5.87
Contract Demand >0.5 kW	1,268.48	1,268.48	1,185.80	1,185.80
<b>Street Light Services</b>	<b>69.50</b>	<b>69.50</b>	<b>150.11</b>	<b>150.11</b>
SS Metered	10.47	10.47	53.38	53.38
SS Unmetered	59.03	59.03	96.73	96.73
<b>Irrigation &amp; Allied Services</b>	<b>437.98</b>	<b>437.98</b>	<b>1,385.27</b>	<b>1,385.27</b>
IAS I	341.21	341.21	1,255.47	1,255.47
IAS II	96.77	96.77	129.80	129.80
<b>Public Service Connections</b>	<b>348.28</b>	<b>348.28</b>	<b>433.07</b>	<b>433.07</b>
Public Water Works	48.42	48.42	138.70	138.70
Har Ghar Nal	299.86	299.86	294.37	294.37
<b>Low Tension Industrial Services</b>	<b>542.63</b>	<b>542.63</b>	<b>436.43</b>	<b>436.43</b>
LTIS I (0-19 kW)	430.69	430.69	255.43	255.43
LTIS II (>19 kW - 74 kW)	111.94	111.94	181.00	181.00
<b>LT Electric Vehicle Charging Station</b>	<b>0.00</b>	<b>0.00</b>	<b>0.07</b>	<b>0.07</b>
<b>High Tension</b>	<b>924.41</b>	<b>924.41</b>	<b>2,357.83</b>	<b>2,357.83</b>
HTS I - 11 kV	597.91	597.91	751.77	751.77
HTS II - 33 kV	236.20	236.20	599.98	599.98

Category of Consumers	NBPDCCL		SBPDCL	
	Projected by Petitioner	Considered by the Commission	Projected by Petitioner	Considered by the Commission
HTS III -132 kV	55.89	55.89	257.49	257.49
HTS IV - 220 kV	0.00	0.00	-	-
HTSS	34.19	34.19	743.45	743.45
HTIS (Oxygen Manufacturers)	0.00	0.00	4.93	4.93
HT Electric Vehicle Charging Stations.	0.21	0.21	0.21	0.21
<b>Railway Traction Services</b>	<b>78.05</b>	<b>78.05</b>	<b>100.31</b>	<b>100.31</b>
<b>Nepal</b>	<b>441.30</b>	<b>441.30</b>	<b>0.00</b>	<b>0.00</b>
<b>Sale to Other State (Banking)</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>Total</b>	<b>13,646.53</b>	<b>13,646.53</b>	<b>15,812.13</b>	<b>15,812.13</b>

The above category - wise number of consumers, connected load and energy sales considered for FY 2022-23 (RE) are provisional and while truing up for FY 2022-23, the actual figures based on Audited Annual Accounts and prudence check will be considered.

The Discoms are directed to get the category - wise connected load also audited by a 3<sup>rd</sup> party and exhibit the same in the audited annual accounts of FY 2022-23 along with category -wise number of consumers and energy sales.

### 5.3. Distribution Losses for FY 2022-23

#### Petitioners' submission:

The Petitioners have submitted that in a letter to Ministry of Power in July 2019, they have expressed their inability to achieve the losses of 15% as agreed under UDAY. Petitioners, further stated that difference between 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. Petitioner also requested the Commission to see the growth rates in consumer base of 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 distribution loss for FY 2022-23.

As above, informed the MoP that the difference in the loss target and the actual loss levels is practically impossible to achieve in the given period, and therefore Bihar

DISCOMs requested for a revision of the UDAY targets for FY 19-20 from the present 15% to 20%.

Further, Government of India, through Ministry of Power introduced “Revamped Distribution Sector Scheme – A Reform based, and Results linked scheme” in July 2021. The scheme is applicable for all the State/UTs Utilities or Power Departments to avail such financial assistance under the revamped scheme. The scheme has a total outlay of Rs 3,03,758 Crores with an estimated gross budgetary support of Rs 97,631 Crores (~32% of total outlay) from the Government of India.

The Petitioner participated in the said scheme and submitted the action plan, DPR of the total project outlay & roadmap for AT&C Loss to the State Government for its approval in the month of March 2022. The Monitoring Committee for RDSS constituted under the Chairmanship of Secretary (Power), Govt of India, in its 9<sup>th</sup> meeting held on 28.04.2022, has approved the Action Plan and Loss Reduction DPR of North Bihar Power Distribution Company Limited under Revamped Distribution Sector Scheme. Accordingly, the Monitoring Committee approved the following trajectory for AT&C loss for the Petitioner.

Discom	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
NBPDC	25%	22%	19%	16%
SBPDCL	35%	31%	25%	20%

Hence, it would be appropriate and realistic for the DISCOMs that the projections for the AT&C losses be approved by the Commission in line with the trajectory approved in the RDSS.

The Commission had approved the collection efficiency of 100% in the ARR for FY 2022-23 as per the UDAY scheme. However, the per capita income of Bihar, especially for the domestic consumer is very low which restricts their paying capacity, and this has proven to be a challenge to recover the billed amount despite taking various measures for timely billing and easy payment of the bill.

Accordingly, the Petitioners have requested to consider the below revised projections as shown in Table below:

**Table 5.7: Distribution loss, Billing Efficiency and AT&C losses projected by NBPDCCL & SBPDCL for FY 2022-23**

Sl. No.	Particular	NBPDCCL		SBPDCL	
		Approved in ARR for FY 2022-23	Projected in APR for FY 2022-23	Approved in ARR for FY 2022-23	Projected in APR for FY 2022-23
1	Distribution loss	15%	20.00%	15.00%	21.59%
2	Billed Efficiency	85%	80.00%	85.00%	78.41%
3	Collection efficiency	100%	97.00%	100.00%	88.00%
4	AT&C Losses	15%	22.00%	15.00%	31.00%

**Commission's analysis:**

The Commission in previous Tariff proceedings have held that 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. Further, 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 had approved the Distribution loss at 15% for FY 2022-23 for the Discoms in the MYT Order dated 25th March, 2022 for the control period FY 2022-23 to FY 2024-25. Therefore, the Commission decides to retain the Distribution loss for the Discoms for FY 2022-23 at 15% for the purpose of Energy Balance as shown in the Table below:

**Table 5.8: Distribution Loss considered for Discoms for FY 2022-23**

Name of DISCOM	Approved in Tariff Order dated 25.03.2022	Projected in the Petition for FY 2022-23	Considered by the Commission for FY 2022-23
NBPDCCL	15%	20.00%	15%
SBPDCL	15%	21.59%	15%

**Collection Efficiency:** The Commission has approved 100% collection efficiency for FY 2022-23 for the Discoms in the MYT Order dated 25<sup>th</sup> March, 2022. Therefore, the collection efficiency is retained at 100% for FY 2022-23 (RE) against SBPDCL's claim of 88% and NBPDCCL's claim of 97.50%.

**AT&C Loss:** The Commission had approved the AT&C losses for the Discoms for FY 2022-23 at 15% in the MYT Order dated 25<sup>th</sup> March, 2022 for the control period FY 2022-23 to FY 2024-25. Therefore, the AT&C loss is retained at 15% for FY 2022-23.

The Distribution Loss, Collection Efficiency and AT&C loss as considered by the Commission in review of FY 2022-23 are shown in the Table below:

**Table 5.9: Distribution Loss, Collection Efficiency and AT&C Loss considered for FY 2022-23 (RE)**

Particulars	NBPDC		SBPDCL	
	Projected in the Petition for APR for FY 2022-23	Considered by the Commission for FY 2022-23	Projected in the Petition for APR for FY 2022-23	Considered by the Commission for FY 2022-23
Distribution	20.00%	15%	21.59%	15%
Collection Efficiency	97.50%	100%	88.00%	100%
AT&C Loss	22.00%	15%	31.00%	15%

#### 5.4. Transmission Losses for FY 2022-23

##### **Petitioners' submission:**

The Petitioners have considered Transmission Loss of 3.00% as approved by the Commission in its previous Tariff Order.

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

The Commission observed that, Petitioners claim of Transmission Loss of 3% is in line to the approved Transmission Loss of BSPTCL for FY 2022-23 as approved in Tariff Order dated 25<sup>th</sup> March, 2022. Therefore, the Commission has considered the State Transmission loss at 3.00% for FY 2022-23.

#### 5.5. Central Transmission Loss for FY 2022-23

##### **Petitioners' submission:**

SBPDCL have considered Transmission Loss of 3.34% as per latest 52 weeks as per <https://posoco.in/side-menu-pages/applicable-transmission-losses/transmission-losses-2022-23/> and accordingly requests the Commission to consider the same.

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

The Commission has considered the CTU loss at 3.34% for FY 2022-23 as projected by the Petitioner. However, while truing up for FY 2022-23 the actual CTU loss based on audited accounts and prudence check will be considered.

#### 5.6. Power Purchase for FY 2022-23

##### **Petitioners' submission:**

The DISCOMs 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 NBPDCCL and SBPDCL. The notification states that,

*“RESOLVED THAT Power Purchase & Transmission charges bills are to be admitted and payment by both DISCOMs i.e NBPDCCL 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, BSPHCL 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. NBPDCCL and SBPDCL”*

Power purchase projection submitted by NBPDCCL and SBPDCL in APR for FY 2022-23 are as detailed below:

**NHPC, NTPC & PTC:** The power purchase for existing sources has been NTPC, NHPC and PTC has been considered based on the 24 x 7 Power for All (PFA) projection and recent trends of the power plant. The power purchase is further segregated into NBPDCCL and SBPDCL as per allocation ratio.

**Medium/Short Term Sources:** The power purchase from these sources are namely GMR Kamalanga and PTC (SKS Power and JITPL). An agreement with PTC and PFCCCL is executed under pilot scheme for medium term through PFC consulting limited as Nodal agency and PTC India Limited as an aggregator for 200 MW. The PPA with PTC is expiring in December, 2022. Accordingly, Power Purchase from these plants has been considered only upto November, 2022.

The Petitioner shall purchase power through short term from MSTC (DEEP Portal/IEX during the year in any financial year where the quantum and rate of this short term power purchase shall be within the limit of total quantum and rate of



power purchase approved by the Hon'ble Commission.

**Open Market Purchase:** Petitioner is currently procuring power from IEX, on the basis of Demand.

**New Sources:** The power purchase for the new sources has been considered based on the commissioning status received from generators and CEA reports. Some of the new plants that are scheduled for Commissioning in FY 2022-23 are as follows:

S. No	Name of Unit	Expected COD	Quantum (MW)	Plant type
1	Barh Stage I U1	Apr-22	342	Thermal
2	Barh Stage I U2	Jan-23	342	Thermal
3	North K'Pura U1	Dec-22	229	Thermal
4	SECI Phase-VI (Wind)	Dec-22	350	RE
5	BREDA Floating Solar	March-22	2	RE
6	SECI Phase-V Solar	Mar-23	330	RE
7	SECI Phase-II Solar	Feb-23	150	RE

Further the allocation of power from the new projects is in the ratio of 46:54 for NBPDCCL & SBPDCL as per the Board resolution.

It is submitted that for Projecting the Power Purchase Quantum for FY 2022-23, The Petitioner has considered the actual Power Purchase quantum for the period April to September 2022 and projected for remaining months based on the following methodology.

- i). Share allocation has been considered as per Eastern Regional Power Committee.
- ii). The Plant Load Factor (PLF) for each plant has been considered as per CEA Report- Monthly/Annual Report for existing conventional plants based on average of average PLF of last 4 years as applicable and the current six months PLF of FY 2022-23. For new and upcoming plants, the minimum technical level PLF of 60% is considered for projection.
- iii). Normative auxiliary consumption provided by Central Electricity Regulatory Commission (CERC) for the Thermal and Hydro plants and the auxiliary consumptions specified for plants.
- iv). 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 CUF has been considered as

specified in their respective Power Purchase Agreement/ Power Supply Agreements

- v). Considering the PLF as mentioned above and using the power purchase allocation data mentioned in the above table total number of units purchased were calculated from every source/ plant for every month separately.

The month wise projections data for the months of October 2022 to March 2023 is added to the actuals of April 2022 to September 2022.

Accordingly, the projections of power purchase for FY 2022-23 is tabulated below:

**Table 5.10: Power purchase allocation projected by NBPDCCL & SBPDCL for FY 2022-23**

Name of The Source	NBPDCCL		SBPDCL		Total	
	Share allocated (MW)	Units purchased (MU)	Share allocated (MW)	Units purchased (MU)	Share allocated (MW)	Units purchased (MU)
<b>Stations injecting at CTU</b>	<b>2,631.36</b>	<b>13,845.93</b>	<b>3,528.72</b>	<b>16,253.92</b>	<b>6,160.08</b>	<b>30,099.85</b>
FSTPP I & II	231.1	1,257.47	271.3	1476.16	502.40	2,733.63
FSTPP III	49.5	192.17	58.1	225.59	107.60	417.76
KHSTPP I	161.75	539.61	189.88	633.46	351.63	1,173.07
KHSTPP II	34.36	193.81	40.34	227.51	74.70	421.32
Barh Stage I Unit I	157.26	796.89	184.62	935.48	341.88	1,732.37
Barh Stage I Unit II	157.26	165.25	184.62	193.99	341.88	359.24
Barh Stage I Unit III	-	-	-	-	-	-
Barh Stage II	550.97	2,380.06	646.79	2793.99	1,197.76	5,174.05
Nabinagar (BRBCL)	46	246.28	54	289.11	100.00	535.39
Korba	-	-	-	0	-	-
Talcher Stage I	189.75	1,005.54	222.75	1180.41	412.50	2,185.95
KBUNL Stage II	134.5	729.62	157.89	856.51	292.39	1,586.13
NPGCL	772.09	4,037.57	906.36	4739.76	1,678.45	8,777.33
North Karanpura Unit I	-	110.86	123.85	130.14	-	241.00
North Karanpura Unit II	-	-	-	0	-	-
North Karanpura Unit III	-	-	-	0	-	-
Darlipali STPS	87.29	499.44	102.47	586.3	189.76	1,085.74
Buxar TPP U1	-	-	-	0	-	-
Buxar TPP U2	-	-	-	0	-	-
BSPHCL_RAIL	-	-	-	0	-	-
Chuka	-	287.23	53.38	337.18	-	624.41
Rangit	9.66	53.79	11.34	63.14	21.00	116.93
Tala	-	423.19	140.45	496.79	-	919.98
Teesta	49.88	287.8	58.55	337.86	108.43	625.66
Mangdechhu	-	639.36	122.04	750.56	-	1,389.92
Capacity Refund Charges by NTPC	-	-	-	-	-	-
<b>Stations injecting at STU</b>	<b>195.04</b>	<b>1208.37</b>	<b>423.36</b>	<b>1418.53</b>	<b>618.40</b>	<b>2,626.90</b>
BSPHC	29.44	3.93	34.56	4.62	64.00	8.55
KBUNL Stage I	-	-	-	0	-	-
BTPS Stage I Unit I	50.6	7.76	59.4	9.11	110.00	16.87

Name of The Source	NBPDC		SBPDCL		Total	
	Share allocated (MW)	Units purchased (MU)	Share allocated (MW)	Units purchased (MU)	Share allocated (MW)	Units purchased (MU)
BTPS Stage I Unit II	-	-	59.4	0	-	-
BTPS Stage II Unit I	115	952.31	135	1117.93	250.00	2,070.24
BTPS Stage II Unit II	-	244.36	135	286.86	-	531.22
<b>IPPs</b>	<b>224.48</b>	<b>1236.91</b>	<b>263.52</b>	<b>1452.02</b>	<b>488.00</b>	<b>2,688.93</b>
GMR	119.6	725.79	140.4	852.02	260.00	1,577.81
JITPL	104.88	511.11	123.12	600	228.00	1,111.11
<b>Renewables</b>	<b>874.64</b>	<b>2021.98</b>	<b>1,503.04</b>	<b>2373.63</b>	<b>2,377.68</b>	<b>4,395.61</b>
M/s Sunmark Energy Projects Limited (Formerly MBCEL)	4.6	7.2	5.4	8.45	10.00	15.65
M/s Response renewable Energy Ltd, Kolkata.	4.6	8.19	5.4	9.61	10.00	17.80
M/s Avantika Contractors Ltd., Hyderabad	2.3	3.47	2.7	4.08	5.00	7.55
M/s Glatt Solutions Pvt. Ltd, Kolkata.	1.38	2.41	1.62	2.83	3.00	5.24
Alfa Infraprop Pvt. Ltd.	9.2	13.75	10.8	16.15	20.00	29.90
Udipta Energy & Equipment Pvt. Ltd.	2.3	3.57	2.7	4.19	5.00	7.76
Azure Power India Pvt. Ltd.	4.6	7.15	5.4	8.4	10.00	15.55
Welspun Renewables Project - I	4.6	7.39	5.4	8.68	10.00	16.07
Welspun Renewables Project – II	6.9	10.93	8.1	12.83	15.00	23.76
Welspun Renewables Project – III	6.9	11.1	8.1	13.03	15.00	24.13
Acme Cleantech Project (Nalanda)	6.9	10.94	8.1	12.85	15.00	23.79
Acme Cleantech Project (Magadh)	4.6	7.49	5.4	8.8	10.00	16.29
Solar Energy Corporation of India Ltd., Government of India	4.6	8.49	5.4	9.97	10.00	18.46
SECI Phase-II Solar	-	21.33	81	25.04	-	46.37
SECI Phase-III (Renew Sunwaves)	138	301.95	162	354.46	300.00	656.41
NTPC ISTS Solar	138	307.57	162	361.06	300.00	668.63
GRT Jewellers (SECI-V)	69	108.69	81	127.59	150.00	236.28
Wind ISTS Scheme Tranche I (PTC) (Green Infra, Inox, Mytrah & Ostro)	92	259.51	108	304.65	200.00	564.16
Wind ISTS Scheme Tranche II (SECI) (Orange)	46	143.18	54	168.08	100.00	311.26
SECI Phase-III Wind	-	-	-	0	-	-
SECI Green Infra	46	148.01	54	173.75	100.00	321.76
Torrent Power	22.91	-	26.89	0	49.80	-
Adani Green	23	-	27	0	50.00	-
Alfanar	23	78.59	27	92.25	50.00	170.84
Betam	23.09	74.57	27.11	87.54	50.20	162.11

Name of The Source	NBPDCCL		SBPDCL		Total	
	Share allocated (MW)	Units purchased (MU)	Share allocated (MW)	Units purchased (MU)	Share allocated (MW)	Units purchased (MU)
Adani Green (SECI-V)	-	-	-	0	-	-
Ecoren Energy (SECI-V)	-	-	-	0	-	-
SECI Phase-VI Wind	-	-	189	0	-	-
Ostro Kannad	138	317.4	162	372.59	300.00	689.99
Morjar Windfarm	-	14.96	27	17.56	-	32.52
SBE Renewable (SECI Phase-V)	-	24.66	178.2	28.95	-	53.61
BREDA Floating Solar Project	-	0.88	1.08	1.03	-	1.91
BREDA Solar Project	-	-	-	0	-	-
Kajra+Pirpainti Solar Project	-	-	-	0	-	-
SECI Hybrid Project	-	-	-	0	-	-
New Swadeshi Sugar Mill, Narkataganj	4.6	9.22	5.4	10.82	10.00	20.04
Hasanpur Sugar Mill, Dalsinghsarai	6.67	14.7	7.83	17.26	14.50	31.96
Bharat Sugar Mills, Sidhwalia, Gopalganj	6.9	14.87	8.1	17.46	15.00	32.33
Hari Nagar Sugar Mills, Hari Nagar, West Champaran	6.67	14.62	7.83	17.16	14.50	31.78
HPCL Biofuels Ltd., Sugauli, East Champaran	9.2	20.07	10.8	23.56	20.00	43.63
HPCL Biofuels Ltd., Lauria, West Champaran	9.2	20.06	10.8	23.54	20.00	43.60
Riga Sugar Company Ltd.	1.38	3.02	1.62	3.54	3.00	6.56
Siddhashram Rice Mill Cluster Pvt Ltd	0.46	1.51	0.54	1.78	1.00	3.29
Bihar Distillers & Bottlers Pvt Ltd	4.32	14.09	5.08	16.54	9.40	30.63
Tirupati Sugar	2.76	6.44	3.24	7.56	6.00	14.00
REC Cost	-	-	-	-	-	-
<b>Others</b>	<b>92</b>	<b>509.91</b>	<b>108</b>	<b>598.59</b>	<b>200.00</b>	<b>1,108.50</b>
PTC(IEX)	-	288.93	-	339.18	-	628.11
GTAM IEX	-	-	-	0	-	-
DB Power	-	-	-	0	-	-
Prior Period Expenses	-	-	-	0	-	-
UPPCL	-	-	-	0	-	-
NEA	-	0.07	-	0.09	-	0.16
UI	-	-	-	0	-	-
PTC JITPL	57.5	159.06	67.5	186.72	125.00	345.78
PTC SKS Power	34.5	61.85	40.5	72.6	75.00	134.45
<b>Total</b>	<b>4,017.53</b>	<b>18,823.11</b>	<b>5,826.64</b>	<b>22,096.69</b>	<b>9,844.17</b>	<b>40,919.80</b>

**Commission's analysis:****Power Purchase Quantum**

The Commission has compared the power purchase projected by the Petitioners from various sources for FY 2022-23 (RE) with the Power Purchase approved for FY 2022-23 in Tariff Order dated 25<sup>th</sup> March, 2022 as detailed in the Table below:

**Table 5.11: Comparison of Power Purchase as claimed by petitioner for FY 2022-23**

Name of the Discom	Power Purchase approved in T.O. dated 25.03.2022 (MU)	(MU)
		Power Purchase projected in present Petition (MU)
SBPDCL	19838.26	22096.69
NBPDCCL	16899.21	18823.11
<b>Total</b>	<b>36737.47</b>	<b>40919.80</b>

The above variations are mainly due to the reasons that in previous Tariff Orders the power purchase requirement for entire year was based on the estimation. Whereas, in APR of FY 2022-23, the same has been determined based on the six-month actual data and six-month projections in line with the Regulation 14.1 (d) of the BERC (Multi Year Distribution Tariff) Regulations, 2021.

For Projecting the Power Purchase for FY 2022-23, the Petitioners have considered the actual Power Purchase quantum for the period April 2022 to September 2022 and projected for remaining months based on the following methodology:

- i). Share allocation has been considered as per Eastern Regional Power Committee.
- ii). The Plant Load Factor (PLF) for each plant has been considered as per CEA Report- Monthly/Annual Report for existing conventional plants based on average of average PLF of last 4 years as applicable and the current six months PLF of FY 2022-23. For new and upcoming plants, the minimum technical level PLF of 60% is considered for projection.
- iii). Normative auxiliary consumption provided by Central Electricity Regulatory Commission (CERC) for the thermal and hydro plants and the auxiliary consumptions specified for plants.
- iv). 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 CUF has been considered as specified in their respective Power Purchase Agreement/ Power Supply

Agreements.

- v). Considering the PLF as mentioned above and using the power purchase allocation data mentioned in the above table total number of units purchased were calculated from every source/ plant for every month separately.

The Commission has noted from the Energy Balance (Table 5.13) as projected by DISCOMs, there will be a surplus of power available at 747.38 MU for NBPDCCL and 588.68 MU for SBPDCL. The Commission has noted from the computation of power purchase quantum from various sources, the Petitioners have calculated the energy availability from various generating stations without deducting the Auxiliary Consumption from the expected energy at generation end.

The power availability from various sources for FY 2022-23 has been worked out by the Commission, based on the PLF and auxiliary consumption as estimated by the Petitioner except the Hydel Stations i.e. Chukka, Rangit an Tala (1% considered as against 8.5% indicated) as shown in the Table below:

**Table 5.12: Power Purchase Availability considered by the Commission for NBPDCCL & SBPDCL for FY 2022-23**

(MU)

Sl. No	Particulars	Bihar share allocation (MW)	PLF %	Auxiliary cons	Energy at Gen. terminal (MU)	Energy at Ex-bus (MU) after Aux. consumption	SBPDCL (54%)	NBPDCCL (46%)
I	<b>Stations with injection at CTU</b>	<b>6,534.68</b>			<b>30,100.46</b>	<b>27,785.97</b>	<b>15,004.42</b>	<b>12,781.55</b>
1	FSTPP I & II	502.40	62.11	8.50	2,733.48	2,501.13	1,350.61	1,150.52
2	FSTPP III	107.60	44.32	8.50	417.75	382.24	206.41	175.83
3	KHSTPP I	351.63	38.08	8.50	1,172.97	1,073.27	579.56	493.70
4	KHSTPP II	74.70	64.39	8.50	421.35	385.54	208.19	177.35
5	Barh Stage I Unit I	341.88	57.85	8.50	1,732.53	1,585.27	856.04	729.22
6	Barh Stage I Unit II	341.88	12.00	8.50	359.38	328.84	177.57	151.26
8	Barh Stage II	1,197.76	49.31	8.50	5,173.79	4,734.02	2,556.37	2,177.65
9	Nabinagar (BRBCL) Unit I-IV	100.00	61.12	8.50	535.41	489.90	264.55	225.35
11	Talcher Stage I	412.50	60.49	8.50	2,185.81	2,000.01	1,080.01	920.01
12	KBUNL Stage II	292.39	61.93	10.50	1,586.24	1,419.68	766.63	653.05
13	NPGCL Unit I-III	1,678.45	59.70	8.50	8,777.82	8,031.71	4,337.12	3,694.59

Sl. No	Particulars	Bihar share allocation (MW)	PLF %	Auxiliary cons	Energy at Gen. terminal (MU)	Energy at Ex-bus (MU) after Aux. consumption	SBPDCL (54%)	NBPDC (46%)
14	North Karanpura Unit I	229.35	12.00	8.50	241.09	220.60	119.12	101.48
17	Darlipali STPS Unit I-II	189.76	65.32	8.50	1,085.81	993.52	536.50	457.02
21	Chuka	98.85	72.11	1.00	624.42	618.18	333.81	284.36
22	Rangit	21.00	63.56	1.00	116.92	115.76	62.51	53.25
23	Tala	260.10	40.38	1.00	920.05	910.85	491.86	418.99
24	Teesta	108.43	65.87	1.00	625.64	619.38	334.47	284.92
25	Mangdechhu	226.00	70.21	1.00	1,389.99	1,376.09	743.09	633.00
II	<b>Stations with injection at STU</b>	<b>674.00</b>			<b>2,626.94</b>	<b>2,404.30</b>	<b>1,298.32</b>	<b>1,105.98</b>
1	BSPHC	64.00	1.53	1.00	8.58	8.49	4.59	3.91
3	BTPS Stage I Unit I	110.00	1.75	8.50	16.86	15.43	8.33	7.10
5	BTPS Stage II Unit I	250.00	94.53	8.50	2,070.21	1,894.24	1,022.89	871.35
6	BTPS Stage II Unit II	250.00	24.26	8.50	531.29	486.13	262.51	223.62
III	<b>IPPs</b>	<b>488.00</b>			<b>2,689.01</b>	<b>2,460.44</b>	<b>1,328.64</b>	<b>1,131.80</b>
1	GMR	260.00	69.28	8.50	1,577.92	1,443.80	779.65	664.15
2	JITPL	228.00	55.63	8.50	1,111.09	1,016.64	548.99	467.66
IV	<b>Renewables</b>	<b>2,333.60</b>			<b>4,395.51</b>	<b>4,343.65</b>	<b>2,345.57</b>	<b>1,998.08</b>
1	M/s Sunmark Energy Projects Limited (Formerly MBCEL)	10.00	17.87	0.75	15.65	15.54	8.39	7.15
2	M/s Response renewable Energy Ltd, Kolkata.	10.00	20.32	0.75	17.80	17.67	9.54	8.13
3	M/s Avantika Contractors Ltd., Hyderabad	5.00	17.24	0.75	7.55	7.49	4.05	3.45
4	M/s Glatt Solutions Pvt. Ltd, Kolkata.	3.00	19.93	0.75	5.24	5.20	2.81	2.39
5	Alfa Infraprop Pvt. Ltd.	20.00	17.07	0.75	29.91	29.68	16.03	13.65
6	Udipta Energy & Equipment Pvt. Ltd.	5.00	17.70	0.75	7.75	7.69	4.16	3.54
7	Azure Power	10.00	17.75	0.75	15.55	15.43	8.33	7.10

Sl. No	Particulars	Bihar share allocation (MW)	PLF %	Auxiliary cons	Energy at Gen. terminal (MU)	Energy at Ex-bus (MU) after Aux. consumption	SBPDCL (54%)	NBPDC (46%)
	India Pvt. Ltd.							
8	Welspun Renewables Project - I	10.00	18.35	0.75	16.07	15.95	8.62	7.34
9	Welspun Renewables Project – II	15.00	18.08	0.75	23.76	23.58	12.73	10.85
10	Welspun Renewables Project – III	15.00	18.36	0.75	24.13	23.94	12.93	11.01
11	Acme Cleantech Project (Nalanda)	15.00	18.10	0.75	23.78	23.61	12.75	10.86
12	Acme Cleantech Project (Magadh)	10.00	18.60	0.75	16.29	16.17	8.73	7.44
13	Solar Energy Corporation of India Ltd., Government of India	10.00	21.08	0.75	18.47	18.33	9.90	8.43
14	SECI Phase-II	150.00	3.53	0.75	46.38	46.04	24.86	21.18
15	SECI Phase-III	300.00	24.98	0.75	656.47	651.55	351.84	299.71
16	NTPC ISTS Solar	300.00	25.44	0.75	668.56	663.55	358.32	305.23
17	GRT Jewellers(SECI-V)	150.00	17.98	0.75	236.26	234.49	126.62	107.86
18	Wind ISTS Scheme Tranche I (PTC) (Green Infra, Inox, Mytrah & Ostro)	200.00	32.20	0.75	564.14	559.91	302.35	257.56
19	Wind ISTS Scheme Tranche II (SECI) (Orange)	100.00	35.53	0.75	311.24	308.91	166.81	142.10
21	SECI Green Infra	100.00	36.73	0.75	321.75	319.34	172.44	146.90
24	Alfanar	50.00	39.00	0.75	170.82	169.54	91.55	77.99
25	Betam	50.20	36.86	0.75	162.09	160.88	86.87	74.00
30	Ostro Kannad	300.00	26.26	0.75	690.11	684.94	369.87	315.07



Sl. No	Particulars	Bihar share allocation (MW)	PLF %	Auxiliary cons	Energy at Gen. terminal (MU)	Energy at Ex-bus (MU) after Aux. consumption	SBPDCL (54%)	NBPDC (46%)
31	Morjar Windfarm	50.00	7.42	0.75	32.50	32.26	17.42	14.84
32	SECI Phase-V Solar	330.00	1.85	0.75	53.48	53.08	28.66	24.42
33	BREDA Floating Solar Project	2.00	10.89	0.75	1.91	1.89	1.02	0.87
37	New Swadeshi Sugar Mill, Narkataganj	10.00	22.88	8.50	20.04	18.34	9.90	8.44
38	Hasanpur Sugar Mill, Dalsinghsarai	14.50	25.16	8.50	31.96	29.24	15.79	13.45
39	Bharat Sugar Mills, Sidhwalia, Gopalganj	15.00	24.61	8.50	32.34	29.59	15.98	13.61
40	Hari Nagar Sugar Mills, Hari Nagar, West Champaran	14.50	25.01	8.50	31.77	29.07	15.70	13.37
41	HPCL Biofuels Ltd., Sugauli, East Champaran	20.00	24.90	8.50	43.62	39.92	21.56	18.36
42	HPCL Biofuels Ltd., Lauria, West Champaran	20.00	24.89	8.50	43.61	39.90	21.55	18.35
43	Riga Sugar Company Ltd.	3.00	24.98	8.50	6.56	6.01	3.24	2.76
44	Siddhashram Rice Mill Cluster Pvt Ltd	1.00	37.56	8.50	3.29	3.01	1.63	1.38
45	Bihar Distillers & Bottlers Pvt Ltd	9.40	37.20	8.50	30.63	28.03	15.14	12.89
46	Tirupati Sugar	6.00	26.64	0.75	14.00	13.90	7.50	6.39
V	<b>Others</b>	<b>200.00</b>			<b>480.22</b>	<b>1,067.67</b>	<b>576.54</b>	<b>491.13</b>
1	PTC(IEX)				-	628.11	339.18	288.93
2	NEA				-	0.16	0.09	0.07
3	UI				-	-	-	-
4	PTC JITPL	125.00	31.58	8.50	345.80	316.41	170.86	145.55
5	PTC SKS Power	75.00	20.46	8.50	134.42	123.00	66.42	56.58
	<b>Grand Total</b>	<b>10,230.28</b>			<b>40,292.14</b>	<b>38,062.03</b>	<b>20,553.50</b>	<b>17,508.53</b>

## 5.7. Energy Balance for FY 2022-23

### Petitioners' submission:

Based on above discussed elements such as sales, losses and power availability, the Petitioners submitted the revised energy balance projected for FY 2022-23 as under:

**Table 5.13: Energy Balance Projected by NBPDCCL & SBPDCL for FY 2022-23**

Sl. No	Particulars	Unit	NBPDCCL FY 2022-23	SBPDCL FY 2022-23
<b>A</b>	<b>Energy Requirement</b>			
1	Energy sales	MU	13,646.53	15,812.13
2	Less: Inter-state sales	MU	441.3	
3	Energy sales excluding Inter-state sales	MU	13,205.23	15,812.13
4	Distribution Loss	%	20.00%	21.59%
5	Add: Distribution Loss	MU	3,301.31	4,353.83
<b>6</b>	<b>Energy required at Distribution periphery</b>	<b>MU</b>	<b>16,506.54</b>	<b>20,165.96</b>
7	Add: Inter-state sales	MU	441.3	-
<b>8</b>	<b>Total energy required at Distribution periphery</b>	<b>MU</b>	<b>16,947.84</b>	<b>20,165.96</b>
9	State Transmission Loss	%	3.00%	3.00%
10	Add: State Transmission Loss	MU	524.16	623.69
<b>11</b>	<b>Total energy required at State Transmission Periphery</b>	<b>MU</b>	<b>17,472.00</b>	<b>20,789.65</b>
12	Losses in Regional Transmission system	%	3.34%	3.34%
<b>13</b>	<b>Losses in Regional Transmission system</b>	<b>MU</b>	<b>603.73</b>	<b>718.37</b>
14	<b>Total Energy Requirement at ex-bus</b>	<b>MU</b>	<b>18,075.73</b>	<b>21,508.02</b>
<b>15</b>	<b>Total energy Purchased</b>	<b>MU</b>	<b>18,823.11</b>	<b>22,096.69</b>
<b>16</b>	<b>Energy Surplus/(Deficit) at State Periphery</b>	<b>MU</b>	<b>747.38</b>	<b>588.68</b>

Discoms have proposed to sell the above shown surplus power at Rs. 5.16/kWh and the revenue from the surplus power has been reduced from ARR.

### Commission's analysis:

The Commission observed that both NBPDCCL and SBPDCL have projected higher power purchase requirement for FY 2022-23 resulting in surplus energy availability as shown in the above table.

The Energy Balance for FY 2022-23 has been computed based on the approved energy sales for FY 2022-23 and revised power availability considered in the Table

5.12 in this Order.

Distribution loss has been considered at 15% as approved by the Commission for FY 2022-23. Further, Energy required at State transmission periphery is computed based on the intra- State Transmission loss of 3.00% as approved in paras 5.4 above. The Central Transmission loss on Central Stations, IPPs, etc has been considered based on the CTU losses approved at 3.34% in paras 5.5 above.

The details of energy requirement, energy availability and surplus energy during FY 2022-23 are as given in the Table below:

**Table 5.14: Energy Balance for FY 2022-23 as considered by the Commission**

Sl. No	Particulars	Bihar share allocation (MW)	NBPDCCL	SBPDCL
<b>A</b>	<b>Energy Requirement</b>			
1	Energy sales	MU	13,646.53	15,812.13
2	Less: Inter-state sales (including banking)	MU	441.3	0
3	Energy sales excluding Inter-state sales	MU	13,205.23	15,812.13
4	Distribution Loss	%	15%	15%
5	Add: Distribution Loss	MU	2,330.33	2,790.38
<b>6</b>	<b>Total energy required at Distribution periphery</b>	<b>MU</b>	<b>15,535.56</b>	<b>18,602.51</b>
7	Add: Inter-state sales	MU	441.3	0
<b>8</b>	<b>Total energy required at Distribution periphery</b>	<b>MU</b>	<b>15,976.86</b>	<b>18,602.51</b>
9	State Transmission Loss	%	3%	3.00%
10	Add: State Transmission Loss	MU	494.13	575.34
<b>11</b>	<b>Total energy required at State Transmission Periphery</b>	<b>MU</b>	<b>16,470.99</b>	<b>19,177.84</b>
<b>B</b>	<b>Energy Available</b>			
1	From Central Sector Stations injecting at CTU	MU	12,781.55	15,004.42
2	From IPP	MU	1,131.80	1,328.64
3	From Stations injecting at STU	MU	1,105.98	1,298.32
4	From Renewable Sources	MU	1,998.08	2345.57
5	UI (Net)	MU	0.00	0.00
6	Others	MU	491.13	576.54
<b>7</b>	<b>Total</b>	<b>MU</b>	<b>17508.54</b>	<b>20,553.49</b>
8	CTU losses applicable on item 1&2	MU	13,913.35	16,333.06
9	CTU losses	%	3.34%	3.34%
10	CTU losses	MU	464.71	545.52
11	Net Power available at State periphery	MU	17,043.83	20,007.97
<b>C</b>	<b>Energy Surplus/(Deficit) at State Periphery</b>	<b>MU</b>	<b>572.84</b>	<b>830.12</b>

Both the Discoms have proposed to sell the surplus power considering the rate at

Rs. 5.16 / kWh as during the 1<sup>st</sup> six months of FY 2022-23 and the corresponding revenue from this surplus power has been deducted from the net ARR. Commission has considered the same and arrived at the revenue from sale of surplus power at Rs.295.59 Crore for NBPDCCL and at Rs. Rs. 428.34 Crores for SBPDCL.

## 5.8. Power Purchase Cost

### Petitioners' submission:

The Petitioners have 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 energy charges and fixed cost for these power stations are considered based on actual 6 months data for FY 2022-23:

Due to the impact of coal blending the variable cost of the Thermal Power Plants increased upto as high as 50% with respect to the cost prevailing in April. Further, the variable cost continues to increase at a much higher rate for Quarter-II of FY 2022-23 as compared to Q-I. The data s shown below compares the average Variable cost for 1<sup>st</sup> 6 months of FY 2022-23 and average variable cost in Q-II of FY 22-23.

Plant Name	Share ex bus (MW)	Sep-22	Aug-22	Jul-22	Jun-22	May-22	Apr-22	Average Apr-22 to Sep-22	Average Sep-22 to Jul-22	% Inc in Last 3 months wrt Avg of last 6 Months
TALCHER (Stage1)	383	2.254	2.391	2.489	1.935	1.627	1.780	2.079	2.378	14%
BTPS Stage-2	460	2.808	2.761	2.648	2.580	2.589	2.726	2.685	2.739	2%
NPGL	1573	3.290	2.880	3.143	3.077	2.190	2.062	2.774	3.104	12%
KBUNL (STAGE-2)	266	2.924	2.955	3.068	2.846	2.889	2.857	2.923	2.982	2%
BRBCL	91	3.423	3.423	2.937	2.272	2.268	2.164	2.748	3.261	19%
BARH-I	377	3.406	3.446	3.434	3.151	2.930	2.789	3.193	3.429	7%
FSTPP III	101	4.310	3.668	4.323	3.772	4.084	3.424	3.930	4.100	4%
KHSTPP II	70	3.810	3.677	3.788	3.628	3.602	3.157	3.610	3.758	4%
FSTPP I & II	468	4.391	3.737	4.404	3.842	4.161	3.489	4.004	4.177	4%
BARH-II	1124	4.378	3.802	4.042	3.080	2.814	2.882	3.500	4.074	16%
KHSTPP I	320	4.018	3.878	3.994	3.826	3.798	3.329	3.807	3.963	4%

As above, there has been more than 10% increase in the variable cost in Q-II vis-à-vis the average variable cost for prevailing in 1st 6 months. Upon computing the weighted average for the above shown plants, the increase in the variable cost in Q-II is 10%.

In the backdrop of the above, variable cost for the 1<sup>st</sup> six months have been

considered as per the actual data while for the rest 6 months (Oct 2022-March 2023) variable cost has been increased 10% with respect to the actual cost of 1<sup>st</sup> six months of FY 22-23. However, fixed cost of the plants has been kept constant as that of FY 2021-22.

Transmission charges have been increased 10% with respect to that approved by the Commission for FY 22-23 in MYT Order dated 25.03.2022.

Petitioners have considered the new plants as per information available with them.

The new plants for which cost details are not available, the cost break-up of similar capacity plants has been considered for projection.

Power purchase cost projection submitted by NBPDCCL and SBPDCL for APR period FY 2022-23 is summarized as shown in Table below:

**Table 5.15: Power Purchase Cost Projected by NBPDCCL for FY 2022-23**

Name of The Source	Share allocated (MW)	Units purchased (MU)	Fixed Cost (Rs. Crore/ MW)	Fixed charge (Rs Crs)	Energy Cost (Rs/kW h)	Energy cost (Rs Crs)	Misc cost (Rs Crs)	Total Cost (Rs Crs)	Avg Cost
<b>Stations injecting at CTU</b>	<b>2,631.36</b>	<b>13,845.93</b>	<b>1.07</b>	<b>2,814.22</b>	<b>3.11</b>	<b>4,312.65</b>	<b>23.44</b>	<b>5.16</b>	<b>7,150.30</b>
FSTPP I & II	231.10	1,257.47	0.55	127.79	4.20	527.82	0.97	5.22	656.57
FSTPP III	49.50	192.17	0.86	42.69	4.00	76.94	0.21	6.24	119.83
KHSTPP I	161.75	539.61	0.69	111.32	3.89	209.72	0.08	5.95	321.12
KHSTPP II	34.36	193.81	0.69	23.77	3.81	73.77	2.85	5.18	100.39
Barh Stage I Unit I	157.26	796.89	1.40	220.85	3.25	259.34	0.18	6.03	480.37
Barh Stage I Unit II	157.26	165.25	0.27	42.85	3.46	57.15	-	6.05	100.01
Barh Stage I Unit III	-	-	-	-	-	-	-	-	-
Barh Stage II	550.97	2,380.06	1.38	760.43	3.54	842.64	7.65	6.77	1,610.72
Nabinagar (BRBCL)	46.00	246.28	1.35	62.14	2.84	70.06	0.28	5.38	132.48
Korba	-	-	-	-	-	-	0.00	-	0.00
Talcher Stage I	189.75	1,005.54	0.64	120.74	2.12	212.69	5.58	3.37	339.00
KBUNL Stage II	134.50	729.62	1.85	249.32	3.02	220.23	0.90	6.45	470.45
NPGCL	772.09	4,037.57	1.16	895.13	2.97	1,198.02	2.19	5.19	2,095.33
North Karanpura Unit I	-	110.86	-	28.75	2.22	24.61	-	4.81	53.36
North Karanpura Unit II	-	-	-	-	-	-	-	-	-
North Karanpura Unit III	-	-	-	-	-	-	-	-	-
Darlipali STPS	87.29	499.44	0.99	86.54	1.22	60.72	1.29	2.97	148.55
Buxar TPP U1	-	-	-	-	-	-	-	-	-
Buxar TPP U2	-	-	-	-	-	-	-	-	-
BSPHCL_RAIL	-	-	-	-	-	-	-	-	-
Chuka	-	287.23	-	-	2.40	68.98	-	2.40	68.98
Rangit	9.66	53.79	1.18	11.36	2.33	12.54	1.23	4.67	25.13
Tala	-	423.19	-	-	2.27	96.06	-	2.27	96.06
Teesta	49.88	287.80	0.61	30.54	1.16	33.47	0.03	2.23	64.04
Mangdechhu	-	639.36	-	-	4.19	267.89	-	4.19	267.89
Capacity Refund Charges by NTPC	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
<b>Stations injecting at STU</b>	<b>195.04</b>	<b>1,208.37</b>	<b>2.06</b>	<b>402.59</b>	<b>2.79</b>	<b>337.48</b>	<b>0.13</b>	<b>6.13</b>	<b>740.19</b>
BSPHC	29.44	3.93	-	-	2.49	0.98	-	2.49	0.98
KBUNL Stage I	-	-	-	-	-	-	-	-	-
BTPS Stage I Unit I	50.60	7.76	0.20	9.98	4.34	3.37	0.04	17.24	13.39
BTPS Stage I Unit II	-	-	-	6.45	-	-	-	-	6.45
BTPS Stage II Unit I	115.00	952.31	2.27	260.58	2.74	261.24	0.09	5.48	521.91
BTPS Stage II Unit II	-	244.36	-	125.58	2.94	71.89	-	8.08	197.47
-	-	-	-	-	-	-	-	-	-
<b>IPPs</b>	<b>224.48</b>	<b>1,236.91</b>	<b>1.56</b>	<b>351.06</b>	<b>1.26</b>	<b>155.96</b>	<b>(11.26)</b>	<b>4.01</b>	<b>495.76</b>

Name of The Source	Share allocated (MW)	Units purchased (MU)	Fixed Cost (Rs. Crore/ MW)	Fixed charge (Rs Crs)	Energy Cost (Rs/kW h)	Energy cost (Rs Crs)	Misc cost (Rs Crs)	Total Cost (Rs Crs)	Avg Cost
GMR	119.60	725.79	1.18	140.62	1.32	95.83	13.89	3.45	250.35
JITPL	104.88	511.11	2.01	210.44	1.18	60.13	(25.15)	4.80	245.41
									-
<b>Renewables</b>	<b>874.64</b>	<b>2,021.98</b>	<b>-</b>	<b>-</b>	<b>3.02</b>	<b>610.58</b>	<b>(0.00)</b>	<b>3.02</b>	<b>610.58</b>
M/s Sunmark Energy Projects Limited (Formerly MBCEL)	4.60	7.20	-	-	6.91	4.98	-	6.91	4.98
M/s Response renewable Energy Ltd, Kolkata.	4.60	8.19	-	-	6.89	5.64	-	6.89	5.64
M/s Avantika Contractors Ltd., Hyderabad	2.30	3.47	-	-	7.69	2.67	-	7.69	2.67
M/s Glatt Solutions Pvt. Ltd, Kolkata.	1.38	2.41	-	-	7.02	1.69	-	7.02	1.69
Alfa Infraprop Pvt. Ltd.	9.20	13.75	-	-	7.87	10.82	-	7.87	10.82
Udipta Energy & Equipment Pvt. Ltd.	2.30	3.57	-	-	7.97	2.84	-	7.97	2.84
Azure Power India Pvt. Ltd.	4.60	7.15	-	-	8.39	6.00	-	8.39	6.00
Welspun Renewables Project - I	4.60	7.39	-	-	8.70	6.43	-	8.70	6.43
Welspun Renewables Project – II	6.90	10.93	-	-	8.64	9.44	-	8.64	9.44
Welspun Renewables Project – III	6.90	11.10	-	-	8.56	9.50	-	8.56	9.50
Acme Cleantech Project (Nalanda)	6.90	10.94	-	-	8.73	9.55	-	8.73	9.55
Acme Cleantech Project (Magadh)	4.60	7.49	-	-	8.73	6.54	-	8.73	6.54
Solar Energy Corporation of India Ltd., Government of India	4.60	8.49	-	-	5.89	5.01		5.89	5.01
SECI Phase-II Solar	-	21.33		-	2.51	5.35	-	2.51	5.35
SECI Phase-III (Renew Sunwaves)	138.00	301.95	-	-	2.57	77.72	-	2.57	77.72
NTPC ISTS Solar	138.00	307.57	-	-	2.67	82.12	-	2.67	82.12
GRT Jewellers (SECI-V)	69.00	108.69	-	-	2.32	25.17	-	2.32	25.17
Wind ISTS Scheme Tranche I (PTC) (Green Infra, Inox, Mytrah & Ostro)	92.00	259.51	-	-	3.10	80.58	-	3.10	80.58
Wind ISTS Scheme Tranche II (SECI) (Orange)	46.00	143.18	-	-	2.71	38.80	-	2.71	38.80
SECI Phase-III Wind	-	-		-		-	-		-
SECI Green Infra	46.00	148.01	-	-	2.51	37.15	-	2.51	37.15
Torrent Power	22.91	-	-	-		-	-		-
Adani Green	23.00	-	-	-		-	-		-
Alfanar	23.00	78.59	-	-	2.52	19.80	-	2.52	19.80
Betam	23.09	74.57	-	-	2.52	18.79	-	2.52	18.79
Adani Green (SECI-V)	-	-		-		-	-		-
Ecoren Energy (SECI-V)	-	-		-		-	-		-
SECI Phase-VI Wind	-	-		-		-	-		-
Ostro Kannad	138.00	317.40	-	-	2.19	69.35	-	2.19	69.35
Morjar Windfarm	-	14.96		-	2.82	4.22	-	2.82	4.22
SBE Renewable (SECI Phase-V)	-	24.66		-	2.72	6.71	-	2.72	6.71
BREDA Floating Solar Project	-	0.88		-	4.15	0.36	-	4.15	0.36
BREDA Solar Project	-	-		-		-	-		-
Kajra+Pirpainti Solar Project	-	-		-		-	-		-
SECI Hybrid Project	-	-		-		-	-		-
New Swadeshi Sugar Mill, Narkataganj	4.60	9.22	-	-	5.06	4.67	-	5.06	4.67
Hasanpur Sugar Mill, Dalsinghsarai	6.67	14.70	-	-	6.22	9.14	-	6.22	9.14
Bharat Sugar Mills, Sidhwalia, Gopalganj	6.90	14.87	-	-	5.01	7.46	-	5.01	7.46

Name of The Source	Share allocated (MW)	Units purchased (MU)	Fixed Cost (Rs. Crore/ MW)	Fixed charge (Rs Crs)	Energy Cost (Rs/kWh)	Energy cost (Rs Crs)	Misc cost (Rs Crs)	Total Cost (Rs Crs)	Avg Cost
Hari Nagar Sugar Mills, Hari Nagar, West Champaran	6.67	14.62	-	-	5.08	7.42	-	5.08	7.42
HPCL Biofuels Ltd., Sugauli, East Champaran	9.20	20.07	-	-	5.07	10.18	-	5.07	10.18
HPCL Biofuels Ltd., Lauria, West Champaran	9.20	20.06	-	-	5.08	10.18	-	5.08	10.18
Riga Sugar Company Ltd.	1.38	3.02	-	-	(0.03)	(0.01)	-	(0.03)	(0.01)
Siddhashram Rice Mill Cluster Pvt Ltd	0.46	1.51	-	-	7.30	1.11	-	7.30	1.11
Bihar Distillers & Bottlers Pvt Ltd	4.32	14.09	-	-	6.45	9.09	(0.00)	6.45	9.09
Tirupati Sugar	2.76	6.44	-	-	6.35	4.09	-	6.35	4.09
REC Cost									
									-
<b>Others</b>	<b>92.00</b>	<b>509.91</b>	<b>-</b>	<b>-</b>	<b>6.68</b>	<b>340.70</b>	<b>0.05</b>	<b>6.68</b>	<b>340.76</b>
PTC(IEX)	-	288.93	-	-	8.69	251.04	-	8.69	251.04
GTAM IEX	-	-	-	-	-	-	-	-	-
DB Power	-	-	-	-	-	-	-	-	-
Prior Period Expenses	-	-	-	-	-	-	-	-	-
UPPCL	-	-	-	-	-	-	-	-	-
NEA	-	0.07	-	-	3.34	0.02	-	3.34	0.02
UI	-	-	-	-	-	-	-	-	-
PTC JIITPL	57.50	159.06	-	-	3.97	63.14	0.03	3.97	63.17
PTC SKS Power	34.50	61.85	-	-	4.29	26.50	0.02	4.29	26.53
									-
<b>Transmission and Other Charges</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1,549.07</b>		<b>-</b>	<b>-</b>		<b>1,549.07</b>
SLDC	-	-	-	6.08		-	-		6.08
BGCL	-	-	-	88.38		-	-		88.38
BSPTCL	-	-	-	623.07		-	-		623.07
POSO	-	-	-	3.90		-	-		3.90
Pr Pd PGCIL	-	-	-			-	-		
PGCIL	-	-	-	827.64		-	-		827.64
<b>Total</b>	<b>4,017.53</b>	<b>18,823.11</b>	<b>1.27</b>	<b>5,116.94</b>	<b>3.06</b>	<b>5,757.37</b>	<b>12.35</b>	<b>10,886.66</b>	<b>5.78</b>

Table 5.16: Power Purchase Cost Projected by SBPDCL for FY 2022-23

Name of The Source	Share allocated (MW)	Units purchased (MU)	Fixed Cost (Rs. Crore/MW)	Total Fixed cost (Rs Crs)	Energy cost (Rs/ kWh)	Total Energy cost (Rs Crs)	Misc cost (Rs Crs)	Total Cost (Rs Crs)	Average Cost
<b>Stations injecting at CTU</b>	<b>3,528.72</b>	<b>16,253.92</b>	<b>0.94</b>	<b>3,303.65</b>	<b>3.11</b>	<b>5,062.67</b>	<b>27.51</b>	<b>8,393.83</b>	<b>5.16</b>
FSTPP I & II	271.30	1,476.16	0.55	150.01	4.20	619.61	1.14	770.76	5.22
FSTPP III	58.10	225.59	0.86	50.11	4.00	90.32	0.25	140.68	6.24
KHSTPP I	189.88	633.46	0.69	130.68	3.89	246.19	0.09	376.96	5.95
KHSTPP II	40.34	227.51	0.69	27.91	3.81	86.60	3.35	117.85	5.18
Barh Stage I Unit I	184.62	935.48	1.40	259.26	3.25	304.44	0.21	563.91	6.03
Barh Stage I Unit II	184.62	193.99	0.27	50.31	3.46	67.09	-	117.40	6.05
Barh Stage I Unit III		-		-		-	-	-	
Barh Stage II	646.79	2,793.99	1.38	892.68	3.54	989.19	8.98	1,890.85	6.77
Nabinagar (BRBCL)	54.00	289.11	1.35	72.95	2.84	82.25	0.33	155.53	5.38
Korba	-	-	-	-	-	-	-	-	
Talcher Stage I	222.75	1,180.41	0.64	141.73	2.12	249.68	6.55	397.96	3.37
KBUNL Stage II	157.89	856.51	1.85	292.68	3.02	258.53	1.06	552.27	6.45
NPGCL	906.36	4,739.76	1.16	1,050.80	2.97	1,406.37	2.57	2,459.74	5.19
North Karanpura Unit I	123.85	130.14	0.27	33.75	2.22	28.89	-	62.64	4.81
North Karanpura Unit II	-	-	-	-	-	-	-	-	
North Karanpura Unit III	-	-	-	-	-	-	-	-	
Darlipali STPS	102.47	586.30	0.99	101.59	1.22	71.28	1.51	174.38	2.97
Buxar TPP U1	-	-	-	-	-	-	-	-	
Buxar TPP U2	-	-	-	-	-	-	-	-	

Name of The Source	Share allocated (MW)	Units purchased (MU)	Fixed Cost (Rs. Crore/MW)	Total Fixed cost (Rs Crs)	Energy cost (Rs/ kWh)	Total Energy cost (Rs Crs)	Misc cost (Rs Crs)	Total Cost (Rs Crs)	Average Cost
BSPHCL_RAIL	-	-	-	-	-	-	-	-	-
Chuka	53.38	337.18	-	-	2.40	80.98	-	80.98	2.40
Rangit	11.34	63.14	1.18	13.34	2.33	14.72	1.44	29.50	4.67
Tala	140.45	496.79	-	-	2.27	112.77	-	112.77	2.27
Teesta	58.55	337.86	0.61	35.85	1.16	39.29	0.04	75.18	2.23
Mangdechhu	122.04	750.56	-	-	4.19	314.48	-	314.48	4.19
Capacity Refund Charges by NTPC	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
<b>Stations injecting at STU</b>	<b>423.36</b>	<b>1,418.53</b>	<b>1.12</b>	<b>472.60</b>	<b>2.79</b>	<b>396.17</b>	<b>0.15</b>	<b>868.92</b>	<b>6.13</b>
BSPHC	34.56	4.62	-	-	-	1.15	-	-	-
KBUNL Stage I	-	-	-	-	-	-	-	-	-
BTPS Stage I Unit I	59.40	9.11	0.20	11.72	1.26	3.95	0.04	12.91	14.17
BTPS Stage I Unit II	59.40	-	0.13	7.57	-	-	-	7.57	-
BTPS Stage II Unit I	135.00	1,117.93	2.27	305.90	2.74	306.67	0.10	612.67	5.48
BTPS Stage II Unit II	135.00	286.86	1.09	147.41	2.94	84.39	-	231.81	8.08
								-	-
<b>IPPs</b>	<b>263.52</b>	<b>1,452.02</b>	<b>1.56</b>	<b>412.12</b>	<b>1.26</b>	<b>183.08</b>	<b>(13.22)</b>	<b>581.98</b>	<b>4.01</b>
GMR	140.40	852.02	1.18	165.08	1.32	112.50	16.31	293.89	3.45
JITPL	123.12	600.00	2.01	247.04	1.18	70.58	(29.53)	288.09	4.80
								-	-
<b>Renewables</b>	<b>1,503.04</b>	<b>2,373.63</b>	<b>-</b>	<b>-</b>	<b>3.02</b>	<b>716.77</b>	<b>-</b>	<b>716.77</b>	<b>3.02</b>
M/s Sunmark Energy Projects Limited (Formerly MBCEL)	5.40	8.45	-	-	6.91	5.84	-	5.84	6.91
M/s Response renewable Energy Ltd, Kolkata.	5.40	9.61	-	-	6.89	6.62	-	6.62	6.89
M/s Avantika Contractors Ltd., Hyderabad	2.70	4.08	-	-	7.69	3.14	-	3.14	7.69
M/s Glatt Solutions Pvt. Ltd, Kolkata.	1.62	2.83	-	-	7.02	1.98	-	1.98	7.02
Alfa Infraprop Pvt. Ltd.	10.80	16.15	-	-	7.87	12.71	-	12.71	7.87
Udipta Energy & Equipment Pvt. Ltd.	2.70	4.19	-	-	7.97	3.34	-	3.34	7.97
Azure Power India Pvt. Ltd.	5.40	8.40	-	-	8.39	7.05	-	7.05	8.39
Welspun Renewables Project - I	5.40	8.68	-	-	8.70	7.55	-	7.55	8.70
Welspun Renewables Project – II	8.10	12.83	-	-	8.64	11.08	-	11.08	8.64
Welspun Renewables Project – III	8.10	13.03	-	-	8.56	11.15	-	11.15	8.56
Acme Cleantech Project (Nalanda)	8.10	12.85	-	-	8.73	11.22	-	11.22	8.73
Acme Cleantech Project (Magadh)	5.40	8.80	-	-	8.73	7.68	-	7.68	8.73
Solar Energy Corporation of India Ltd., Government of India	5.40	9.97	-	-	5.89	5.88	-	5.88	5.89
SECI Phase-II Solar	81.00	25.04	-	-	2.51	6.29	-	6.29	2.51
SECI Phase-III (Renew Sunwaves)	162.00	354.46	-	-	2.57	91.23	-	91.23	2.57
NTPC ISTS Solar	162.00	361.06	-	-	2.67	96.40	-	96.40	2.67
GRT Jewellers (SECI-V)	81.00	127.59	-	-	2.32	29.55	-	29.55	2.32
Wind ISTS Scheme Tranche I (PTC) (Green Infra, Inox, Mytrah & Ostro)	108.00	304.65	-	-	3.10	94.59	-	94.59	3.10
Wind ISTS Scheme Tranche II (SECI) (Orange)	54.00	168.08	-	-	2.71	45.55	-	45.55	2.71
SECI Phase-III Wind	-	-	-	-	-	-	-	-	-
SECI Green Infra	54.00	173.75	-	-	2.51	43.61	-	43.61	2.51
Torrent Power	26.89	-	-	-	-	-	-	-	-
Adani Green	27.00	-	-	-	-	-	-	-	-
Alfanar	27.00	92.25	-	-	2.52	23.25	-	23.25	2.52
Betam	27.11	87.54	-	-	2.52	22.06	-	22.06	2.52
Adani Green (SECI-V)	-	-	-	-	-	-	-	-	-
Ecoren Energy (SECI-V)	-	-	-	-	-	-	-	-	-
SECI Phase-VI Wind	189.00	-	-	-	-	-	-	-	-
Ostro Kannad	162.00	372.59	-	-	2.19	81.41	-	81.41	2.19
Morjar Windfarm	27.00	17.56	-	-	2.82	4.95	-	4.95	2.82
SBE Renewable (SECI Phase-V)	178.20	28.95	-	-	2.72	7.87	-	7.87	2.72
BREDA Floating Solar Project	1.08	1.03	-	-	4.15	0.43	-	0.43	4.15



Name of The Source	Share allocated (MW)	Units purchased (MU)	Fixed Cost (Rs. Crore/MW)	Total Fixed cost (Rs Crs)	Energy cost (Rs/ kWh)	Total Energy cost (Rs Crs)	Misc cost (Rs Crs)	Total Cost (Rs Crs)	Average Cost
BREDA Solar Project		-		-		-	-	-	
Kajra+Pirpainti Solar Project		-		-		-	-	-	
SECI Hybrid Project		-		-		-	-	-	
New Swadeshi Sugar Mill, Narkataganj	5.40	10.82	-	-	5.06	5.48	-	5.48	5.06
Hasanpur Sugar Mill, Dalsinghsarai	7.83	17.26	-	-	6.22	10.73	-	10.73	6.22
Bharat Sugar Mills, Sidhwalia, Gopalganj	8.10	17.46	-	-	5.01	8.76	-	8.76	5.01
Hari Nagar Sugar Mills, Hari Nagar, West Champaran	7.83	17.16	-	-	5.08	8.71	-	8.71	5.08
HPCL Biofuels Ltd., Sugauli, East Champaran	10.80	23.56	-	-	5.07	11.95	-	11.95	5.07
HPCL Biofuels Ltd., Lauria, West Champaran	10.80	23.54	-	-	5.08	11.95	-	11.95	5.08
Riga Sugar Company Ltd.	1.62	3.54	-	-	(0.03)	(0.01)	-	(0.01)	(0.03)
Siddhashram Rice Mill Cluster Pvt Ltd	0.54	1.78	-	-	7.30	1.30	-	1.30	7.30
Bihar Distillers & Bottlers Pvt Ltd	5.08	16.54	-	-	6.45	10.67		10.67	6.45
Tirupati Sugar	3.24	7.56	-	-	6.35	4.80	-	4.80	6.35
REC Cost									
								-	
<b>Others</b>	<b>108.00</b>	<b>598.59</b>	<b>-</b>	<b>-</b>	<b>6.68</b>	<b>399.96</b>	<b>0.06</b>	<b>400.02</b>	<b>6.68</b>
PTC(IEX)	-	339.18		-	8.69	294.70	-	294.70	8.69
GTAM IEX	-	-		-		-	-	-	
DB Power	-	-		-		-	-	-	
Prior Period Expenses	-	-		-		-	-	-	
UPPCL	-	-		-		-	-	-	
NEA	-	0.09		-	3.34	0.03	-	0.03	3.34
UI	-	-		-		-	-	-	
PTC JITPL	67.50	186.72	-	-	3.97	74.12	0.04	74.16	3.97
PTC SKS Power	40.50	72.60	-	-	4.29	31.11	0.03	31.14	4.29
								-	
<b>Transmission and Other Charges</b>	<b>-</b>	<b>-</b>		<b>1,818.48</b>		<b>-</b>	<b>-</b>	<b>1,818.48</b>	
SLDC	-	-		7.14		-	-	7.14	
BGCL	-	-		103.75		-	-	103.75	
BSPTCL	-	-		731.43		-	-	731.43	
POSOCO	-	-		4.58		-	-	4.58	
Pr Pd PGCIL	-	-					-		
PGCIL ULDC CHG	-	-							
PGCIL	-	-		971.58		-	-	971.58	
<b>Total</b>	<b>5,826.64</b>	<b>22,096.69</b>	<b>1.03</b>	<b>6,006.84</b>	<b>3.06</b>	<b>6,758.65</b>	<b>14.50</b>	<b>12,779.99</b>	<b>5.78</b>

### Commissions analysis

Petitioners have provided detailed estimate of power purchase quantum and cost from various sources showing fixed costs, energy costs and other costs in Format -5 of the Petition.

The Petitioners have submitted that the fixed costs of the Plants have been kept constant as that of FY 2021-22. Commission has accepted and considered the fixed costs as projected.

Regarding variable cost, it is submitted that variable cost for the 1<sup>st</sup> six months have been considered as per the actual data while for the rest 6 months (October 2022

to March 2023) variable cost has been increased 10% with respect to the actual cost of 1<sup>st</sup> six months of FY 2022-23. The variable cost of the following plants has been submitted as below:

Plant Name	Share ex bus (MW)	Sep-22	Aug-22	Jul-22	Jun-22	May-22	Apr-22	Average Apr-22 to Sep-22
TALCHER (Stage1)	<b>383</b>	2.254	2.391	2.489	1.935	1.627	1.780	2.079
BTPS Stage-2	<b>460</b>	2.808	2.761	2.648	2.580	2.589	2.726	2.685
NPGCL	<b>1573</b>	3.290	2.880	3.143	3.077	2.190	2.062	2.774
KBUNL (STAGE-2)	<b>266</b>	2.924	2.955	3.068	2.846	2.889	2.857	2.923
BRBCL	<b>91</b>	3.423	3.423	2.937	2.272	2.268	2.164	2.748
BARH-I	<b>377</b>	3.406	3.446	3.434	3.151	2.930	2.789	3.193
FSTPP III	<b>101</b>	4.310	3.668	4.323	3.772	4.084	3.424	3.930
KHSTPP II	<b>70</b>	3.810	3.677	3.788	3.628	3.602	3.157	3.610
FSTPP I & II	<b>468</b>	4.391	3.737	4.404	3.842	4.161	3.489	4.004
BARH-II	<b>1124</b>	4.378	3.802	4.042	3.080	2.814	2.882	3.500
KHSTPP I	<b>320</b>	4.018	3.878	3.994	3.826	3.798	3.329	3.807

For the above shown Plants, the variable costs are considered at the average rate of 1<sup>st</sup> six months as shown in the above table. For rest of the central, state and IPPs the variable costs are considered at the actuals of FY 2021-22.

For renewable energy sources, the energy rates are considered as projected by the Petitioner. Miscellaneous costs are considered as projected by the Petitioner.

The Commission has computed the quantum (MUs) and cost (Rs. Crore) of power purchase as shown in the Tables below. However, the actual power purchase cost for FY 2022-23 for NBPDCCL & SBPDCL will be considered at actual as per audited annual accounts and prudence check while truing up of ARR for FY 2022-23 in next Tariff Order.

Table 5.17: Power Purchase Cost for NBPDC for FY 2022-23 as computed by Commission.

Sl. No	Particulars	Bihar share allocation (MW)	Units approved (MU)	Fixed cost(Rs. Crs/MW)	Total Fixed Cost(Rs. Crs)	Energy Cost(Rs. /kwh)	Total Energy cost (Rs. Crs)	Misc. Cost (Rs. Crs)	Total Cost(Rs. Crs)	Ave. Tariff (Rs. / kwh)
I	<b>Stations with injection at CTU</b>	<b>3,005.95</b>	<b>12,781.79</b>	<b>0.94</b>	<b>2812.67</b>	<b>2.94</b>	<b>3754.41</b>	<b>23.44</b>	<b>6590.52</b>	<b>5.16</b>
1	FSTPP I & II	231.10	1,150.52	0.55	127.11	3.93	452.15	0.97	580.23	5.04
2	FSTPP III	49.50	175.83	0.86	42.57	3.93	69.10	0.21	111.88	6.36
3	KHSTPP I	161.75	493.70	0.69	111.61	3.61	178.23	0.08	289.91	5.87
4	KHSTPP II	34.36	177.35	0.69	23.71	3.61	64.02	2.85	90.58	5.11
5	Barh Stage I Unit I	157.26	729.22	1.40	220.16	3.19	232.84	0.18	453.18	6.21
6	Barh Stage I Unit II	157.26	151.26	0.27	42.46	3.19	48.30	-	90.76	6.00
7	Barh Stage II	550.97	2,177.65	1.38	760.34	3.19	695.32	7.65	1463.3122	6.72
8	Nabinagar (BRBCL) Unit I-IV	46.00	225.35	1.35	62.10	2.75	61.93	0.28	124.31	5.52
9	Talcher Stage I	189.75	920.01	0.64	121.44	2.08	191.27	5.58	318.29	3.46
10	KBUNL Stage II	134.50	653.05	1.85	248.83	2.92	190.89	0.9	440.61	6.75
11	NPGCL Unit I-III	772.09	3,694.59	1.16	895.62	2.77	1024.88	2.19	1922.69	5.20
12	North Karanpura Unit I	105.50	101.48	0.27	28.49	2.22	22.53	0	51.01	5.03
13	Darlipali STPS Unit I-II	87.29	457.02	0.99	86.42	1.22	55.76	1.29	143.46	3.14
14	Chuka	45.47	284.60			2.40	68.30		68.30	2.40
15	Rangit	9.66	53.25	1.18	11.40	1.90	10.12	1.23	22.75	4.27
16	Tala	119.65	418.99		0.00	2.16	90.50	0	90.50	2.16
17	Teesta	49.88	284.92	0.61	30.43	1.16	33.05	0.03	63.51	2.23
18	Mangdechu	103.96	633.00			4.19	265.23	0	265.23	4.19
II	<b>Stations with injection at STU</b>	<b>360.64</b>	<b>1,105.98</b>		<b>402.97</b>		<b>296.88</b>	<b>0.00</b>	<b>699.98</b>	<b>6.33</b>
1	BSPHC	29.44	3.91			2.49	0.97	0	0.97	2.49
2	BTPS Stage I Unit I	50.60	7.10	0.2	10.12	2.685	1.91	0.04	12.07	16.99
3	BTPS Stage I Unit II	50.60	-		6.45		0.00		6.45	
4	BTPS Stage II Unit I	115.00	871.35	2.27	261.05	2.685	233.96	0.09	495.10	5.68
5	BTPS Stage II Unit II	115.00	223.62	1.09	125.35	2.685	60.04	0	185.39	8.29
III	<b>IPPs</b>	<b>224.48</b>	<b>1,131.81</b>		<b>351.94</b>		<b>132.08</b>	<b>(11.26)</b>	<b>472.75</b>	<b>4.18</b>

Sl. No	Particulars	Bihar share allocation (MW)	Units approved (MU)	Fixed cost(Rs. Crs/MW)	Total Fixed Cost(Rs. Crs)	Energy Cost(Rs. /kwh)	Total Energy cost (Rs. Crs)	Misc. Cost (Rs. Crs)	Total Cost(Rs. Crs)	Ave. Tariff (Rs. / kwh)
1	GMR	119.60	664.15	1.18	141.13	1.20	79.70	13.89	234.72	3.53
2	JITPL	104.88	467.66	2.01	210.81	1.12	52.38	-25.15	238.04	5.09
IV	<b>Renewables</b>	<b>1,073.45</b>	<b>1,998.07</b>	-	-	<b>3.01</b>	<b>601.34</b>	-	<b>601.34</b>	3.01
1	M/s Sunmark Energy Projects Limited (Formerly MBCEL)	4.60	7.15	0	0	6.91	4.94		4.94	6.91
2	M/s Response renewable Energy Ltd, Kolkata.	4.60	8.13			6.89	5.60		5.60	6.89
3	M/s Avantika Contractors Ltd., Hyderabad	2.30	3.45			7.69	2.65		2.65	7.69
4	M/s Glatt Solutions Pvt. Ltd, Kolkata.	1.38	2.39			7.02	1.68		1.68	7.02
5	Alfa Infraprop Pvt. Ltd.	9.20	13.65			7.87	10.74		10.74	7.87
6	Udipta Energy & Equipment Pvt. Ltd.	2.30	3.54			7.97	2.82		2.82	7.97
7	Azure Power India Pvt. Ltd.	4.60	7.10			8.39	5.96		5.96	8.39
8	Welspun Renewables Project - I	4.60	7.34			8.7	6.39		6.39	8.70
9	Welspun Renewables Project – II	6.90	10.85			8.64	9.37		9.37	8.64
10	Welspun Renewables Project – III	6.90	11.01			8.56	9.42		9.42	8.56
11	Acme Cleantech Project (Nalanda)	6.90	10.86			8.73	9.48		9.48	8.73
12	Acme Cleantech Project (Magadh)	4.60	7.44			8.73	6.50		6.50	8.73
13	Solar Energy Corporation of India Ltd., Government of India	4.60	8.43			5.89	4.97		4.97	5.89
14	SECI Phase-II	69.00	21.18			2.51	5.32		5.32	2.51
15	SECI Phase-III	138.00	299.71			2.57	77.03		77.03	2.57
16	NTPC ISTS Solar	138.00	305.23			2.67	81.50		81.50	2.67
17	GRT Jewellers(SECI-V)	69.00	107.86			2.32	25.02		25.02	2.32
18	Wind ISTS Scheme Tranche I (PTC) (Green Infra, Inox, Mytrah & Ostro)	92.00	257.56			3.10	79.84		79.84	3.10
19	Wind ISTS Scheme Tranche II (SECI) (Orange)	46.00	142.10			2.71	38.51		38.51	2.71

Sl. No	Particulars	Bihar share allocation (MW)	Units approved (MU)	Fixed cost(Rs. Crs/MW)	Total Fixed Cost(Rs. Crs)	Energy Cost(Rs. /kwh)	Total Energy cost (Rs. Crs)	Misc. Cost (Rs. Crs)	Total Cost(Rs. Crs)	Ave. Tariff (Rs. / kwh)
20	SECI Green Infra	46.00	146.90			2.51	36.87		36.87	2.51
21	Alfanar	23.00	77.99			2.52	19.65		19.65	2.52
22	Betam	23.09	74.00			2.52	18.65		18.65	2.52
23	Ostro Kannad	138.00	315.07			2.19	69.00		69.00	2.19
24	Morjar Windfarm	23.00	14.84			2.82	4.18		4.18	2.82
25	SECI Phase-V Solar	151.80	24.42			2.72	6.64		6.64	2.72
26	BREDA Floating Solar Project	0.92	0.87			4.15	0.36		0.36	4.15
27	New Swadeshi Sugar Mill, Narkataganj	4.60	8.44			5.06	4.27		4.27	5.06
28	Hasanpur Sugar Mill, Dalsinghsarai	6.67	13.45			6.22	8.37		8.37	6.22
29	Bharat Sugar Mills, Sidhwalia, Gopalganj	6.90	13.61			5.01	6.82		6.82	5.01
30	Hari Nagar Sugar Mills, Hari Nagar, West Champaran	6.67	13.37			5.08	6.79		6.79	5.08
31	HPCL Biofuels Ltd., Sugauli, East Champaran	9.20	18.36			5.07	9.31		9.31	5.07
32	HPCL Biofuels Ltd., Lauria, West Champaran	9.20	18.35			5.08	9.32		9.32	5.08
33	Riga Sugar Company Ltd.	1.38	2.76			-0.03	-0.01		-0.01	-0.03
34	Siddhashram Rice Mill Cluster Pvt Ltd	0.46	1.38			7.3	1.01		1.01	7.30
35	Bihar Distillers & Bottlers Pvt Ltd	4.32	12.89			6.45	8.31		8.31	6.45
36	Tirupati Sugar	2.76	6.39			6.35	4.06		4.06	6.35
V	<b>Others</b>	<b>92.00</b>	<b>491.13</b>				<b>218.75</b>	<b>0.05</b>	<b>218.80</b>	4.46
1	PTC(IEX)		288.93			5.20	150.24		150.24	5.20
2	NEA		0.07			3.34	0.02		0.02	3.34
3	UI						0.00		0.00	
4	PTC JITPL	57.50	145.55			3.78	55.02	0.03	55.05	3.78
5	PTC SKS Power	34.50	56.58			2.38	13.47	0.02	13.49	2.38
	<b>Grand Total</b>	<b>4,756.52</b>	<b>17,508.78</b>	<b>0.75</b>	<b>3,567.58</b>	<b>2.86</b>	<b>5,003.46</b>	<b>12.23</b>	<b>8,583.40</b>	<b>4.90</b>

Table 5.18: Power Purchase Cost for SBPDCL for FY 2022-23 as computed by Commission

Sl. No	Particulars	Bihar share allocation (MW)	Units approved (MU)	Fixed Cost (Rs. Cr/MW)	Total Fixed Cost (Rs. Crs)	Energy Cost (Rs. /kwh)	Total Energy cost (Rs. Crs)	Mis. Cost (Rs.Crs)	Total cost (Rs. Crs)	Ave. Tariff (Rs./ kwh)
I	<b>Stations with injection at CTU</b>	<b>3,528.73</b>	<b>15,004.42</b>	<b>0.94</b>	<b>3,301.83</b>	<b>2.94</b>	<b>4,407.29</b>	<b>27.52</b>	<b>7,736.64</b>	<b>5.16</b>
1	FSTPP I & II	271.30	1,350.61	0.55	149.22	3.93	530.79	1.14	681.14	<b>5.04</b>
2	FSTPP III	58.10	206.41	0.86	49.97	3.93	81.12	0.25	131.34	6.36
3	KHSTPP I	189.88	579.56	0.69	131.02	3.61	209.22	0.09	340.33	5.87
4	KHSTPP II	40.34	208.19	0.69	27.83	3.61	75.16	3.35	106.34	5.11
5	Barh Stage I Unit I	184.62	856.04	1.40	258.47	3.19	273.33	0.21	532.01	6.21
6	Barh Stage I Unit II	184.62	177.57	0.27	49.85	3.19	56.70		106.55	6.00
7	Barh Stage II	646.79	2,556.37	1.38	892.57	3.19	816.25	8.98	1,717.80	6.72
8	Nabinagar (BRBCL) Unit I-IV	54.00	264.55	1.35	72.90	2.75	72.70	0.33	145.93	5.52
9	Talcher Stage I	222.75	1,080.01	0.64	142.56	2.08	224.53	6.55	373.64	3.46
10	KBUNL Stage II	157.89	766.63	1.85	292.10	2.92	224.09	1.06	517.24	6.75
11	NPGCL Unit I-III	906.36	4,337.12	1.16	1,051.38	2.77	1,203.12	2.57	2,257.06	5.20
12	North Karanpura Unit I	123.85	119.12	0.27	33.44	2.22	26.44		59.88	5.03
13	Darlipali STPS Unit I-II	102.47	536.50	0.99	101.45	1.22	65.45	1.51	168.41	3.14
14	Chuka	53.38	333.81		-	2.40	80.11		80.11	2.40
15	Rangit	11.34	62.51	1.18	13.38	1.90	11.88	1.44	26.70	4.27
16	Tala	140.45	491.86		-	2.16	106.24		106.24	2.16
17	Teesta	58.55	334.47	0.61	35.72	1.16	38.80	0.04	74.55	2.23
18	Mangdechhu	122.04	743.09		-	4.19	311.35		311.35	4.19
II	<b>Stations with injection at STU</b>	<b>423.36</b>	<b>1,298.32</b>	<b>1.12</b>	<b>473.20</b>	<b>2.69</b>	<b>349.24</b>	<b>0.14</b>	<b>822.59</b>	<b>6.34</b>
1	BSPHC	34.56	4.59	-		2.49	1.14	-	1.15	2.50
3	BTPS Stage I Unit I	59.40	8.33	0.20	11.88	3.56	2.97	0.04	14.89	17.87
4	BTPS Stage I Unit II	59.40	-	0.13	7.72		-		7.72	
5	BTPS Stage II Unit I	135.00	1,022.89	2.27	306.45	2.685	274.65	0.10	581.20	5.68
6	BTPS Stage II Unit II	135.00	262.51	1.09	147.15	2.685	70.48	-	217.63	8.29

Sl. No	Particulars	Bihar share allocation (MW)	Units approved (MU)	Fixed Cost (Rs. Cr/MW)	Total Fixed Cost (Rs. Crs)	Energy Cost (Rs. /kwh)	Total Energy cost (Rs. Crs)	Mis. Cost (Rs.Crs)	Total cost (Rs. Crs)	Ave. Tariff (Rs./ kwh)
III	<b>IPPs</b>	<b>263.52</b>	<b>1,328.64</b>		<b>413.14</b>	<b>1.17</b>	<b>155.04</b>	<b>(13.22)</b>	<b>554.97</b>	<b>4.18</b>
1	GMR	140.40	779.65	1.18	165.67	1.20	93.56	16.31	275.54	3.53
2	JITPL	123.12	548.99	2.01	247.47	1.12	61.49	(29.53)	279.43	5.09
IV	<b>Renewables</b>	<b>1,260.15</b>	<b>2,345.59</b>			<b>4.70</b>	<b>705.95</b>	<b>-</b>	<b>705.95</b>	<b>3.01</b>
1	M/s Sunmark Energy Projects Limited (Formerly MBCEL)	5.40	8.39			6.91	5.80		5.80	6.91
2	M/s Response renewable Energy Ltd, Kolkata.	5.40	9.54			6.89	6.57		6.57	6.89
3	M/s Avantika Contractors Ltd., Hyderabad	2.70	4.05			7.69	3.11		3.11	7.69
4	M/s Glatt Solutions Pvt. Ltd, Kolkata.	1.62	2.81			7.02	1.97		1.97	7.02
5	Alfa Infraprop Pvt. Ltd.	10.80	16.03			7.87	12.62		12.62	7.87
6	Udipta Energy & Equipment Pvt. Ltd.	2.70	4.16			7.97	3.32		3.32	7.97
7	Azure Power India Pvt. Ltd.	5.40	8.33			8.39	6.99		6.99	8.39
8	Welspun Renewables Project - I	5.40	8.62			8.70	7.50		7.50	8.70
9	Welspun Renewables Project – II	8.10	12.73			8.64	11.00		11.00	8.64
10	Welspun Renewables Project – III	8.10	12.93			8.56	11.07		11.07	8.56
11	Acme Cleantech Project (Nalanda)	8.10	12.75			8.73	11.13		11.13	8.73
12	Acme Cleantech Project (Magadh)	5.40	8.73			8.73	7.62		7.62	8.73
13	Solar Energy Corporation of India Ltd., Government of India	5.40	9.90			5.89	5.83		5.83	5.89
14	SECI Phase-II	81.00	24.86			2.51	6.24		6.24	2.51
15	SECI Phase-III	162.00	351.84			2.57	90.42		90.42	2.57

Sl. No	Particulars	Bihar share allocation (MW)	Units approved (MU)	Fixed Cost (Rs. Cr/MW)	Total Fixed Cost (Rs. Crs)	Energy Cost (Rs. /kwh)	Total Energy cost (Rs. Crs)	Mis. Cost (Rs.Crs)	Total cost (Rs. Crs)	Ave. Tariff (Rs./ kwh)
16	NTPC ISTS Solar	162.00	358.32			2.67	95.67		95.67	2.67
17	GRT Jewellers(SECI-V)	81.00	126.62			2.32	29.38		29.38	2.32
18	Wind ISTS Scheme Tranche I (PTC) (Green Infra, Inox, Mytrah & Ostro)	108.00	302.35			3.10	93.73		93.73	3.10
19	Wind ISTS Scheme Tranche II (SECI) (Orange)	54.00	166.81			2.71	45.21		45.21	2.71
20	SECI Green Infra	54.00	172.44			2.51	43.28		43.28	2.51
21	Alfanar	27.00	91.55			2.52	23.07		23.07	2.52
22	Betam	27.11	86.87			2.52	21.89		21.89	2.52
23	Ostro Kannad	162.00	369.87			2.19	81.00		81.00	2.19
24	Morjar Windfarm	27.00	17.42			2.82	4.91		4.91	2.82
25	SECI Phase-V Solar	178.20	28.66			2.72	7.80		7.80	2.72
26	BREDA Floating Solar Project	1.08	1.02			4.15	0.42		0.42	4.15
27	New Swadeshi Sugar Mill, Narkataganj	5.40	9.90			5.06	5.01		5.01	5.06
28	Hasanpur Sugar Mill, Dalsinghsarai	7.83	15.79			6.22	9.82		9.82	6.22
29	Bharat Sugar Mills, Sidhwalia, Gopalganj	8.10	15.98			5.01	8.01		8.01	5.01
30	Hari Nagar Sugar Mills, Hari Nagar, West Champaran	7.83	15.70			5.08	7.98		7.98	5.08
31	HPCL Biofuels Ltd., Sugauli, East Champaran	10.80	21.56			5.07	10.93		10.93	5.07
32	HPCL Biofuels Ltd., Lauria, West Champaran	10.80	21.55			5.08	10.95		10.95	5.08
33	Riga Sugar Company Ltd.	1.62	3.24			(0.03)	(0.01)		(0.01)	(0.03)



Sl. No	Particulars	Bihar share allocation (MW)	Units approved (MU)	Fixed Cost (Rs. Cr/MW)	Total Fixed Cost (Rs. Crs)	Energy Cost (Rs. /kwh)	Total Energy cost (Rs. Crs)	Mis. Cost (Rs.Crs)	Total cost (Rs. Crs)	Ave. Tariff (Rs./ kwh)
34	Siddhashram Rice Mill Cluster Pvt Ltd	0.54	1.63			7.30	1.19		1.19	7.30
35	Bihar Distillers & Bottlers Pvt Ltd	5.08	15.14			6.45	9.77		9.77	6.45
36	Tirupati Sugar	3.24	7.50			6.35	4.76		4.76	6.35
V	<b>Others</b>	<b>108.00</b>	<b>576.55</b>	<b>-</b>	<b>-</b>	<b>14.70</b>	<b>256.80</b>	<b>-</b>	<b>256.80</b>	<b>4.45</b>
1	PTC(IEX)	-	339.18			5.20	176.37		176.37	5.20
2	NEA	-	0.09			3.34	0.03		0.03	3.34
3	UI	-					-		-	
4	PTC JITPL	67.50	170.86			3.78	64.59		64.59	3.78
5	PTC SKS Power	40.50	66.42			2.38	15.81		15.81	2.38
									-	
	<b>Grand Total</b>	<b>5,583.76</b>	<b>20,553.52</b>	<b>0.75</b>	<b>4,188.18</b>	<b>2.86</b>	<b>5,874.31</b>	<b>14.44</b>	<b>10,076.94</b>	<b>4.90</b>

## 5.9. Transmission Charges

### Petitioners' submission:

It is submitted that the Petitioners have to pay transmission charges to POWERGRID, BSPTCL, BGCL for use of transmission facilities. Further, the Petitioners have to pay charges to POSOCO and SLDC. The Petitioners have considered the Transmission charges as approved by the Commission for FY 2022-23 in MYT Order for DISCOMs dated 25.03.2022 with 10% escalation on the approved charges.

Petitioner requested the Commission to approve the transmission and related charges for inter-state as well as intra-state transmission transactions for FY 2022-23 as per the below given table

**Table 5.19: Transmission charges projected for APR for FY 2022-23**

(Rs. Crore)

SLDC	6.08	7.14
BGCL	88.38	103.75
BSPTCL	623.07	731.43
POSOCO	3.90	4.58
PGCIL	827.64	971.58
<b>Total</b>	<b>1549.07</b>	<b>1818.48</b>

### Commission's analysis:

The Commission has considered POSOCO and PGCIL charges for FY 2022-23 as projected by the Petitioners. BGCL, BSPTCL and SLDC charges are considered as approved for FY 2022-23 in the Tariff Order dated 25<sup>th</sup> March, 2022 as the same are being billed during FY 2022-23. The transmission charges considered in the APR for FY 2022-23 as are given in the Table below:

**Table 5.20: Transmission charges considered for FY 2022-23 (RE)**

(Rs. Crore)

Particulars	NBPDC	SBPDCL	Total
BSPTCL	566.43	664.93	1231.36
BGCL	80.34	94.32	174.66
SLDC	5.53	6.49	12.02
PGCIL	827.64	971.58	1799.22
POSOCO	3.90	4.58	8.48
<b>Total</b>	<b>1483.84</b>	<b>1741.90</b>	<b>3225.74</b>

**Table 5.21: Total Power Purchase Cost considered for FY 2022-23 (RE)**

Sl. No	Particulars	NBPDC		SBPDCL		Total	
		MU	Rs. Cr	MU	Rs. Cr	MU	Rs. Cr
1	Power Purchase	17508.78	8583.40	20553.52	10076.94	38062.30	18660.34
2	Transmission Charges	0.00	1483.84	0.00	1741.90	0.00	3225.74
3	Total Power Purchase Cost	0.00	10067.24	0.00	11818.84	0.00	21886.08
4	Less: Rebate at 1%	0.00	100.67	0.00	118.19	0.00	218.86
5	Less: Sale of Surplus Power	0.00	295.59	0.00	428.34	0.00	723.93
6	Net Power Purchase Cost	<b>17508.78</b>	<b>9670.98</b>	<b>20553.52</b>	<b>11272.31</b>	<b>38062.30</b>	<b>20943.29</b>

**5.10. Renewable Purchase Obligation (RPO)****Petitioners' submission:**

The Commission initiated the Suo-motu proceeding for 4th amendment in BERC (Renewable Purchase Obligation, its compliance and REC Framework Implementation) Regulations, 2010. The Draft BERC (Renewable Purchase Obligation, its compliance and REC Framework Implementation) (4<sup>th</sup> Amendment) Regulations, 2022 was also floated by the Commission for comments from the Stakeholders. The Hon'ble Commission in the draft Regulations has specified the following:

*"Further, Ministry of Power, Govt. of India, through its order no. 09/13/2021-RCM dated 22.07.2022 has specified separate Wind RPO, HPO and other RPO within the overall RPO target for the FY 2022-23 to FY 2029-30.*

*In view of above, the Commission has decided to adopt the RPO target as specified by the Ministry of Power through its order no. 09/13/2021-RCM dated 22.07.2022 for the FY 2022-23 to FY 2029-30, including introduction of a separate hydro purchase obligation (HPO) as recommended previously by the ministry through MoP Notification F No. 15/2/2016-H-I(Pt.) dated 08.03.2019.*

*In line with the directions from MoP, the Commission proposes to specify separate Wind RPO, HPO and other RPO within the overall RPO target.*

*Provided that Wind RPO shall be met through energy produced from wind power projects commissioned after 31st March 2022; HPO shall be met only by energy produced from Large Hydro Projects (including pump storage plants)*

*commissioned after 8th March 2019; other RPO target may be met by energy produced from any RE power project not qualifying for meeting Wind RPO and HPO. Further, as the directives of the MoP, the Commission proposes to specify separate Energy Storage Obligation for the energy consumed from solar/wind along with /through storage. The Energy Storage obligation to the extent of energy stored from RE sources shall be considered as part of fulfilment of the total RPO.”*

The Commission in the draft Regulations has adopted the RPO trajectory specified by the MoP. So, the Petitioner has computed RPO for FY 2022-23 as per the trajectory specified by the MoP. The details of RPO to be met by the Petitioner for FY 2022-23 are given in the table below:

**Table 5.22 :RPO submitted by NBPDC & SBPDCL for FY 2022-23 (APR)**

Particulars	Unit	NBPDC	SBPDCL
Energy Sale (excluding interstate sales)	MU	13205.23	15812.13
<b>RPO Targets (%)</b>	%	<b>24.60%</b>	<b>24.60%</b>
Wind % (K)	%	0.81%	0.81%
HPO % (L)	%	0.35%	0.35%
Other RPO % (M)		23.44%	23.44%
<b>RPO Targets</b>		<b>3248.49</b>	<b>183.42</b>
Wind (J*K)	MU	106.96	128.08
HPO (J*L)	MU	46.22	55.34
Other RPO (J*M)	MU	3095.31	3706.36
<b>Renewable Power Purchase</b>		<b>3717.29</b>	<b>390.15</b>
Wind	MU	332.35	390.15
HPO	MU	0.00	0.00
Other RPO	MU	3384.94	3969.00
<b>RPO Shortfall</b>	MU		
Wind	MU	(225.39)	(262.07)
HPO	MU	(179.17)	(206.73)
Other RPO	MU	(468.80)	(469.38)

The Petitioner has already been drawing solar power from a few sources like SECI, Welspun, ACME clean tech, Avantika and Azure Power. The Petitioner has also accounted the RE purchases from new sources coming in FY 2022-23, i.e., SECI Phase-II Solar, Adani Green, Ecoren Energy, Ostro kannad, Morjar Windfarm, BREDA floating Solar.

**Commission's analysis:**

The Commission vide BERC (Renewable Purchase Obligation, its compliance and REC frame work implementation) Regulations, 2010 and its amendment has notified the Renewable Purchase Obligation (RPO) percentages up to FY 2021-22.

The Ministry of Power, Government of India vide Order No F.No.09/13/2021-RCM dated 22.07.2022 has specified the RPO trajectory for period from FY 2022-23 to FY 2029-30 as given below:

Year	Wind RPO	HPO	Other RPO	Total RPO
2022-23	0.81%	0.35%	23.44%	24.61%
2023-24	1.60%	0.66%	24.81%	27.08%
2024-25	2.46%	1.08%	26.37%	29.91%
2025-26	3.36%	1.48%	28.17%	33.01%
2026-27	4.29%	1.80%	29.86%	35.95%
2027-28	5.23%	2.15%	31.43%	38.81%
2028-29	6.16%	2.51%	32.69%	41.36%
2029-30	6.94%	2.82%	33.57%	43.33%

The Commission has initiated suo-moto proceedings/petition No SMP-12/2022 for incorporating the above RPO Targets and proposed to notify the 4<sup>th</sup> amendment to the BERC (Renewable Purchase Obligation, its compliance and REC frame work implementation) Regulations, 2010. The Commission after due process of deliberations, consultations and public hearings has reserved the order on the suo-moto proceedings in case NoSMP-12/2022.

Based on the revised targets notified by the MoP vide Order No F.No.09/13/2021-RCM dated 22.07.2022 the Discoms have proposed the RPO Compliance for FY 2022-23 onwards.

According to the MoP Order No F.No.09/13/2021-RCM dated 22.07.2022, wind RPO shall be met only by Energy produced from wind power projects commissioned after 31.03.2022 and the HPO energy produced from LHPs (including PSPs) commissioned after 08.03.2019. The petitioner has not provided the details of projects commissioned as per MoP guidelines, hence the Commission has not considered the Wind and HPO for compliance for FY 2022-23

The Commission accordingly has considered the RPO targets for FY 2022-23 and FY 2023-24 in this Tariff order and computed the RPO Compliance for FY 2022-23 as shown in the Table below.

**Table 5.23: RPO Considered for NBPDCCL & SBPDCL for FY 2022-23 (RE)**

Sl.No.	Particulars		Units	NBPDCCL	SBPDCL
1	Energy sale( excluding inter-state sales)	A	MUs	13205.24	15812.14
2	Hydro Power Purchase	B	MUs	1674.76	1965.74
3	Inter-State Transmission Loss	C	%	3.34%	3.34%
4	Inter-State Transmission Loss	$D=B \times C$	MUs	55.94	65.66
5	Intra-State Transmission Loss	E	%	3.00%	3.00%
6	Intra-State Transmission Loss	$F=E \times (B-D)$	MUs	48.56	57.00
7	Distribution Loss	G	%	15.00%	15.00%
8	Distribution Loss	$H=G \times (B-D-F)$	MUs	235.54	276.46
9	Hydro Power Consumed	I	MUs	1334.72	1566.62
10	Conventional Power Consumed	$J=A-I$	MUs	11870.52	14245.52
11	<b>RPO Targets</b>		%	<b>24.60%</b>	<b>24.60%</b>
12	Wind RPO	K	%	0.81%	0.81%
13	HPO	L	%	0.35%	0.35%
14	Other RPO	M		23.44%	23.44%
15	<b>RPO Targets</b>		MUs	<b>2920.15</b>	<b>3504.40</b>
16	Wind RPO	$N=J \times K$	MUs	96.15	115.39
17	HPO	$O=J \times L$	MUs	41.55	49.86
18	Other RPO	$P=J \times M$	MUs	2782.45	3339.15
19	<b>Renewable power purchase</b>	$Q=R+S+T$	MUs	<b>3384.94</b>	<b>3969.00</b>
20	Wind Power Purchased	R	MUs	0.00	0.00
21	Hydro Power Purchased	S	MUs	0.00	0.00
22	Others	T	MUs	3384.94	3969.00
23	<b>Total Wind RPO Compliance</b>	U	MUs	0.00	0.00
24	<b>Total Hydro RPO Compliance</b>	V	MUs	0.00	0.00
25	<b>Others RPO Compliance</b>	W	MUs	3384.94	3969.00
26	<b>RPO Shortfall</b>				
27	Wind Shortfall / (Surplus)	$X=N-U$	MUs	96.15	115.39
28	Hydro Shortfall / (Surplus)	$Y=O-V$	MUs	41.55	49.86
29	Others Shortfall/ (Surplus)	$Z=P-W$	MUs	-602.49	-629.85
30	<b>RPO Target Achieved</b>				
31	<b>Wind</b>			0.00%	0.00%
32	<b>Hydro</b>			0.00%	0.00%
33	<b>Others</b>			121.65%	118.86%

### 5.11. Capital Expenditure

#### Petitioners' submission:

Discoms have submitted that they have estimated capital expenditure, capitalisation and funding taking into account the recent developments and targets to be achieved under various schemes during FY 2022-23. It is submitted that they have computed the capitalisation of investment of all ongoing schemes except MKVYS and Reconductoring schemes shall get capitalised during FY 2022-23 as detailed hereunder:

**Table 5.24: Scheme-wise capitalisation projected for FY 2022-23**

Name of the Scheme	(Rs. Crore)		
	NBPDCCL	SBPDCL	Total
BRGF	41.12	765.50	806.62
R-APDRP	23.29	-0.20	23.09
NABARD Phase VIII		0.00	0.00
NABARD Phase XI	0.74	-	0.74
MP/CM LAD	0.04	0.77	0.81
Deposit Scheme	4.88	3.13	8.01
ADB		79.74	79.74
ACA State Plan		15.69	15.69
Burnt DTR State Plan		1.12	1.12
State Plan -Others	552.93	945.44	1498.37
Reconductoring	1438.06	497.95	1936.01
IPDS	13.56	179.12	192.68
RGGVY	15.83	81.36	97.19
DDUGJY	14.22	112.31	126.53
APL Connection/Saubhagya	88.22	99.46	187.68
LT Line New Service Connection		-	0.00
Smart Prepaid Meter (Phase 2) 36 Lakhs- 30% Capex	67.16	67.83	134.99
MKVYS	413.56	383.23	796.79
Own Sources	394.00	-	394.00
<b>Total</b>	<b>3,067.60</b>	<b>3,232.46</b>	<b>6,300.06</b>

It is further submitted that the Monitoring Committee for RDSS constituted under Chairmanship of Secretary (Power), Govt. of India in its 9<sup>th</sup> meeting held on 28.04.2022, has approved the Action plan and Loss Reduction DPR of NBPDCCL and SBPDCL under Revamped Distribution Sector Scheme (RDSS) as detailed below:

Sl No.	Particulars	NBPDCCL (Rs. Crore)			SBPDCL (Rs. Crore)		
		Approved Amount	Central Govt. Grant-GBS (60%)	State Govt. Finance Share (40%)	Approved Amount	Central Govt. Grant-GBS (60%)	State Govt. Finance Share (40%)
1	<b>Loss Reduction</b>						
1.a	Infrastructure Works	3050.89	1830.53	1220.36	3525.52	2115.31	1410.21
1.b	IT/OT	200.00	120.00	80.00	200.00	120.00	80.00
2	PMA	48.76	29.26	19.50	55.88	33.53	22.35
	<b>Total</b>	<b>3299.65</b>	<b>1979.79</b>	<b>1319.86</b>	<b>3781.40</b>	<b>2268.84</b>	<b>1512.56</b>

Under Loss reduction plan of RDSS, no capex and subsequent capitalization is expected to take place in FY 2022-23. Hence proposed capex and capitalization under Loss reduction plan of RDSS is considered NIL for FY 2022-23.

#### Prepaid Smart Metering:

##### Phase 1:

The total number of smart meters proposed to be installed under phase 1 is 23,50,000 (NBPDCCL 10,30,000 lakhs and SBPDCL 13,20,000). The total smart meters under Phase 1 are under OPEX mode which will be booked under A&G expenses. Hence the entire expenditure proposed under Phase I has been considered under A&G expenditure.

##### Phase-II:

36 lakhs (NBPDCCL 26 lakhs and SBPDCL 10 lakhs) of smart prepaid meters are scheduled to be installed across the State of Bihar by the end of March, 2024 under hybrid mode i.e., CAPEX + OPEX mode in the ratio of 70:30. Discoms have furnished the expected expenditure under CAPEX mode for installation of smart prepaid meters as given below:

##### NBPDCCL:

Smart Prepaid Meters under A&G expense	Month	2022-23			2023-24		
		Meters installed	Meter cost	Capital expenditure	Meters installed	Meter cost	Capital expenditure
Phase II: 36 lakhs North 26 Lakhs (30% Capex)	Op. Balance				234000		
	April				286000	10342.20	16.13
	May				364000	10342.20	24.20
	June				442000	10342.20	24.20
	July				520000	10342.20	24.20
	August				624000	10342.20	32.27
	September				728000	10342.20	32.27



Smart Prepaid Meters under A&G expense	Month	2022-23			2023-24		
		Meters installed	Meter cost	Capital expenditure	Meters installed	Meter cost	Capital expenditure
	October				858000	10342.20	40.33
	November	26000	10342.20	8.07	988000	10342.20	40.33
	December	78000	10342.20	16.13	1118000	10342.20	40.33
	January	130000	10342.20	16.13	1248000	10342.20	40.33
	February	182000	10342.20	16.13	1378000	10342.20	40.33
	March	234000	10342.20	16.13	1508000	10342.20	40.33
Less: 7.5% to be given after 6 months				5.45			18.15
Total Capex				67.16			382.57

**Note:** Petitioner has furnished month-wise cumulative no. of meters installed whereas the capex is computed based on month-wise actual no. of meters installed.

#### **SBPDCL:**

Smart Prepaid Meters under A&G expense	Month	2022-23			2023-24		
		Meters installed	Meter cost	Capital expenditure	Meters installed	Meter cost	Capital expenditure
Phase II: 36 lakhs North 26 Lakhs (30% Capex)	Op. Balance				90000		
	April				110000	9777.14	5.87
	May				140000	9777.14	8.80
	June				170000	9777.14	8.80
	July				200000	9777.14	8.80
	August				240000	9777.14	11.73
	September				280000	9777.14	11.73
	October				330000	9777.14	14.67
	November	10000	9777.14	2.93	380000	9777.14	14.67
	December	30000	9777.14	8.80	430000	9777.14	14.67
	January	50000	9777.14	14.67	480000	9777.14	14.67
	February	70000	9777.14	20.53	530000	9777.14	14.67
	March	90000	9777.14	26.40	580000	9777.14	14.67
Less: 7.5% to be given after 6 months				5.50			6.60
Total Capex				67.83			382.57

**Note:** Petitioner has furnished month-wise cumulative no. of meters installed whereas the capex is computed based on month-wise actual no. of meters installed. The total capex works out to Rs.137.12 crore, which is wrongly shown as Rs.382.57 crore.

#### **Phase-III:**

In the final Phase-III, 1.12 Crore (77 lakhs in NBPDCCL and 35 lakhs SBPDCL) of smart prepaid meters are scheduled to be installed across the Bihar by the end of March, 2024 under hybrid mode i.e. CAPEX + OPEX mode in the ratio of 70:30. Discoms have furnished the expected expenditure under CAPEX mode for installation of smart prepaid meters as given below:

	Month	NBPDC			SBPDCL		
		Meter cost (Rs.)	No. of meters installed	Capital expenditure	Meter cost (Rs.)	No. of meters installed	Capital expenditure
Phase III: (30% Capex)	Oct-23	10342.20	77000	23.89	9777.14	35000	10.27
	Nov-23	10342.20	154000	23.89	9777.14	70000	10.27
	Dec-23	10342.20	231000	23.89	9777.14	105000	10.27
	Jan-24	10342.20	308000	23.89	9777.14	140000	10.27
	Feb-24	10342.20	385000	23.89	9777.14	175000	10.27
	Mar-24	10342.20	462000	23.89	9777.14	210000	10.27
Less: 7.5% to be given after 6 months				-10.75			-4.62
Total Capex				132.59			56.98

**Note:** Petitioner has furnished month-wise cumulative no. of meters installed whereas the capex is computed based on month-wise actual no. of meters installed.

Discoms have submitted the details of opening CWIP, investment during the year, capitalisation and funding of capitalisation for FY 2022-23 as detailed in the table below:

**Table 5.25: CWIP, Capitalisation and Funding of capitalisation projected for FY 2022-23**  
(Rs. Crore)

Sl. No.	Particulars	Projected by NBPDC	Projected by SBPDCL	Total
1	Opening CWIP	1705.98	2478.08	4184.06
2	New Investment	1361.62	766.55	2128.17
3	<b>Less: Capitalisation (4+5)</b>	<b>3067.60</b>	<b>3232.46</b>	<b>6300.06</b>
4	Opening CWIP	2454.08	2585.97	5040.05
5	New Investment	613.52	646.49	1260.01
6	<b>Closing CWIP (1+2-3)</b>	<b>0.00</b>	<b>12.17</b>	<b>12.17</b>
7	<b>Funding</b>			
8	<b>CWIP Capitalisation (9+10+11)</b>	2454.08	2585.97	5040.05
9	Grant	418.57	360.73	779.30
10	Equity	1543.14	2030.90	3574.04
11	Loan	492.37	194.34	686.71
12	<b>New Investment (13+14+15)</b>	613.52	646.49	1260.01
13	Grant	104.64	90.18	194.82
14	Equity	385.79	507.72	893.51
15	Loan	123.09	48.59	171.68
16	<b>Total Grant (9+13)</b>	523.21	450.91	974.12
17	<b>Total Equity (10+14)</b>	1928.93	2538.62	4467.55
18	<b>Total Loan (11+15)</b>	615.46	242.93	858.39

#### Commission's analysis:

Discoms have projected the capex and capitalisation for FY 2022-23 as given in the following table and furnished the scheme-wise details in Format 11 enclosed to the petition. As per the details, the projected capex and capitalisation for FY 2022-23 is as under:

Particulars	NBPDC	SBPDCL
Capital investment	1361.62	766.55
Capitalisation	3067.60	3232.46

The Commission has approved the capital investment plan and capitalisation in Tariff Order dated 25.03.2022 for the control period FY 2022-23 to FY 2024-25. The capex and capitalisation approved for FY 2022-23 for NBPDC & SBPDCL is as given hereunder:

Name of the Discom	Capital investment (Rs. Crore)	Capitalisation (Rs. Crore)
NBPDC (Table 6.64 of TO dated 25.03.2022))	1021.07	1021.07
SBPDCL (Table 6.64 of TO dated 25.03.2022)	541.19	541.19

The Commission observes that petitioners have not estimated the Capital expenditure and Capitalization in line with the values approved in business plan.

The petitioners have submitted scheme-wise details of capex and capitalisation in Format 11 along with the petition. The petitioners have claimed capex and capitalisation for FY 2022-23 as detailed in the table below:

**Table 5.26: Capex and Capitalisation projected for FY 2022-23**

Sl. No.	Name of scheme / Project	(Rs. Crore)			
		NBPDC		SBPDCL	
		Capital expenditure	Capitalisation	Capital expenditure	Capitalisation
	<b>Existing schemes</b>				
1	BRGF		41.12		765.50
2	R-APDRP		23.29		-0.20
3	NABARD Phase VIII				
4	NABARD Phase XI		0.74		
5	MP/CM LAD		0.04		0.77
6	Deposit Scheme		4.88		3.13
7	ADB				79.74
8	ACA State Plan				15.69
9	Burnt DTR State Plan				1.12
10	State Plan -Others		552.93		945.44
11	Reconductoring	880.90	1438.06	315.49	497.95
12	IPDS		13.55		179.12
13	RGGVY		15.83		81.36
14	DDUGJY		14.22		112.31
15	APL Connection		88.22		99.46
16	Own Sources		394.00		
	<b>New schemes</b>				
17	MKVYS	413.56	413.56	383.23	383.23
18	Smart prepaid meters (Phase 2)	67.16	67.16	67.83	67.83
	<b>Total</b>	<b>1361.62</b>	<b>3067.60</b>	<b>766.55</b>	<b>3232.45</b>

The Commission has observed from the table above, NBPDC has projected capitalisation of entire opening balance of ongoing schemes in FY 2022-23, besides MKVYS and Smart Prepaid meter installation (Phase 2).

The Commission, following the principle of consistency and prudence has not considered the projected capex of Rs.880.90 crore and capitalisation of Rs.1438.06 crore relating to Reconductoring scheme, as the scheme is not approved by the Commission and may be considered on approval of the scheme.

NBPDC has projected capex and capitalisation of new scheme of MKVYS of Rs.413.56 crore for FY 2022-23 to be funded through Grants. The Commission has provisionally considered the capex and capitalisation of this scheme, since the scheme is funded through grants and has no impact on the ARR for FY 2022-23.

In respect of smart prepaid meter, the Commission has not considered the capex and capitalisation as the scheme is not approved by the Commission and the same may be considered on approval of the scheme subject to validation and prudence check based on the actual installation of meters, mode of implementation of the scheme i.e. under OPEX/CAPEX, etc.

The Commission has approved closing CWIP at Rs.2773.36 Crore in true up for FY 2021-22 and the same is considered as opening CWIP for FY 2022-23 for NBPDC.

The Commission has considered scheme-wise capital expenditure and capitalisation for FY 2022-23 in review as given in the Table below for NBPDC.

**Table 5.27: Capex and capitalisation considered for NBPDC for FY 2022-23 in review**  
(Rs. Crore)

Sl. No.	Name of scheme / Project	CWIP Opening balance as on 1st April 2022 (as per CB approved in true up for FY 2021-22)	Capex considered for FY 2022-23	Capitalisation considered for FY 2022-23	Closing CWIP for FY 2022-23
A	B	C	D	E	F=C+D-E
	<b>Existing ongoing schemes</b>				
1	BRGF	41.11		41.11	0
2	R-APDRP	4.20		4.20	0
3	NABARD Phase VIII	0.00			0.00
4	NABARD Phase XI	0.74		0.74	0.00
5	MP/CM LAD	0.04		0.04	0
6	Deposit Scheme	4.90		4.9	0.00
7	ADB	0.00		0.00	0.00
8	ACA State Plan	0.00		0.00	0.00
9	Burnt DTR State Plan	0.00			0.00
10	State Plan –Others	552.93		552.93	0.00
11	APL connections	88.22		88.22	0.00
12	Reconductoring	122.77			122.77
13	IPDS	438.48			438.48
14	RGGVY	176.94			176.94
15	DDUGJY	951.86			951.86
16	Own Sources	388.18		388.18	0.00

Sl. No.	Name of scheme / Project	CWIP Opening balance as on 1st April 2022 (as per CB approved in true up for FY 2021-22)	Capex considered for FY 2022-23	Capitalisation considered for FY 2022-23	Closing CWIP for FY 2022-23
A	B	C	D	E	F=C+D-E
	<b>New Schemes</b>				
17	MKVYS		413.56	413.56	0.00
18	Smart Prepaid meters (Phase 2)				0.00
	<b>Total</b>	<b>2770.37</b>	<b>413.56</b>	<b>1493.88</b>	<b>1690.05</b>

The Commission has observed from the table above, SBPDCL has projected capitalisation of entire opening balance of ongoing schemes in FY 2022-23, besides MKVYS and Smart Prepaid meter installation (Phase 2).

The Commission, following the principle of consistency and prudence has not considered the projected capex of Rs.315.49 crore and capitalisation of Rs.497.95 crore relating to Reconductoring scheme, as the scheme is not approved by the Commission and may be considered on approval of the scheme.

SBPDCL has projected capex and capitalisation of new scheme of MKVYS of Rs.383.23 crore for FY 2022-23 to be funded through Grants. The Commission has provisionally considered the capex and capitalisation of this scheme, since the scheme is funded through grants and has no impact on the ARR for FY 2022-23.

In respect of smart prepaid meter, the Commission has not considered the capex and capitalisation as the scheme is not approved by the Commission and the same may be considered on approval of the scheme subject to validation and prudence check based on the actual installation of meters, mode of implementation of the scheme i.e. under OPEX/CAPEX, etc.

The Commission has approved closing CWIP at Rs.3859.87 crore in trueing up for FY 2021-22 and the same is considered as opening CWIP for FY 2022-23 for SBPDCL. The Commission has considered scheme-wise capital expenditure and capitalisation in review for FY 2022-23 as given in the Table below for SBPDCL.

**Table 5.28: Capex and capitalisation considered for SBPDCL for FY 2022-23 in review**  
(Rs. Crore)

Sl. No.	Name of scheme / Project	CWIP Opening balance as on 1st April 2022 (as per CB approved in true up for FY 2021-22)	Capex considered for FY 2022-23	Capitalisation considered for FY 2022-23	Closing CWIP for FY 2022-23
A	B	C	D	E	F=C+D-E
	<b>Existing ongoing schemes</b>				
1	BRGF	765.51		765.51	0.00
2	R-APDRP	-0.21		-0.21	0.00
3	NABARD Phase VIII	0.06		0.06	0.00
4	NABARD Phase XI	-0.01		-0.01	0.00
5	MP/CM LAD	0.96		0.96	0.00
6	Deposit Scheme	3.19		3.19	0.00
7	ADB	79.80		79.80	0.00
8	ACA State Plan	15.63		15.63	0.00
9	Burnt DTR State Plan	1.12		1.12	0.00
10	State Plan –Others	818.44		818.44	0.00
11	APL connections	99.45		99.45	0.00
12	Reconductoring	528.52			528.52
13	IPDS	416.98		179.12	237.86
14	RGGVY	315.65		81.36	234.29
15	DDUGJY	818.87		112.31	706.56
16	Own Sources	-4.09		-4.09	0.00
	<b>New Schemes</b>				
17	MKVYS		383.23	383.23	0.00
18	Smart Prepaid meters (Phase 2)				0.00
	<b>Total</b>	<b>3859.87</b>	<b>383.23</b>	<b>2535.87</b>	<b>1707.23</b>

**Table 5.29: Funding of capitalisation considered for FY 2022-23 in review**  
(Rs. Crore)

Sl. No.	Name of scheme / Project	NBPDC				SBPDCL			
		Capitalisation	Loan	Grant	Equity	Capitalisation	Loan	Grant	Equity
	<b>Ongoing schemes</b>								
1	BRGF	41.11	0.00	0.00	41.11	765.51	0.00	0.00	765.51
2	R-APDRP	4.20	4.20	0.00	0.00	-0.21	-0.21	0.00	0.00
3	NABARD Phase VIII		0.00	0.00	0.00	0.06	0.00	0.06	0.00
4	NABARD Phase XI	0.74	0.00	0.74	0.00	-0.01	0.00	-0.01	0.00
5	MP/CM LAD	0.04	0.00	0.04	0.00	0.96	0.00	0.96	0.00
6	Deposit Scheme	4.9	0.00	4.90	0.00	3.19	0.00	3.19	0.00
7	ADB	0.00	0.00	0.00	0.00	79.80	79.80	0.00	0.00
8	ACA State Plan	0.00	0.00	0.00	0.00	15.63	0.00	0.00	15.63
9	Burnt DTR State Plan		0.00	0.00	0.00	1.12	0.00	0.00	1.12
10	State Plan –Others	552.93	0.00	0.00	552.93	818.44	0.00	0.00	818.44
11	APL connections	88.22	0.00	88.22	0.00	99.45	0.00	99.45	0.00
12	Reconductoring		0.00	0.00	0.00		0.00	0.00	0.00
13	IPDS		0.00	0.00	0.00	179.12	0.00	0.00	179.12
14	RGGVY		0.00	0.00	0.00	81.36	24.41	48.82	8.14
15	DDUGJY		0.00	0.00	0.00	112.31	11.23	101.08	0.00
16	Own Sources	388.18	58.23	291.14	38.82	-4.09	-0.61	-3.07	-0.41
	<b>New Schemes</b>		0.00	0.00	0.00				
17	MKVYS	413.56	0.00	413.56	0.00	383.23	0.00	383.23	0.00
18	Smart Prepaid meters (Phase 2)		0.00	0.00	0.00		0.00	0.00	0.00
	<b>Total</b>	<b>1493.88</b>	<b>62.43</b>	<b>798.60</b>	<b>632.86</b>	<b>2535.87</b>	<b>114.62</b>	<b>633.71</b>	<b>1787.55</b>

The Commission, as deliberated above, considers the opening CWIP, new investment, capitalisation and funding as detailed in the table below:

**Table 5.30: CWIP, Capitalisation and funding of capitalization considered for FY 2022-23**

(Rs. Crore)

Sl. No.	Particulars	Considered for NBPDC for FY 2022-23 in review	Considered for SBPDCL for FY 2022-23 in review	Total
1	Opening CWIP	2773.36	3859.87	6633.23
2	Add: New Investment	413.56	383.23	796.79
3	Less: Capitalisation (3a+3b)	1493.88	2535.87	4029.75
4	<b>Closing CWIP (1+2-3)</b>	<b>1693.04</b>	<b>1707.23</b>	<b>3400.27</b>
5	Funding of Capitalisation (A+B+C)			
A	Grant	798.60	633.71	1432.31
B	Equity	632.86	1787.55	2420.41
C	Loans	62.42	114.61	177.03

## 5.12. Gross Fixed Assets

### Petitioners' submission

Discoms have submitted the computation of GFA based on the opening GFA and capitalisation schedule for FY 2022-23 as detailed in the table below:

**Table 5.31: Gross Fixed Assets projected for FY 2022-23**

(Rs. Crore)

Sl. No.	Particulars	Projected by NBPDC	Projected by SBPDCL	Total
1	Opening GFA	21533.79	16300.88	37834.67
2	Additions during the year	4239.94	3232.46	7472.40
3	<b>Closing GFA (1+2)</b>	<b>25773.73</b>	<b>19533.35</b>	<b>45307.07</b>

### Commission's analysis:

The Commission has considered opening GFA at Rs.21009.39 Crore for NBPDC and Rs.15420.89 Crore for SBPDCL based on the closing GFA approved in true up for FY 2021-22. Addition to the GFA during FY 2022-23 is considered as in Table 5.30 above. The opening GFA, additions to assets during the year and closing GFA for FY 2022-23, arrived at by the Commission is as detailed in the table below:

**Table 5.32: Gross Fixed Assets considered for FY 2022-23 in review****(Rs. Crore)**

Sl. No.	Particulars	Considered for NBPDC in review	Considered for SBPDCL in review	Total
1	Opening GFA	21009.39	15420.89	36430.28
2	Additions during the year	1493.88	2535.87	4029.75
3	<b>Closing GFA (1+2)</b>	<b>22503.27</b>	<b>17956.76</b>	<b>40460.03</b>

**5.13. Depreciation****Petitioners' submission:**

Discoms have submitted that depreciation is computed as per regulation 23 of BERC (Multi Year Distribution Tariff) Regulations 2021 on the GFA reduced by value of land and Grants for FY 2022-23.

Discoms have projected the depreciation for FY 2022-23 as detailed in the table below:

**Table 5.33: Depreciation projected for FY 2022-23 (RE)****(Rs. Crore)**

Sl. No.	Particulars	Projected by NBPDC in review	Projected by SBPDCL in review	Total
1	Opening GFA	21533.79	14754.60	36288.39
2	Less: Value of land	1041.06		1041.06
3	Net Opening GFA (1-2)	20492.73	14754.60	35247.33
4	Additions during the year	2955.51	2857.40	5812.91
5	Closing GFA (3+4)	23448.24	17612.00	41060.24
6	Average GFA $\{(3+5)/2\}$	21970.49	16183.30	38153.79
7	Weighted average rate of depreciation	4.22%	4.35%	
8	Depreciation (6*7)	926.50	704.18	1630.67
9	Opening Grants	11755.00	6970.00	18725.00
10	Grants during the year	492.00	410.00	902.00
11	Closing Grants (9+10)	12247.00	7380.00	19627.00
12	Average Grants $\{(9+11)/2\}$	12001.00	7175.00	19176.00
13	Weighted average rate of depreciation	4.45%	4.75%	
14	Depreciation for GFA on Grants (12*13)	533.97	340.48	874.45
15	<b>Net Depreciation (8-14)</b>	<b>392.52</b>	<b>363.70</b>	<b>756.22</b>

**Commission's analysis:**

The Commission has considered the opening depreciable assets and opening grants for FY 2022-23 based on the closing GFA and Grants approved in the truing up for FY 2021-22 as given hereunder:

Particulars	NBPDC	SBPDCL
Opening Depreciable Assets	19961.24	13874.61
Opening Grants	12011.42	7524.87



Capitalisation and Grants during the year FY 2022-23 are considered based on the capitalisation and funding for FY 2022-23 as shown in Table 5.27 of this order.

Regulation 23 (d) of the BERC (Multi Year Distribution Tariff) Regulations 2021, specifies that *“Provided that freehold land shall not be treated as a depreciable asset and its cost shall be excluded from the original cost of the asset”*. The Commission has provisionally considered the value of land addition at Rs.375.06 crore for SBPDCL and Rs.112.09 crore for NBPDCCL as reported in Format 14 of the petition for FY 2022-23 and accordingly reduced the same from capitalisation for the purpose of computing depreciation for FY 2022-23. Same procedure is followed by the Discoms for computing the grants utilised for land addition during FY 2022-23. The Commission has considered addition to grants based on the funding of capitalisation for FY 2022-23. The grants utilised for land addition is considered provisionally at Rs.40.92 crore for SBPDCL and Rs.31.54 crore for NBPDCCL based on the details furnished in Format 14.

The Commission has considered weighted average rate of depreciation on assets and grants for Discoms (NBPDCCL and SBPDCL) in line with the weighted average rate of depreciation considered in true up for FY 2021-22.

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 2022-23 in review is as detailed in the table below:

**Table 5.34: Depreciation considered for FY 2022-23 (RE)**

Sl. No.	Particulars	(Rs. Crore)		
		Considered in review for NBPDCCL for FY 2022-23 (RE)	Considered in review for SBPDCL for FY 2022-23 (RE)	Total
1	Opening depreciable assets	19961.24	13874.61	33835.85
2	Net Additions during the year (excl. land)	1381.79	2160.81	3542.60
3	Closing GFA (1+2)	21343.03	16035.42	37378.45
4	Average GFA $\{(1+3)/2\}$	20652.14	14955.02	35607.15
5	Weighted average rate of depreciation	4.04%	4.40%	
6	<b>Depreciation (4*5)</b>	<b>834.59</b>	<b>658.62</b>	<b>1493.21</b>
7	Opening Grants	12011.42	7524.87	19536.29
8	Grants during the year	637.88	413.21	1051.09
9	Less: Grants used for Land during the year	40.92	31.54	72.46

Sl. No.	Particulars	Considered in review for NBPDCCL for FY 2022-23 (RE)	Considered in review for SBPDCL for FY 2022-23 (RE)	Total
10	Net Closing Grants for depreciable assets (7+8-9)	12608.38	7906.54	20514.92
11	Average Grants for Depreciable Assets $\{(7+10)/2\}$	12309.90	7715.71	20025.61
12	Weighted average rate of depreciation	4.04%	4.40%	
13	<b>Depreciation on assets created out of grants (11*13)</b>	<b>497.46</b>	<b>339.80</b>	<b>837.26</b>
14	<b>Net Depreciation (6-13)</b>	<b>337.12</b>	<b>318.82</b>	<b>655.94</b>

The Commission, accordingly, considers the depreciation in review for FY 2022-23.

#### 5.14. Interest on Loans

##### Petitioners' submission:

Discoms have submitted that addition to debt is considered at 70% of the addition to GFA excluding contribution from grants. The weighted average rate of interest is considered @10.29% by NBPDCCL and 10.41% by SBPDCL for FY 2022-23 as given below.

**Table 5.35: Weighted average rate of interest considered by NBPDCCL for FY 2022-23 (RE)**

Sl. No	Particulars	Opening balance	Rate of Interest	Addition during the year	Repayment during the year	Closing balance	Average balance	Amount of interest paid
1	REC (RGGVY) Term Loan	287.82	10.50%	-	-	287.82	287.82	30.22
2	PFC (R-APDRP) Part -A Term Loan	15.85	9%	-		15.85	15.85	1.43
3	PFC(R-APDRP) Part -B Term Loan	48.34	9%	-	2.54	45.79	47.06	3.77
4	PFC (Counter Part)	90.61	11%	-	7.15	83.46	87.04	7.98
5	PFC (BRGF) Term Loan	-	-	-		-	-	-
6	REC (BRGF) Term Loan	-	-	-		-	-	-
7	REC (DDUGJY)	914.93	10.22%	118		1,033.16	974.05	43.14
8	REC (IPDS)	277.59	10.22%	25		302.59	290.09	12.67
9	State Govt.-Non-Plan Loan	275.25	10.5%	-		275.25	275.25	28.90
10	BSPHCL (ADB) Loan	56.01	10.5%	-		56.01	56.01	5.88
11	Total	1,966.40		143.23	9.69	2,099.94	2,033.17	133.99
Weighted average rate of interest								10.29%

**Table 5.36: Weighted average rate of interest considered by SBPDCL for FY 2022-23 (RE)**

Particulars	Purpose of loan	Opening balance	Rate of Interest	Addition during the year	Repayment during the year	Closing balance	Average Balance	Amount of interest paid
REC (RGGVY) Term Loan	Project	143.75	10.33%	19	12	150.66	147.20	14.85
REC (R-APDRP) Term Loan	Project	358.70	10%	-	34.93	323.77	341.24	37.31
PFC (R-APDRP) Term Loan	Project	292.34	9%	-	-	292.34	292.34	26.31
REC (IPDS) Term Loan	Project	302.69	10%	42	-	344.69	323.69	30.84
REC (DDUGJY) Term Loan	Project	745.61	0	-	-	745.61	745.61	75.98
State Govt.-Non-Plan Loan	Project Support	84.61	0	31	-	115.46	100.03	8.88
BSPHCL (ADB) Loan	Project	6.28	10.50%	-	-	6.28	6.28	0.64
<b>Total</b>		<b>1,933.98</b>		<b>91.75</b>	<b>46.92</b>	<b>1,978.81</b>	<b>1,956.39</b>	<b>194.81</b>
Weighted average rate of interest								10.08%

Discoms have projected the interest charges for FY 2022-23 as detailed in the table below:

**Table 5.37: Interest on loans projected by Discoms for FY 2022-23 (RE)**  
(Rs. Crore)

Sl. No.	Particulars	Projected by NBPDCCL	Projected by SBPDCL	Total
1	Opening loan	3894.02	3266.44	7160.46
2	Addition to loan	3491.42	2537.74	6029.16
3	Less: Repayment	471.72	352.67	824.38
4	Closing loan	6913.72	5451.51	12365.23
5	Average loans	5403.87	4358.98	9762.85
6	Interest rate/weighted average rate	10.29%	10.08%	
7	<b>Interest Charges</b>	<b>555.85</b>	<b>439.22</b>	<b>995.07</b>

**Commission's analysis:**

The Commission has considered opening loan for FY 2022-23 in review based on the closing loan approved for NBPDCCL Rs.5188.47 Crore and SBPDCL Rs.3488.22 Crore in true up for FY 2021-22.

The Commission has provisionally considered the addition to loan @70% of the net capitalisation (after reducing the grants) in terms of regulation 25(j) read with regulation 27 (a) as given hereunder:

**Table 5.38: Debt Equity considered for FY 2022-23 in review**

(Rs. Crore)			
Sl. No.	Particulars	NBPDCCL	SBPDCL
1	Capitalisation during FY 2022-23	1493.88	2535.87
2	Less: Capitalisation through Grants	798.60	633.71
3	Net capitalisation (1-2)	695.28	1902.16
4	Equity @30% of 3	208.58	570.65
5	Debt @70% of 3	486.70	1331.51

The Commission, in terms of regulation 25(e) of BERC (Multi Year Distribution Tariff) Regulations 2021, has considered repayment of loan equal to the depreciation considered for the year 2022-23.

The Commission has considered weighted average rate of interest at 10.29% for NBPDCCL and 10.03% for SBPDCL in true up and the same rate is considered for FY 2022-23 in review.

The Commission provisionally considers the weighted average rate of interest for FY 2022-23 in line with the interest rate considered in true up for FY 2021-22, subject to true up based on audited accounts for FY 2022-23.

The Commission, considering the above, has computed interest on loans in review for FY 2022-23 as detailed in the table below:

**Table 5.39: Interest on loan considered for FY 2022-23 (RE)**

(Rs. Crore)				
Sl. No.	Particulars	Considered for NBPDCCL in review	Considered for SBPDCL in review	Total
1	Opening loan	5188.47	3488.22	8676.70
2	Additions during the year	486.70	1331.51	1818.21
3	Normative repayment	337.12	318.82	655.94
4	Closing loan (1+2-3)	5338.05	4500.92	9838.96
5	Average loans (1+4)/2	5263.26	3994.57	9257.83
6	Interest rate/weighted average rate	10.29%	10.03%	
7	<b>Interest Charges (5x6)</b>	<b>541.59</b>	<b>400.66</b>	<b>942.24</b>

The Commission, accordingly, has considered interest on loans for FY 2022-23 in review.

#### 5.15. Other finance charges

##### Petitioners' submission:

Discoms have projected other finance charges for FY 2022-23 based on the charges claimed in true up for FY 2021-22 with escalation by 10% as given in the table below:

**Table 5.40: Other finance charges projected for FY 2022-23 (RE)****(Rs. Crore)**

Sl. No.	Particulars	Projected by NBPDC in review	Projected by SBPDCL in review	Total
1	Other finance charges for the base year	79.09	105.95	185.04
2	Escalation percentage	10%	10%	
3	Add: increase in finance charges	7.91	10.59	18.50
4	Total Other finance charges	<b>87.00</b>	<b>116.54</b>	<b>203.54</b>

**Commission's analysis:**

The Commission, based on the audited accounts for FY 2021-22 of Discoms, has approved other finance charges at Rs.47.24 Crore for NBPDC and Rs.58.50 Crore for SBPDCL in true up for FY 2021-22. The Commission has considered escalation of 10% year on year in respect of other finance charges for the MYT control period of FY 2022-23 to FY 2024-25 in Tariff Order dated 25.03.2022 and accordingly has considered the escalation at 10% for FY 2022-23 in review. The Commission has considered other finance charges for FY 2022-23 as given in the table below:

**Table 5.41: Other finance charges considered for FY 2022-23 in review****(Rs. Crore)**

Sl. No.	Particulars	Considered for NBPDC in review	Considered for SBPDCL in review	Total
1	Other finance charges as approved in true up for FY 2021-22	47.24	58.50	105.74
2	Escalation percentage	10.00%	10.00%	
3	Add: increase in finance charges	4.72	5.85	10.57
4	<b>Other finance charges</b>	<b>51.96</b>	<b>64.35</b>	<b>116.31</b>

**The Commission, accordingly, has considered other finance charges in review for FY 2022-23.**

**5.16. Return on Equity****Petitioners' submission:**

Discoms have submitted that RoE is calculated on the basis of closing balance of fixed assets as claimed in true up for FY 2021-22. It is submitted that RoE shall be allowed @14% on the net capital base as on 31.03.2016 and @15.50% on the net capital base with effect from 1<sup>st</sup> April 2016 onwards.

Discoms have computed the return on equity for FY 2022-23 as detailed in the table

below:

**Table 5.42: Return on Equity projected for FY 2022-23 (RE)**

(Rs. Crore)

Sl. No.	Particulars	Projected by NBPDCCL in review	Projected by SBPDCL in review	Total
1	Equity to the end of 31.3.2016	440.86	638.06	1078.92
2	Rate of Return on Equity	14.00%	14.00%	
3	Return on equity (1*2)	61.72	89.33	151.05
4	Opening Equity w.e.f.1.4.2016	2350.38	1631.43	3981.81
5	Additions	763.32	834.47	1597.79
6	Closing equity (4+5)	3113.70	2465.90	5579.60
7	Average equity (4+6)/2	2732.04	2048.67	4780.71
8	Rate of Return on Equity	15.50%	15.50%	
9	<b>Return on Equity (7*8)</b>	423.47	317.55	741.02
10	<b>Total Return on Equity (3+9)</b>	<b>485.19</b>	<b>406.87</b>	<b>892.06</b>

### Commission's analysis

The Commission has considered the opening equity based on the closing equity approved in true up for FY 2021-22 as given below:

Particulars	NBPDCCL	SBPDCL
Closing equity to end of 31.03.2016	440.86	638.06
Closing equity in respect of projects commissioned w.e.f.01.04.2016	1989.90	1249.40

The Commission accordingly has considered opening equity and in terms of regulation 27(c) has considered Rate of RoE at 14% on equity upto 31.3.2016 and 15.50% on equity w.e.f.01.04.2016. Addition to equity for FY 2022-23 is considered based on funding of capitalisation as shown in Table 5.38 above.

Regulation 29 of BERC (Multi Year Distribution Tariff) Regulations 2021, specify *the base rate of return on equity allowed under Regulation 27 shall be grossed up with the effective tax rate of the respective financial year. The effective tax rate shall be considered on the basis of actual tax paid in the respect of the financial year in line with the provisions of the relevant Finance Acts.* The Discoms have not projected pre-tax RoE for FY 2022-23.

The Commission observes that the Discoms (NBPDCCL and SBPDCL) have not paid/incurred any expenditure towards Income tax/MAT for FY 2021-22 and hence RoE is considered without considering the IT/MAT for FY 2022-23 in review.

The Commission, accordingly, has computed Return on Equity for FY 2022-23 as detailed in the table below:

**Table 5.43: Return on Equity considered for FY 2022-23 (RE)**

(Rs. Crore)				
Sl. No.	Particulars	Considered for NBPDC in review	Considered for SBPDCL in review	Total
1	Closing equity to end of 31.03.2016	440.86	638.06	1078.92
2	Rate of return on equity %	14.00%	14.00%	
3	Return on Equity (1x2)	61.72	89.33	151.05
	<b>Equity with effect from 1<sup>st</sup> April 2016</b>			
4	Opening equity	1989.90	1249.40	3239.30
5	Equity addition during the year	208.58	570.65	779.23
6	Closing equity (4+5)	2198.48	1820.05	4018.53
7	Average equity (4+6)/2	2094.19	1534.72	3628.92
8	Rate of return on equity with effect from 1.4.2016	15.50%	15.50%	15.50%
9	Return on equity (7*8)	324.60	237.88	562.48
10	<b>Total Return on equity (3+9)</b>	<b>386.32</b>	<b>327.21</b>	<b>713.54</b>

The Commission, accordingly, considers Return on Equity in review for FY 2022-23.

## 5.17. Operation and Maintenance (O&M) Expenses

### 5.17.1 Employee Cost

#### Petitioners' submission:

Discoms have submitted that the Commission, in terms of Regulation 22, had determined the norms for computation of employee expenses and accordingly based on the determined norms employee cost is estimated with CPI inflation indexation of 5.41% for FY 2022-23 (RE) as detailed in the table below:

**Table 5.44: Employee Cost projected for FY 2022-23 (RE)**

(Rs. Crore)					
Sl. No.	Particulars	NBPDC		SBPDCL	
		Base value	Projected Employee expenses	Base value	Projected Employee expenses
1	Average annual CPI index		5.41%		5.41%
2	Norms-No. of personnel per 1000 consumers	0.0629	0.0629	0.1504	0.1504
3	Norms-No. of personnel per Substation	6.765	6.765	9.4117	9.4117
4	No. of consumers		11765		6906
5	No. of substations		621		614
6	Annual expenses per personnel (Rs. Crore)	0.0306	0.0900	0.0914	0.0963
7	Employee cost per 1000		66.62		100.08

Sl. No.	Particulars	NBPDC		SBPDCL	
		Base value	Projected Employee expenses	Base value	Projected Employee expenses
	consumers (Rs. crore)				
8	Employee cost per substation (Rs. crore)		378.19		556.76
9	Total Employee cost (Rs. crore)		<b>444.80</b>		<b>656.84</b>

**Commission's analysis:**

The Commission, in terms of regulation 22 of BERC (Multi Year Distribution Tariff) Regulations 2021, had determined Employee norm for the MYT control period of FY 2022-23 to FY 2024-25 in the Tariff Order dated 25.03.2022. The base value of determined employee expense norm is as given below:

Particulars	Base Value for NBPDC	Base Value for SBPDCL
No. of personnel per 1000 consumers	0.0629	0.1504
No. of personnel per Sub-Station	6.765	9.4117
Annual expenses per personnel (Rs. Crore)	0.0854	0.0914

Regulation 22.1 of BERC (Multi Year Distribution Tariff) Regulations 2021 specifies, employee cost shall be computed as per the approved norm escalated by CPI. CPI inflation is defined as the average increase in the CPI for immediately preceding three years. Accordingly, the Commission has worked out average CPI inflation based on the available CPI index points as given below:

**Table 5.45: CPI Inflation considered for FY 2022-23**

Particulars	2018-19	2019-20	2020-21	2021-22
Annual Average CPI Index	299.92	322.50	338.69	356.06
CPI Inflation		7.53%	5.02%	5.13%
<b>Weighted average CPI inflation</b>				<b>5.89%</b>

The Discoms have furnished the details of projected total number of consumers and total no. of substations for FY 2022-23 as given below:

Particulars	NBPDC	SBPDCL
No. of substations	621	614
No. of consumers	11764836	6906353

Regulation 22 (g) specifies that the norms determined at constant prices of base year shall be escalated on account of inflation. Accordingly, the Commission has considered



the weighted average increase in the Consumer Price Index (CPI) at 5.89% (Table 5.45), for immediately preceding three years in terms of regulation 22.1 and escalated the base annual expenses per personnel to arrive the normative annual expenses for personnel for FY 2022-23.

The Commission considering the base value of employee expense norm has computed the employee expenses with CPI inflationary indexation of 5.89% for FY 2022-23 as detailed in the table below:

**Table 5.46: Employee expenses based on norm considered for FY 2022-23 for Discoms (Rs. Crore)**

Sl. No.	Particulars	NBPDCCL		SBPDCL		Total
		Base Value	2022-23	Base Value	2022-23	
1	Average annual CPI index		5.89%		5.89%	
2	Norms-Number of personnel per 1000 consumers	0.0629	0.0629	0.1504	0.1504	
3	Norms-Number of personal per substation	6.765	6.765	9.4117	9.4117	
4	No. of consumers (1000)		11,765		6,906	
5	No of substations		621		614	
6	Annual expenses per personnel (Rs. Crore)	0.0854	0.09043	0.0914	0.09678	
7	Employee cost on the norm of 1000 consumers (2*5*6) (Rs. Crore)		66.92		100.53	
8	Employee cost on the norms of substation (4*5*6) (Rs. crore)		379.90		559.29	
9	<b>Total Employee cost (7+8) (Rs. Crore)</b>		<b>446.82</b>		<b>659.82</b>	<b>1106.64</b>

The Commission, accordingly, considers the employee expenses for FY 2022-23 in review as given in the table above.

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

##### Petitioners' submission:

Discoms have submitted that the Commission, in terms of Regulation 22, had determined the norms for computation of A&G expenses and accordingly based on the determined norms A&G expenses are estimated with 5.32% WPI inflation indexation as detailed in the table below:

**Table 5.47: A & G Expenses projected for FY 2022-23 (RE)****(Rs. Crore)**

Sl. No.	Particulars	NBPDC		SBPDCL		Total
		Base Value	2022-23	Base Value	2022-23	
1	Average annual WPI index		5.32%		5.32%	
2	Norms-A&G expenses per 1000 consumers	0.42	0.42	1.000	1.000	
3	A&G expenses per personnel	0.36	0.36	0.85	0.85	
4	No. of consumers (1000)		11765		6906	
5	No of employees		10275		11789	
6	Annual expenses per 1000 consumers (Rs. Crore)	0.0077	0.00811	0.0099	0.01043	
7	Annual expenses per employee (Rs. Crore)	0.0225	0.0237	0.0121	0.01274	
8	A&G cost per 1000 consumers		95.41		72.01	
9	A&G cost per employees		243.49		150.24	
10	<b>Total A&amp;G expenses (8+9)</b>		<b>338.10</b>		<b>222.25</b>	<b>560.35</b>

In addition to the normative A&G expenses, the Discoms have projected rent charges for smart prepaid meter under phase-II. The total A&G expenses projected for FY 2022-23 are as given below:

**Table 5.48: Total A & G Expenses projected for FY 2022-23 (RE)****(Rs. Crore)**

Sl. No.	Particulars	Total A&G expenses projected by NBPDC	Total A&G expenses projected by SBPDCL	Total
1	Normative A&G expenses	338.10	222.25	560.35
2	Rent charges for Smart prepaid meter (Ph-II)	3.35	1.22	4.57
3	<b>Total A&amp;G expenses</b>	<b>342.25</b>	<b>223.47</b>	<b>564.92</b>

**Commission's analysis:**

The Commission, in terms of regulation 22 of BERC (Multi Year Distribution Tariff) Regulations 2021, had determined A&G expense norm for the MYT control period of FY 2022-23 to FY 2024-25 in the Tariff Order dated 25.03.2022. The base value of determined A&G expense norm is as given below:

Particulars	Base Value for NBPDC	Base Value for SBPDCL
Norm-A&G expense per 1000 consumers	0.420	1.000
Norm-A&G expense per personal/employee	0.360	0.850
Annual A&G expenses per 1000 consumers (Rs. Crore)	0.0077	0.0099
Annual A&G expenses per employee (Rs. Crore)	0.0225	0.0121

Regulation 22.3 of BERC (Multi Year Distribution Tariff) Regulations 2021 specifies,

A&G expenses shall be computed as per the approved norm escalated by WPI. WPI inflation is defined as the average increase in the WPI for immediately preceding three years. Accordingly, the Commission has worked out average WPI inflation based on the available WPI index points as given hereunder.

**Table 5.49: Weighted average WPI index inflation**

Particulars	2018-19	2019-20	2020-21	2021-22
Average annual WPI index	119.79	121.80	123.38	139.41
Year on year increase		1.68%	1.29%	13.00%
Average increase	5.32%			

Discoms have furnished the no. of employees in Format 10 and no. of consumers in Format 7 of the petition for the year FY 2022-23 as given below.

Particulars	NBPDCCL	SBPDCL
No. of employees	12642	11517
No. of consumers	11314158	6477554

The Commission considering the base year A&G expense norm and no. of consumers has computed the A&G expenses with WPI inflationary indexation of 5.32% for FY 2022-23 as detailed in the table below:

**Table 5.50: A&G expenses based on norm considered for FY 2022-23 for Discoms**

(Rs. Crore)						
Sl. No.	Particulars	NBPDCCL		SBPDCL		Total
		Base Value	2022-23	Base Value	2022-23	
1	Average annual WPI index		5.32%		5.32%	
2	Norms-A&G expenses per 1000 consumers	0.42	0.42	1.000	1.000	
3	No. of consumers (1000)		11,765		6,906	
4	No of employees		4205		5864	
5	Annual expenses per 1000 consumers (Rs. Crore)	0.0077	0.00811	0.0099	0.01043	
6	Annual expenses per employee (Rs. Crore)	0.0225	0.02370	0.0121	0.01274	
7	A&G cost for 1000 consumers (3*5)		95.41		72.01	
8	A&G cost for employees (4*6)		99.65		74.73	
9	<b>Total A&amp;G expenses (G+H) (Rs. Crore)</b>		<b>195.05</b>		<b>146.74</b>	<b>341.79</b>

*The Commission has not considered the rental charges for smart prepaid meters since the capex and opex of the said scheme has not yet been approved. However, the said*

*expenses shall be considered in truing up based on actual expenses reported through audited accounts due prudence check and validation.*

**The Commission, accordingly, considers the A&G expenses for FY 2022-23 in review as given in the table above.**

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

#### **Petitioners' submission:**

Discoms have submitted that Regulation 22.2 of BERC (Multi Year Distribution Tariff) Regulations 2021, specify R&M expenses as percentage (as per the norm determined) of Gross Fixed Assets excluding land cost for the year. The Commission has determined the R&M norm i.e. 'K' factor at 1.24% for NBPDCCL and 1.71% for SBPDCL for the MYT control period of FY 2022-23 to FY 2024-25 in the Tariff Order dated 25.03.2022. Discoms have projected the R&M expenses for FY 2022-23 as shown in the table below:

**Table 5.51: R & M expenses projected for FY 2022-23 (RE)**

Sl. No.	Particulars	(Rs. Crore)		
		Projected by NBPDCCL in review	Projected by SBPDCL in review	Total
1	Opening GFA	21533.79	16300.88	37834.70
2	Opening land cost	1041.06	1546.29	2587.35
3	Opening GFA excl. land cost	20492.73	14754.60	35247.33
4	K factor	1.24%	1.71%	
5	<b>R &amp; M expenses</b>	<b>254.11</b>	<b>252.30</b>	<b>506.41</b>

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

The Commission has examined the R&M expenses projected the by the Petitioner for FY 2022-23.

Regulation 22.2 of BERC (Multi Year Distribution Tariff) Regulations 2021, specify R&M expenses as a percentage (as per the norm determined) of Gross Fixed Assets excluding land cost for the year.

The Commission had determined the R&M norm i.e. 'K' factor at 1.24% for NBPDCCL and 1.71% for SBPDCL for the MYT control period of FY 2022-23 to FY 2024-25 in the Tariff Order dated 25.03.2022.

The Commission has considered the opening GFA net of land value for FY 2022-23

inError! Reference source not found.34 above and accordingly considers R&M expenses adopting 'K' factor for FY 2022-23 (RE) as detailed in the table below:

**Table 5.52: R&M expenses considered for FY 2022-23 (RE)**

				(Rs. Crore)
Sl. No.	Particulars	Considered for NBPDCCL in review	Considered for SBPDCL in review	Total
1	Opening GFA	19961.24	13874.61	33835.85
2	K factor	1.24%	1.71%	
3	<b>R &amp; M expenses</b>	<b>247.52</b>	<b>237.26</b>	<b>484.78</b>

The Commission, accordingly, considers R&M expenses in review for FY 2022-23.

#### 5.17.4 Allocation of Holding Company Expenses

##### Petitioners' submission

Discoms have submitted that as per Schedule 'F', the Holding Company 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.

Discoms have estimated the Holding Company expenses for FY 2022-23 duly escalating at 10% over the actual holding company expenses claimed in true up for FY 2021-22 as given in table below:

**Table 5.53: Holding Company Expenses projected for FY 2022-23 (RE)**

			(Rs. Crore)
Particulars	Projected by NBPDCCL in review	Projected by SBPDCL in review	Total
Base Holding company expenses	22.55	23.71	46.26
Escalation %	10.00%	10.00%	
Increase	2.26	2.37	4.63
<b>Total Holding company expenses</b>	<b>24.81</b>	<b>26.08</b>	<b>50.89</b>

##### Commission's analysis:

The Commission has considered the holding company expenses approved in truing up for FY 2021-22 as base holding company expenses and further escalated with CPI inflationary increase of 5.89% (as adopted for Employee expenses since the holding company expenses majorly represent employee/Manpower expenses), and considered holding company expenses for FY 2022-23.

The Commission, in terms of Bihar State Electricity Reforms Transfer Scheme, 2012,

has considered the holding company expenses for FY 2022-23 in review, as detailed in the table below:

**Table 5.54: Holding Company expenses considered for FY 2022-23 (RE)**

(Rs. Crore)			
Particulars	Considered for NBPDCCL in review	Considered for SBPDCL in review	Total
Base Holding company expenses	22.55	23.71	46.26
Escalation %	5.89%	5.89%	
Increase	1.33	1.40	2.73
Total Holding company expenses	23.88	25.11	48.99

#### 5.17.5 Summary of Operation and Maintenance (O&M) Expenses

The summary of the revised O & M expenses considered in review for FY 2022-23 (RE) are tabulated in table below:

**Table 5.55: Total O&M cost considered for FY 2022-23 (RE)**

(Rs. Crore)				
Sl. No.	Particulars	Considered for NBPDCCL in review	Considered for SBPDCL in review	Total
1	Employee cost	446.82	659.82	1106.64
2	R&M expenses	247.52	237.26	484.78
3	A&G Expenses	195.05	146.74	341.79
4	Holding company Expenses	23.88	25.11	48.99
5	<b>Total O &amp; M cost</b>	<b>913.27</b>	<b>1068.92</b>	<b>1982.20</b>

The Commission considers total O&M expenses in review for FY 2022-23 (RE).

#### 5.18 Interest on Security Deposit

##### Petitioners' submission:

Discoms have submitted that interest on Security Deposit has been considered as per prevailing RBI Bank Rate of 5.05%. The opening balance is considered as per the audited accounts for FY 2021-22 and the additions to SD for FY 2022-23 is considered equivalent to the amount of actual addition during FY 2021-22. The Discoms have projected interest on security deposit for FY 2022-23 as detailed in the table below:

**Table 5.56: Interest on security deposit projected for FY 2022-23 (RE)**

(Rs. Crore)				
Sl. No.	Particulars	Projected by NBPDCCL	Projected by SBPDCL	Total
1	Opening Security Deposit	436.45	730.78	1167.23

Sl. No.	Particulars	Projected by NBPDC	Projected by SBPDCL	Total
2	Net Addition	16.54	52.51	69.05
3	Closing Security Deposit	452.99	783.29	1236.28
4	Average Security Deposit	444.72	757.04	1201.76
5	RBI Bank Rate	5.05%	5.05%	
6	Interest on Security Deposit	<b>22.46</b>	<b>38.23</b>	<b>60.69</b>

#### Commission's analysis:

The BERC (Multi Year Distribution Tariff) Regulations 2021, Regulation 26 (iii) specifies that “..... interest shall be allowed on consumer security deposits and security deposits from Distribution system users held during the year at the Bank Rate as of the date on which the petition for determination is filed. The interest allowed shall be subject to true up at weighted average Bank Rate of the concern Financial Year”.

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 Commission has considered opening Security Deposit (SD) from consumers based on the closing SD approved in the true up for FY 2021-22 and net addition to SD is considered as projected by the Discoms for FY 2022-23. The Commission provisionally considers the RBI rate at 5.05% as projected by the Discoms.

The Commission considers the interest on consumer's security deposit in review for FY 2022-23 as given in the table below:

**Table 5.57: Interest on security deposit considered for FY 2022-23 (RE)**

(Rs. Crore)

Sl. No.	Particulars	Considered for NBPDC in review	Considered for SBPDCL in review	Total
1	Opening Security Deposit	436.45	730.78	1167.23
2	Addition during the year	16.54	52.51	69.05
3	Closing Security Deposit (1+2)	452.99	783.29	1236.28
4	Average Security Deposit (1+3)/2	444.72	757.04	1201.76
5	RBI Bank Rate	5.05%	5.05%	
6	Interest on Security Deposit (4*5)	<b>22.46</b>	<b>38.23</b>	<b>60.69</b>

**The Commission considers interest on Consumer's Security Deposit for FY 2022-23 in**

review.

### 5.19 Non-Tariff Income

#### Petitioners' submission:

Discoms have submitted that Non-Tariff income includes bank charges, interest on investments and bank balances, miscellaneous recoveries etc. and projected the non-tariff income for FY 2022-23 with an overall escalation of around 48.41% on the non-tariff income of FY 2021-22 (except for rebate on power purchase which has been calculated as 1% of the total cost of power purchase and a one-time revenue of Special COVID rebate, meter rent and excess provision written back). The Discoms have estimated the Non-tariff income at such higher rate due to the reasons that the DISCOMs while implementing Smart prepaid meters in the state in the coming years are expecting arrear and DPS recovery at a higher rate as compared to previous years which is further expected to increase the NTI at a higher rate in the coming years.

Discoms have projected the non-tariff income in FY 2022-23 as detailed in the Table below:

**Table 5.58: Non-tariff Income projected by NBPDCCL for FY 2022-23 (RE)**

(Rs. Crore)	
Particulars	Projected for FY 2022-23 (RE)
<b>Base Non-tariff Income</b>	<b>741.78</b>
Rate of Increase	48.41%
Increase in Non-tariff Income	359.09
<b>Sub-total</b>	<b>1100.88</b>
<b>Interest on funding of DPS</b>	<b>232.86</b>
<b>Total non-tariff income</b>	<b>868.02</b>

**Table 5.59: Non-tariff Income projected by SBPDCL for FY 2022-23 (RE)**

(Rs. Crore)	
Particulars	Projected for FY 2022-23 (RE)
Interest on Advances to Suppliers/Contractors	0.06
Interest on Saving & Fixed Deposit from Bank	39.38
Interest/income credit given by Holding company	38.41
Delayed Payment Surcharge from Consumers	399.80
Consumer Contribution Income	0.95
Rebate in Capacitive Charge & SECD Benefit	11.47
Income from Interest on TDS Refund	1.24
Miscellaneous Receipts	0.43
Sale of Scrap	2.30



Particulars	Projected for FY 2022-23 (RE)
Rebate and Discount Received	0.01
Incentive for timely payment of power purchase bills	127.08
Rental income from Board property	0.65
Supervision Income	19.09
Miscellaneous recoveries	87.89
<b>Total Non-tariff income</b>	<b>729.48</b>
Delayed Payment Surcharge from Consumers	399.80
Principal amount on which DPS Charged	2221.13
Interest Rate of funding DPS	8.80%
<b>Less: Interest on funding Principal</b>	<b>195.46</b>
<b>Net Non-Tariff Income</b>	<b>534.02</b>

### Commission analysis:

The Commission in true up for FY 2021-22 has considered non-tariff income (excluding rebate on payment of power purchase bills and financing cost of DPS) of Rs.609.80 Crore for NBPDCCL and Rs.338.72 Crore for SBPDCL.

The Petitioners are estimating additional non-tariff income due to implementation of Smart prepaid meters and are expecting arrear and DPS recovery at a higher rate as compared to previous years.

The Commission provisionally considers the non-tariff income (except the rebate on power purchase cost) as projected by the Discoms for FY 2022-23 subject to truing up. It is observed from the Format 27B of the petitions, NBPDCCL has projected Rs.107.35 crore and SBPDCL Rs.127.80 crore towards Rebate and Discount received for timely payment of power purchase bills for FY 2022-23.

The Commission, considers rebate @1% of the power purchase cost including PGCIL and transmission charges for FY 2022-23. The Commission, accordingly, has considered non-tariff income for FY 2022-23 in review as detailed in the table below.

**Table 5.60: Non-tariff income considered for FY 2022-23 (RE)**

(Rs. Crore)				
Sl. No.	Particulars	Considered for NBPDCCL in review	Considered for SBPDCL in review	Total
1	Non-tariff income projected by the petitioner	868.02	534.02	1402.04
2	<b>Less: Rebate on power purchase considered by the Petitioners</b>	107.35	127.08	234.43

Sl. No.	Particulars	Considered for NBPDCCL in review	Considered for SBPDCL in review	Total
	<b>Sub-total</b>	<b>760.67</b>	<b>406.94</b>	<b>1167.61</b>
2	<b>Add: Rebate @1% on power purchase</b>	100.67	118.19	218.86
3	<b>Total Non-tariff income</b>	<b>861.34</b>	<b>525.13</b>	<b>1386.47</b>

The Commission, accordingly, considered non-tariff income for FY 2022-23 (RE) as detailed in the Table above.

## 5.20 Interest on working capital

### Petitioners' submission:

Discoms have submitted that, in terms of Regulation 26 of BERC (Multi Year Distribution Tariff) Regulations 2021, the working capital requirement and interest on working capital is computed for FY 2022-23. The rate of interest applied on the proposed working capital is @9.45% as per the SBI 1 year MCLR plus 150 basis points in terms of regulation 26. Discoms have submitted that they have not considered grant against disallowed power purchase for low distribution loss, since the support is infused by State Govt. in terms of equity and not in terms of grant.

Discoms have projected interest on working for FY 2022-23 computed based on the norms as detailed in the table below:

**Table 5.61: Interest on working capital projected for FY 2022-23 (RE)**

(Rs. Crore)			
Sl. No.	Particulars	Projected by NBPDCCL in review	Projected by SBPDCL in review
1	Two months equivalent of expected revenue	2066.36	2429.14
2	Maintenance spares @40% of R&M expenses for one month	8.47	8.41
3	<b>Sub-total (1+2)</b>	<b>2074.83</b>	<b>2437.55</b>
4	<b>Less:</b>		
	(i) Power purchase cost, transmission charges and load dispatch charges of one month	907.22	1065.00
	(ii) Depreciation, return on equity and contribution to contingency reserve	146.28	128.43
	(iii) Security Deposits from consumers	438.61	726.03
	(iv) Grant received from the State Govt. for power purchase and other O&M expenses	--	--
5	Sub-total (4(i)+4(ii)+4(iii)+4(iv))	1492.11	1919.46
6	<b>Net working capital requirement (3-5)</b>	<b>582.72</b>	<b>518.09</b>
7	Rate of interest %	9.45%	9.45%
8	<b>Interest on working capital (6*7)</b>	<b>55.07</b>	<b>48.96</b>

**Commission's analysis**

The Commission has computed the interest on working capital as per the norms prescribed in regulation 26 of the BERC (Multi Year Distribution Tariff) Regulations, 2021. The SBI MCLR as on 15.11.2022 (date of filing the petition) is at 8.05%. The Commission has considered rate of interest at 9.55% (8.05% plus 1.50% (i.e.150 basis as per regulation 26) and accordingly, the same is applied on the working capital for computing interest on working capital in review for FY 2022-23.

Regulation 26 (iii) specifies that ***“Provided also that if the State Government is providing resource gap grant and/or direct subsidy to consumers, the working capital shall be reduced by two months equivalent of that amount”.***

The Government of Bihar vide **Memo Pragyapan 02/Board Misc.-21/2010 (Part-III)-1410 / Patna, dated 19.04.2022** has extended subsidy of Rs.1093.92 crore (@Rs.91.16 crore/pm) for purchase of power for FY 2022-23 by the Discoms (NBPDCCL and SBPDCL). Further, the GoB, vide said memo, also has extended Rs.7800.96 crore (@Rs.650.08 crore/pm) towards tariff subsidy to be credited directly to the consumers for FY 2022-23.

Discoms have estimated the consumer sales (MU) at 15812.20 MU for SBPDCL and 13646.53 MU for NBPDCCL, totaling to 29458.73 MU for FY 2022-23. The sales ratio works out to 53.68% and 46.32% to total sales for SBPDCL and NBPDCCL respectively and accordingly, the tariff subsidy is allocated and considered for working capital requirement.

Subsidy towards power purchase cost of Rs.1093.92 crore is allocated to the Discoms provisionally in their power sharing ratio (NBPDCCL 46% and SBPDCL 54%).

The Commission, as specified in regulation 26 has considered two months equivalent of subsidy and reduced from the working capital requirement.

The Commission based on the expenses/costs approved in review for FY 2022-23, has computed the working capital requirement and interest on working capital for FY 2022-23 in review as detailed in the table below:

Table 5.62: Interest on working capital considered for FY 2022-23 (RE)

(Rs. Crore)

Sl. No.	Particulars	Considered for NBPDCCL in review	Considered for SBPDCL in review
1	Maintenance spares @40% of R&M expenses for one month	8.25	7.91
2	Two months equivalent of expected revenue	1860.51	2180.59
3	<b>Sub-total (1+2)</b>	<b>1868.76</b>	<b>2188.50</b>
4	<b>Less:</b>		
	(i) Power purchase cost, transmission charges and load dispatch charges of one month	814.30	949.21
	(ii) Depreciation, return on equity and contribution to contingency reserve	120.57	107.67
	(iii) Security Deposits from consumers	452.99	783.29
	(iv) Grant received from the State Govt. for power purchase and other O&M expenses	602.23	697.93
5	Sub-total (4(i)+4(ii)+4(iii)+4(iv))	<b>1990.10</b>	<b>2538.10</b>
6	<b>Net working capital requirement (3-5)</b>	<b>-121.35</b>	<b>-349.59</b>
7	Rate of interest %	9.55%	9.55%
8	<b>Interest on working capital (6*7)</b>	--	--

The Commission, accordingly, considers NIL interest on working capital for FY 2022-23 in review.

## 5.21 Revenue from sale of power at existing tariff

### Petitioners' submission

Discoms have submitted the category wise revenue from sale of power based on the existing tariff for FY 2022-23 as detailed in the table below:

Table 5.63: Revenue from sales of Power at existing Tariff projected by Discoms for FY 2022-23 (RE)

Category of consumers	NBPDCCL		SBPDCL		Total	
	Sales (MU)	Total Revenue (Rs. Cr)	Sales (MU)	Total Revenue (Rs. Cr)	Sales (MU)	Total Revenue (Rs. Cr)
<b>Domestic</b>	<b>9,071.00</b>	<b>6,029.80</b>	<b>9,236.62</b>	<b>6,251.10</b>	<b>18,307.62</b>	<b>12,280.90</b>
Kutir Jyoti	2,244.52	1,420.77	926.72	584.14	3,171.24	2,004.91
DS I Rural	4,589.17	3,013.22	5,150.32	3,374.02	9,739.49	6,387.24
DS II Demand Based	2,236.96	1,595.53	3,159.24	2,292.67	5,396.20	3,888.20
DS III	0.35	0.28	0.34	0.27	0.69	0.55
<b>Non-Domestic Service</b>	<b>1,733.39</b>	<b>1,470.32</b>	<b>1,712.43</b>	<b>1,485.98</b>	<b>3,445.82</b>	<b>2,956.30</b>
NDS I - Metered Now Demand Based	463.08	334.75	520.76	374.79	983.84	709.54
NDS II - Demand Based	1,270.31	1135.57	1191.67	1111.19	2,461.98	2,246.76
<b>Street Light Services</b>	<b>69.50</b>	<b>96.50</b>	<b>150.11</b>	<b>136.70</b>	<b>219.61</b>	<b>233.20</b>
SS Metered	10.47	8.04	53.38	40.81	63.85	48.85
SS Unmetered	59.03	88.46	96.73	95.89	155.76	184.35
<b>Irrigation &amp; Allied Services</b>	<b>437.98</b>	<b>312.75</b>	<b>1,385.27</b>	<b>983.17</b>	<b>1,823.25</b>	<b>1,295.92</b>
IAS I	341.21	225.06	1255.47	880.93	1,596.68	1,105.99
IAS II	96.77	87.69	129.80	102.24	226.57	189.93

Category of consumers	NBPDCCL		SBPDCL		Total	
	Sales (MU)	Total Revenue (Rs. Cr)	Sales (MU)	Total Revenue (Rs. Cr)	Sales (MU)	Total Revenue (Rs. Cr)
<b>Public Service Connections</b>	<b>348.28</b>	<b>259.83</b>	<b>433.07</b>	<b>335.25</b>	<b>781.35</b>	<b>595.08</b>
Public Water Works	48.42	51.03	138.7	130.77	187.12	181.80
Har Ghar Nal	299.86	208.80	294.37	204.48	594.23	413.28
<b>Low Tension Industrial Services</b>	<b>542.63</b>	<b>530.92</b>	<b>436.42</b>	<b>493.43</b>	<b>979.05</b>	<b>1,024.35</b>
LTIS I (0-19 kW)	430.69	428.77	255.43	298.09	686.12	726.86
LTIS II (>19 kW - 74 kW)	111.94	102.15	180.99	195.34	292.93	297.49
<b>LT Electric Vehicle Charging Station</b>			<b>0.07</b>	<b>0.05</b>	0.07	0.05
<b>High Tension</b>	<b>924.19</b>	<b>841.02</b>	<b>2,352.69</b>	<b>1,965.08</b>	<b>3,276.88</b>	<b>2,806.10</b>
HTS I - 11 kV	597.91	550.15	751.77	729.26	1,349.68	1,279.41
HTS II - 33 kV	236.2	208.68	599.98	559.38	836.18	768.06
HTS III -132 kV	55.89	57.40	257.49	211.54	313.38	268.94
HTS IV - 220 kV					0.00	0.00
HTSS	34.19	24.79	743.45	464.9	777.64	489.69
<b>HT Electric Vehicle Charging Stations.</b>	<b>0.21</b>	<b>0.15</b>	<b>0.21</b>	<b>0.15</b>	0.42	0.30
<b>HTIS (Oxygen manufacturers)</b>			<b>4.93</b>	<b>7.73</b>	4.93	7.73
<b>Railway Traction Services</b>	<b>78.05</b>	<b>72.96</b>	<b>100.31</b>	<b>93.43</b>	178.36	166.39
<b>Nepal</b>	<b>441.3</b>	<b>321.71</b>			441.30	321.71
<b>Sale to Other State (Banking)</b>					0.00	0.00
<b>Total</b>	<b>13,646.53</b>	<b>9,935.95</b>	<b>15,812.13</b>	<b>11,752.07</b>	<b>29,458.66</b>	<b>21,688.03</b>

### Commission's analysis

The Commission has computed category wise revenue on existing tariffs for FY 2022-23 based on the projections of number of consumers, connected load and energy sales as approved by the Commission in this review order for FY 2022-23. The expected revenue from sale of power for NBPDCCL and SBPDCL for FY 2022-23 considered by the Commission is shown in the Table below:

**Table 5.64: Revenue from Sale of Power for FY 2022-23 (RE) as Considered by Commission (Rs. Crore)**

Particulars	NBPDCCL	SBPCL	Total
Sales (MU)	13646.53	15812.14	29458.73
Revenue (Rs. Cr)	9940.21	11756.40	21696.61

## 5.22 Annual Revenue Requirement and Revenue Gap at existing tariff projected for FY 2022-23 (RE)

### Petitioners' submission:

Discoms have submitted that the gross ARR consists of the power purchase costs, interest and finance cost, O&M cost, depreciation and interest on working capital. The Discoms have computed the revenue requirement for FY 2022-23 against approved revenue requirement by the Commission for FY 2022-23 in Tariff Order dated

25.03.2022, as detailed in the table below:

**Table 5.65: ARR and Revenue Gap/(Surplus) projected for FY 2022-23 (RE)**

(Rs. Crore)

Sl. No	Particulars	NBPDC		SBPDCL	
		Approved in Tariff order dated 25.03.2022	Projected by NBPDC in review	Approved in Tariff order dated 25.03.2022	Projected by SBPDCL in review
1	Purchase of power	7248.99	9337.59	8509.58	10961.52
2	PGCIL & Other transmission charges	755.95	831.54	887.42	976.16
3	BSPTCL transmission charges	566.43	623.07	664.93	731.43
4	BGCL transmission charges	80.34	88.38	94.32	103.75
5	SLDC charges	5.53	6.08	6.49	7.14
6	Sale of surplus power		-385.65		-303.76
7	<b>O &amp; M Expenses (A+B+C+D)</b>	<b>898.98</b>	<b>1065.97</b>	<b>1031.36</b>	<b>1158.69</b>
A	Employee expenses	436.91	444.80	624.28	656.84
B	R&M expenses	259.90	254.11	249.64	252.30
C	A&G expenses	185.18	342.25	139.58	223.47
D	Holding company expenses	16.99	24.81	17.87	26.08
8	Depreciation	369.30	392.52	331.43	363.70
9	Interest on loan	560.61	658.49	425.74	499.61
10	Other finance charges	45.65	86.99	66.07	116.54
11	Return on equity	412.39	485.19	338.21	406.87
12	Interest on SD	19.04	22.46	31.87	38.23
13	Contingency Reserve				
14	Interest on working capital	33.99	55.07	14.17	48.96
15	<b>Less: Non-tariff income</b>	<b>-795.60</b>	<b>-869.54</b>	<b>-1057.22</b>	<b>-534.02</b>
16	<b>Net Revenue requirement (1 to 15)</b>	<b>10201.60</b>	<b>12398.16</b>	<b>11344.37</b>	<b>14574.82</b>
17	Revenue from Existing tariff	9939.62	9935.95	11833.38	11752.07
18	Add: Trued up Gap / (Surplus)	399.33	400.89	-165.61	-166.26
19	<b>Revenue Gap / (Surplus) for FY 2022-23 (16-17+18)</b>	<b>661.31</b>	<b>2863.09</b>	<b>-654.62</b>	<b>2656.49</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 in review for FY 2022-23**

(Rs. Crore)

Sl. No.	Particulars	Considered for NBPDC for FY 2022-23 in review	Considered for SBPDCL for FY 2022-23 in review	Total
1	Purchase of power	8583.40	10076.94	18660.34
2	PGCIL Transmission & POSOCO charges	831.54	976.16	1807.70
3	BSPTCL transmission charges	566.43	664.93	1231.36
4	BGCL transmission charges	80.34	94.32	174.66
5	SLDC charges	5.53	6.49	12.02
6	Treatment of surplus power	(295.59)	(428.34)	(723.93)
7	<b>O &amp; M Expenses (A+B+C+D)</b>	<b>913.27</b>	<b>1068.92</b>	<b>1982.19</b>
A	Employee expenses	446.82	659.82	1106.64
B	R&M expenses	247.52	237.26	484.78

Sl. No.	Particulars	Considered for NBPDC for FY 2022-23 in review	Considered for SBPDCL for FY 2022-23 in review	Total
C	A&G expenses	195.05	146.74	341.79
D	Holding company expenses	23.88	25.11	48.98
8	Depreciation	337.12	318.82	655.94
9	Interest on loan	541.59	400.66	942.24
10	Other finance charges	51.96	64.35	116.31
11	Return on equity	386.32	327.21	713.53
12	Interest on SD	22.46	38.23	60.69
13	Contingency Reserve	0.00	0.00	0.00
14	Interest on working capital	0.00	0.00	0.00
15	Non-tariff income	(861.34)	(525.13)	(1386.47)
16	<b>Annual Revenue requirement (1 to 15)</b>	<b>11163.03</b>	<b>13083.56</b>	<b>24246.59</b>
17	Revenue from Existing tariff	9940.21	11756.40	21696.61
18	<b>Gross Gap / (Surplus) (16-17)</b>	<b>1222.82</b>	<b>1327.16</b>	<b>2549.98</b>
19	Add: Trued up Revenue Gap / (Surplus) of FY 2020-21 with carrying cost as per TO dated 25.03.2022	399.33	(165.61)	233.72
20	<b>Net Revenue Gap / (Surplus) for FY 2022-23 (18+19)</b>	<b>1622.15</b>	<b>1161.55</b>	<b>2783.70</b>

The Commission considers the **net revenue gap of Rs.2783.70 Crore** for Discoms (**Rs.1622.15 Crore for NBPDC and Rs.1161.55 Crore for SBPDCL**) in review for FY 2022-23 subject to final truing up as and when the audited annual accounts for FY 2022-23 are submitted by the Discoms.

According to Regulation 14 (f) of BERC (Multi Year Distribution Tariff) Regulations, 2021 specify that *the revised estimated gap/surplus as a result of APR shall not be passed in the ARR of ensuing year.* The Commission accordingly has not considered the estimated revenue Gap/(Surplus) as a result of Annual Performance Review (APR) as pass through in the ARR of ensuing year i.e. FY 2023-24.

## 6. Aggregate Revenue Requirement for FY 2023-24

### 6.1. Background

The Commission had determined the Aggregate Revenue Requirement (ARR) for the control period FY 2022-23 to FY 2024-25 for the Discoms viz., SBPDCL & NBPDCCL in the MYT Order dated 25<sup>th</sup> March, 2022. Discoms have now submitted the Petitions for approval of Aggregate Revenue Requirement FY 2023-24 and determination of Retail Supply Tariff for FY 2023-24.

The Commission has undertaken determination of ARR for FY 2023-24 on the basis of audited annual accounts for FY 2021-22, revised estimates for FY 2022-23 and projections submitted by the Petitioners for FY 2023-24 as per the provisions of BERC (Multi-Year Distribution Tariff) Regulations, 2021 and other guidelines issued in this context. The component-wise scrutiny of Petitioners' submissions and the Commission's approvals are detailed in the subsequent paragraphs of this section.

### 6.2. Number of Consumers, Connected Load and Sales for FY 2023-24

#### Petitioners' submission

The general approach followed for projection of all categories include: -

- i). The consumer numbers for FY 2023-24 are projected considering the provisional figures as available for September 2022 and thereafter an appropriate growth rate across the categories have been considered by the end of FY 2022-23 over the previous year. Thereafter, the overall growth rate has been assumed to be around 2.35% for FY 2023-24.
- ii). Successful implementation of the Saubhagya scheme ensured that all the willing households are connected. Due to the rise in consumerism among consumers in the country, there will be a rise in the consumption of electricity in the coming years. Gradually the customers currently segregated under the Kutir Jyoti category move on to higher categories.
- iii). 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.



- iv). The energy sales have been projected by considering the average consumption per consumer per month and then multiplying the same to the projected number of consumers.
- v). 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.
- vi). In addition to the CAGR, it has also been ensured that other factors impacting demand, such as growth in the no. 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.

NBPDCCL submitted that the following paragraphs capture highlights of the approach and assumptions used for projecting the specific category wise number of consumers, connected load and energy sales for the ensuing year.

1. The growth rate in KJY consumers was 1.8% in FY 2021-22. The consumer numbers for FY 2022-23 are projected considering the provisional figures as available for September 2022 and thereafter an appropriate growth rate across the categories have been considered. Thereafter, the overall growth rate has been assumed to be around 2% for FY 2023-24.
2. The growth rate in DS-I consumers was 5% in FY 2021-22. The consumer numbers for FY 2022-23 are projected considering the provisional figures as available for September 2022 and thereafter an appropriate growth rate across the categories have been considered. Thereafter, the overall growth rate has been assumed to be around 2% for FY 2023-24.
3. The growth rate in DS-II consumers was 9.57% in FY 2021-22. The consumer numbers for FY 2022-23 are projected considering the provisional figures as available for September 2022 and thereafter an appropriate growth rate across the categories have been considered. Thereafter, the overall growth rate has been assumed to be around 2% for FY 2023-24.
4. Growth rate of 6% is estimated in NDS-I category while projecting number of consumers for FY 2023-24. The sales projections for NDS-I category is done in a

5. way to rationalize the sales pattern for the category considering that the average consumption per consumer in previous years.
6. The half yearly growth rate in the number of consumers in NDS-II category i.e., September 2022 over FY 2021-22, is 4%. However, in order to keep a conservative approach, a nominal growth rate of 3% is assumed for FY 2023-24. The sales projections for NDS-II category is done in a way to rationalize the sales pattern for the category considering that the average consumption per consumer in previous years.
7. As per the third agricultural roadmap, Bihar has started work to set up dedicated feeders to provide electricity for agriculture. Hence a growth rate of 10% is estimated in the number of consumers for FY 2023-24 in IAS-I category.
8. Growth in number of consumers for FY 2023-24 is considered 3% for IAS-II category. A nominal growth rate of 4% is considered for FY 2023-24 to estimated sales under IAS-II category.
9. The consumer growth for LTIS-I category in FY 2023-24 is assumed to be a nominal as 8% due to a fluctuant growth rate shown over the years in the LTIS-I category. The average consumption per consumer has decreased over the years and has dipped by 11% in FY 22. Hence the growth in average consumption per consumer is considered to be 10% in 2023-24.
10. The consumer growth for LTIS-II in FY 2023-24 is assumed to be 4% even though there has been a sharp increase in the first six months of FY 2023 i.e., 49%. It is further assumed that the increase in consumption will directly be reflected through addition of consumers and an increase of 8% is considered to project the sales of FY 2023-24
11. Growth rate of 3% is estimated in number of consumers in FY 2023-24 in PWW category. In Har Ghar Nal Yojana a growth rate of 12% in 2023-24.
12. The growth in Street Light Services was 13% in the first half year of FY 2022-23. Hence the overall growth in FY 2022-23 is considered to be 15%. However, the projections for the ensuing year i.e., 2023-24 is considered at a normal rate of 4%.
13. The petitioner hereby submits that it does not estimate huge growth in number of consumers in HT category for FY 2023-24 considering trends in past and as per the data released by Ministry of Statistics and Programme Implementation.

14. The Petitioner has considered no projection for consumers for RTS category, load and sales or RTS category for FY 2023-24.

SBPDCL has submitted that the following paragraphs capture highlights of the approach and assumptions used for projecting the specific category wise number of consumers, connected load and energy sales for the ensuing year.

1. The growth rate in KJY consumers was 1% in FY 2021-22. The consumer numbers for FY 2022-23 are projected considering the provisional figures as available for September 2022 and thereafter an appropriate growth rate across the categories have been considered. Thereafter, the overall growth rate has been assumed to be around 1% for FY 2023-24.
2. The growth rate in DS-I consumers was 7% in FY 2021-22. The consumer numbers for FY 2022-23 are projected considering the provisional figures as available for September 2022 and thereafter an appropriate growth rate across the categories have been considered. Thereafter, the overall growth rate has been assumed to be around 2% for FY 2023-24
3. The growth rate in DS-II consumers was 8% in FY 2021-22. The consumer numbers for FY 2022-23 are projected considering the provisional figures as available for September 2022 and thereafter an appropriate growth rate across the categories have been considered. Thereafter, the overall growth rate has been assumed to be around 1% for FY 2023-24
4. Growth rate of 10% is estimated in NDS-I category while projecting number of consumers for FY 2023-24. The sales projections for NDS-I category is done in a way to rationalize the sales pattern for the category considering that the average consumption per consumer in previous years.
5. In order to keep a conservative approach, a nominal growth rate of 2% in consumers under NDS-II category is assumed for FY 2023-24. The sales projections for NDS-II category is done in a way to rationalize the sales pattern for the category considering that the average consumption per consumer in previous years.
6. As per the third agricultural roadmap, Bihar has started work to set up dedicated feeders to provide electricity for agriculture. Hence a growth rate of 3% is estimated in the number of consumers for FY 2023-24 in IAS-I category.
7. Growth in number of consumers for FY 2023-24 is considered 2% for IAS-II

category. A growth rate of 8% is considered for FY 2023-24 to estimated sales under IAS-II category.

8. The consumer growth for LTIS-I category in FY 2023-24 is assumed to be a nominal as 5% due to a fluctuant growth rate shown over the years in the LTIS-I category. The average consumption per consumer has decreased over the years and has dipped by 1% in FY 22. Hence the growth in average consumption per consumer is considered to be 2% in 2023-24.
9. The consumer growth for LTIS-II in FY 2023-24 is assumed to be 3% even though there has been a sharp decrease in the first six months of FY 2023 i.e., 14%. It is further assumed that the increase in consumption will directly be reflected through addition of consumers and an increase of 8% is considered to project the sales of FY 2023-24.
10. Growth rate of 5% in number of consumers in FY 2023-24 in PWW category. In Har Ghar Nal Yojana a growth rate of 20% in 2023-24 is estimated.
11. Growth rate in street light services was 4% in the first half of FY 2022-23. However, the projections for the ensuing year i.e., 2023-24 is considered at a normal rate of 3.5%.
12. The petitioner hereby submits that it does not estimate huge growth in number of consumers in HT category for FY 2023-24 considering trends in past and as per the data released by Ministry of Statistics and Programme Implementation.
13. The Petitioner has considered no projection for consumers for RTS category, load and sales or RTS category for FY 2023-24.
14. The petitioner also estimated the number of consumers under the new HTIS (Oxygen manufacturers) category for FY2023-24 and the projections for the ensuing year are as given below.

Consumers	34
Energy Sales	5 MU
Connected Load	7017 KW

NBPDCCL has submitted the category wise number of consumers, connected load and sales for FY 2023-24 as shown in the Table below:

**Table 6.1: No. of Consumers, Connected Load (KW) and Sales (MU) projected by NBPDCCL for FY 2023-24**

Category of Consumers	Number of Consumers	Connected Load (KW)	Sales (MUs)
<b>Domestic</b>	<b>10915513</b>	<b>9384264</b>	<b>9690.92</b>
Kutir Jyoti	4386822	1160421	2358.09
DS I Rural	5129605	5518374	4868.19
DS II Demand Based	1399001	2705041	2464.24
DS III	85	428	0.39
<b>Non-Domestic Service</b>	<b>814544</b>	<b>1830096</b>	<b>1887.62</b>
NDS I - Metered Now Demand Based	432357	610555	539.95
NDS II - Demand Based	382187	1219540	1347.67
<b>Street Light Services</b>	<b>2255</b>	<b>26368</b>	<b>74.45</b>
Street Light 1	553	5310	11.21
Street Light 2	1703	21059	63.23
<b>Irrigation &amp; Allied Services</b>	<b>165398</b>	<b>442438</b>	<b>508.59</b>
IAS I	158638	362037	404.93
IAS II	6761	80401	103.66
<b>Public Service Connections</b>	<b>61192</b>	<b>173131</b>	<b>410.86</b>
Public Water Works	2048	31654	54.86
Har Ghar Nal	59145	141477	356.00
<b>Low Tension Industrial Services</b>	<b>80803</b>	<b>810406</b>	<b>632.73</b>
LTIS I (0-19 kW)	79120	709767	511.66
LTIS II (>19 kW - 74 kW)	1682	100639	121.08
<b>LT Electric Vehicle Charging Station</b>	<b>3</b>	<b>173</b>	<b>0.09</b>
<b>High Tension</b>	<b>1484</b>	<b>463922</b>	<b>1006.66</b>
HTS I - 11 Kv	1410	305012	646.64
HTS II - 33 kV	68	102992	265.37
HTS III -132 kV	3	45543	58.72
HTS IV - 220 kV	0	0	0
HTSS	3	10375	35.92
<b>HT Electric Vehicle Charging Station</b>	<b>3</b>	<b>636</b>	<b>0.38</b>
<b>Railway Traction Services</b>	<b>5</b>	<b>42207</b>	<b>81.20</b>
<b>Nepal</b>	<b>1</b>	<b>0</b>	<b>458.95</b>
<b>Total</b>	<b>12,041,203</b>	<b>13,173,640</b>	<b>14,752.43</b>

SBPDCL has submitted the category wise number of consumers, connected load and sales for FY 2023-24 as shown in the table below:

**Table 6.2: No. of Consumers, Connected Load (KW), Energy Sales (MU) projected by SBPDCL for FY 2023-24**

Category of Consumers	Number of Consumers	Connected Load (KW)	Sales (MUs)
<b>Domestic</b>	<b>6000430</b>	<b>8593571</b>	<b>9474.32</b>
Kutir Jyoti	1585325	455039	945
DS I Rural	2897667	3443829	5306
DS II Demand Based	1517240	4694217	3223
DS III	198	486	0
<b>Non-Domestic Service</b>	<b>619451</b>	<b>1915089</b>	<b>1833</b>
NDS I - Metered Now Demand Based	243129	430393	581
NDS II - Demand Based	376322	1484696	1252
<b>Street Light Services</b>	<b>2417</b>	<b>47287</b>	<b>161</b>
Street Light 1	1087	24023	58
Street Light 2	1330	23264	104
<b>Irrigation &amp; Allied Services</b>	<b>301330</b>	<b>737417</b>	<b>1533</b>
IAS I	296555	679498	1392
IAS II	4775	57919	140
<b>Public Service Connections</b>	<b>43898</b>	<b>197666</b>	<b>523.82</b>
Public Water Works	3365	54325	153
Har Ghar Nal	40533	143341	371
<b>Low Tension Industrial Services</b>	<b>73042</b>	<b>941260</b>	<b>477.36</b>
LTIS I (0-19 kW)	68282	649593	282
LTIS II (>19 kW - 74 kW)	4760	291667	196
<b>LT Electric Vehicle Charging Station</b>	<b>5</b>	<b>259</b>	<b>0.12</b>
<b>High Tension</b>	<b>2238</b>	<b>1063087</b>	<b>2530</b>
HTS I - 11 Kv	2035	497152	813
HTS II - 33 kV	185	347434	655
HTS III -132 kV	5	73721	273
HTS IV - 220 kV	0	0	0
HTSS	13	144780	788
<b>HTIS (Oxygen Manufacturers)</b>	<b>34</b>	<b>7017</b>	<b>5</b>
<b>HT Electric Vehicle Charging Station</b>	<b>3</b>	<b>634</b>	<b>0.34</b>
<b>Railway Traction Services</b>	<b>4</b>	<b>54833</b>	<b>115.72</b>
<b>Nepal</b>			
<b>Total</b>	<b>7,042,852</b>	<b>13,558,119</b>	<b>16,654.10</b>

**Commission's analysis****Analysis of Category wise number of Consumers, Energy Sales and Connected Load**

In the above Tables, the Petitioners have not separately exhibited number of consumers, connected load and energy sales for unmetered and metered under IAS-I (Private Wells) category. The Commission has observed from the Format-1 of the Petitions, that the Discoms have projected number of consumers, connected load and energy sales separately for metered and un-metered IAS-I category.

In the earlier Tariff Order, Discoms were allowed to install meters in the two un-metered categories viz IAS-I and street light till 31<sup>st</sup> March, 2021. However, based on the request of Discoms, Commission has further allowed to install meters in these two unmetered categories till 31<sup>st</sup> March, 2022 and directed the Discoms in the earlier Tariff Order dated 26.03.2021 as below:

*The Commission is not at all satisfied with the reasoning provided by the Discoms. The Commission is of the view that electricity supply should be metered for all category in order to have proper accounting and to track the performance of Discoms. However, considering the present circumstance on account of challenges faced due to outbreak of COVID-19, the Commission after thought full consideration has given one last opportunity for Discoms to install meters in these two un-metered categories till 31<sup>st</sup> March, 2022. The Commission reiterating its direction that the Licensees to comply with the directions given by the Commission to put its sincere efforts for converting the unmetered consumers to metered consumers thereby ensuring that metering is achieved up to the satisfactory level, failing which the Commission may take a strict view for appropriate action.*

Discoms have neither submitted any roadmap to complete installing of meters to the unmetered connections to these two unmetered categories i.e. IAS-I and Street Light nor requested to allow some more time to continue the unmetered IAS-I and street light categories.

However, in view of the difficulties expressed by Discoms in the earlier petitions, the Commission has considered to allow one more year i.e. upto 31.03.2024 to install meters to the unmetered IAS-I consumer and street light unmetered categories.

The Commission has analysed the submissions made by Discoms for projecting the category wise number of consumers, connected load and energy sales and approve the same for the control period FY 2023-24.

### **Number of Consumers**

The Category-wise number of consumers and the year on year growth rates in the past five years are as shown in the Tables below:

**Table 6.3: Category-wise Number of consumers for the past 5 years and growth rates for NBPDCCL**

Category of Consumers	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020- 21	FY 2021- 22	4 Years	3 Years	2 Years	YoY
<b>Domestic</b>	<b>6,371,581</b>	<b>8,692,899</b>	<b>9,465,335</b>	<b>9,984,126</b>	<b>10,415,432</b>	<b>13.07%</b>	<b>6.21%</b>	<b>4.90%</b>	<b>4.32%</b>
Kutir Jyoti	2,946,325	3,788,049	4,015,781	4,162,883	4,237,872	9.51%	3.81%	2.73%	1.80%
DS I Rural	2,167,314	3,685,829	4,258,986	4,601,721	4,841,296	22.25%	9.52%	6.62%	5.21%
DS II Demand Based	1,257,942	1,219,021	1,190,527	1,219,455	1,336,193	1.52%	3.11%	5.94%	9.57%
DS III	0	0	41	67	71			31.59%	5.97%
<b>Non-Domestic Service</b>	<b>316,217</b>	<b>404,723</b>	<b>487,545</b>	<b>609,912</b>	<b>715,048</b>	<b>22.63%</b>	<b>20.89%</b>	<b>21.10%</b>	<b>17.24%</b>
NDS I - Metered Demand Based	94,795	128,606	195,954	274,524	361,635	39.76%	41.15%	35.85%	31.73%
NDS II - Demand Based	221,422	276,117	291,591	335,388	353,413	12.40%	8.57%	10.09%	5.37%
Contract Demand <0.5 kW	1,475	1,081	1,942	2173	2194	10.44%	26.61%	6.29%	0.97%
Contract Demand >0.5 kW	219,947	275,036	289,649	333,215	351,219	12.41%	8.49%	10.12%	5.40%
<b>Street Light Services</b>	<b>646</b>	<b>1253</b>	<b>1044</b>	<b>1255</b>	<b>1884</b>	<b>30.68%</b>	<b>14.56%</b>	<b>34.34%</b>	<b>50.12%</b>
SS Metered	306	299	301	339	420	8.24%	11.99%	18.12%	23.89%
SS Unmetered	340	954	743	916	1,464	44.05%	15.34%	40.37%	59.83%
<b>Irrigation &amp; Allied Services</b>	<b>15,645</b>	<b>31,894</b>	<b>79,818</b>	<b>108,224</b>	<b>132,548</b>	<b>70.61%</b>	<b>60.78%</b>	<b>28.87%</b>	<b>22.48%</b>
IAS I	10,416	27,429	74,706	101,996	126,217	86.58%	66.33%	29.98%	23.75%
IAS II	5,229	4,465	5,112	6,228	6,331	4.90%	12.34%	11.29%	1.65%
<b>Public Service Connections</b>	<b>973</b>	<b>1239</b>	<b>11453</b>	<b>36322</b>	<b>51,049</b>	<b>169.13%</b>	<b>245.39%</b>	<b>111.12%</b>	<b>40.55%</b>
Public Water Works	973	1,239	1,586	1,669	1,799	16.61%	13.24%	6.50%	7.79%
Har Ghar Nal			9,867	34,653	49,250			123.41%	42.12%
<b>Low Tension Industrial Services</b>	<b>24,267</b>	<b>32,374</b>	<b>41,216</b>	<b>53,891</b>	<b>65,642</b>	<b>28.25%</b>	<b>26.57%</b>	<b>26.20%</b>	<b>21.81%</b>
LTIS I (0-19 kW)	23,623	31,626	40,314	52,823	64,577	28.58%	26.87%	26.56%	22.25%
LTIS II (>19 kW - 74 kW)	644	748	902	1,068	1,065	13.40%	12.50%	8.66%	-0.28%
<b>High Tension</b>	<b>775</b>	<b>993</b>	<b>1111</b>	<b>1156</b>	<b>1,339</b>	<b>14.65%</b>	<b>10.48%</b>	<b>9.78%</b>	<b>15.83%</b>
HTS I - 11 kV	735	945	1,058	1,103	1,276	14.79%	10.53%	9.82%	15.68%
HTS II - 33 kV	32	39	46	46	57	15.53%	13.48%	11.32%	23.91%
HTS III -132 kV	3	4	3	3	3	0.00%	-9.14%	0.00%	0.00%
HTS IV - 220 kV	0	0	0	0	0				
HTSS	5	5	4	4	3	-11.99%	-15.66%	-13.40%	-25.00%
<b>Railway Traction Services</b>	<b>8</b>	<b>8</b>	<b>4</b>	<b>6</b>	<b>5</b>	<b>-11.09%</b>	<b>-14.50%</b>	<b>11.80%</b>	<b>-16.67%</b>
<b>Nepal</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.00%</b>
<b>DF</b>	<b>344423</b>								
<b>Total</b>	<b>7,074,536</b>	<b>9,165,384</b>	<b>10,087,527</b>	<b>10,794,893</b>	<b>11,382,948</b>	<b>12.63%</b>	<b>7.49%</b>	<b>6.23%</b>	<b>5.45%</b>



**Table 6.4: Category-wise Number of consumers for the past 5 years and growth rates for SBPDCL**

Consumer Category	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	4 Years	3 Years	2 Years	YoY
<b>Domestic</b>	<b>3,765,044</b>	<b>4,782,414</b>	<b>5,075,789</b>	<b>5,342,375</b>	<b>5,633,681</b>	<b>10.60%</b>	<b>5.61%</b>	<b>5.35%</b>	<b>5.45%</b>
Kutir Jyoti	1,053,164	1,422,169	1,483,858	1,534,746	1,547,844	10.11%	2.86%	2.13%	0.85%
DS-I (Rural-Connected Load Based)	1,501,556	2,055,959	2,274,063	2,471,230	2,638,966	15.14%	8.68%	7.72%	6.79%
DS-II (Urban-Demand Based)	1,210,324	1,304,286	1,317,764	1,336,217	1,446,692	4.56%	3.51%	4.78%	8.27%
DS III (Optional-Demand Based)			104	182	179			31.19%	-1.65%
<b>Non-Domestic</b>	<b>304,074</b>	<b>357,715</b>	<b>406,025</b>	<b>462,059</b>	<b>528,126</b>	<b>14.80%</b>	<b>13.87%</b>	<b>14.05%</b>	<b>14.30%</b>
NDS-I (Rural-Connected Load Based)	49,561	63,025	94,531	141,120	175,532	37.18%	40.70%	36.27%	24.38%
NDS-II (Demand Based)	254,513	294,690	311,494	320,939	352,594	8.49%	6.16%	6.39%	9.86%
<b>Street Light Services (SS- Demand Based)</b>	<b>907</b>	<b>1,230</b>	<b>1,376</b>	<b>1483</b>	<b>2119</b>	<b>23.63%</b>	<b>19.88%</b>	<b>24.10%</b>	<b>42.89%</b>
<b>Irrigation &amp; Allied Services</b>	<b>160,773</b>	<b>196,529</b>	<b>234,788</b>	<b>251,071</b>	<b>263,242</b>	<b>13.12%</b>	<b>10.23%</b>	<b>5.89%</b>	<b>4.85%</b>
IAS-I	156,959	192,958	231,154	246,590	258,659	13.30%	10.26%	5.78%	4.89%
IAS-II	3,814	3,571	3,634	4,481	4,583	4.70%	8.67%	12.30%	2.28%
<b>Public Service Connections</b>	<b>1,806</b>	<b>2,461</b>	<b>5,849</b>	<b>18,962</b>	<b>29,224</b>	<b>100.57%</b>	<b>128.14%</b>	<b>123.53%</b>	<b>54.12%</b>
Public Water Works	1,806	2,461	2,626	2,916	3,136	14.79%	8.41%	9.28%	7.54%
Har Ghar Nal			3,223	16,046	26,088			184.51%	62.58%
<b>Low Tension Industrial Services</b>	<b>50,756</b>	<b>58,297</b>	<b>64,026</b>	<b>71,717</b>	<b>77,756</b>	<b>11.25%</b>	<b>10.08%</b>	<b>10.20%</b>	<b>8.42%</b>
<b>High Tension Supply</b>	<b>1,597</b>	<b>1,813</b>	<b>1,929</b>	<b>2,064</b>	<b>2,305</b>	<b>9.61%</b>	<b>8.33%</b>	<b>9.31%</b>	<b>11.68%</b>
HTS-I (11 kV)	1,475	1,684	1,792	1,916	2,141	9.76%	8.33%	9.30%	11.74%
HTS-II (33 kV)	104	112	119	130	146	8.85%	9.24%	10.77%	12.31%
HTS-III (132 kV)	5	4	4	4	5	0.00%	7.72%	11.80%	25.00%
HTS-IV (220 kV)				0	0				
HTSS (33 / 11 kV)	13	13	14	14	13	0.00%	0.00%	-3.64%	-7.14%
<b>RTS (132 kV)</b>	<b>15</b>	<b>3</b>	<b>1</b>	<b>6</b>	<b>3</b>	<b>-33.13%</b>	<b>0.00%</b>	<b>73.21%</b>	<b>-50.00%</b>
<b>Grand Total</b>	<b>4,284,972</b>	<b>5,400,462</b>	<b>5,789,783</b>	<b>6,149,737</b>	<b>6,536,456</b>	<b>11.13%</b>	<b>6.57%</b>	<b>6.25%</b>	<b>6.29%</b>

The Petitioners have submitted that electricity access has been already provided to all willing BPL households both in Urban and Rural areas under Saubhagya Scheme. With release of huge number of connections to the rural households and left-over urban households in recent years under various State and Central Government schemes, further scope of adding new consumers is getting minimized. Therefore, lesser number of consumers are expected to be added over next financial year in comparison to the previous years. Taking the same into account the growth in number of consumers for various categories have been considered at a lower rate as compared to previous year.

## Connected Load

The Category-wise connected load and the year on year growth rates in past five years are as shown in the Tables below:

**Table 6.5: Category-wise connected load for the past 5 years and growth rates for NBPDCCL**

Category of Consumers	(KW)								
	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	4 Years	3 Years	2 Years	YoY
<b>Domestic</b>	<b>4,588,669</b>	<b>6,399,640</b>	<b>6,921,189</b>	<b>7,853,370</b>	<b>8,224,511</b>	<b>15.71%</b>	<b>8.72%</b>	<b>9.01%</b>	<b>4.73%</b>
Kutir Jyoti	319,890	548,952	595,038	1,042,116	1,056,669	34.81%	24.39%	33.26%	1.40%
DS I Rural	2,184,659	3,754,208	4,319,966	4,674,332	4,904,360	22.41%	9.32%	6.55%	4.92%
DS II Demand Based	2,084,120	2,096,481	2,006,097	2,136,733	2,263,216	2.08%	2.58%	6.22%	5.92%
DS III (Optional-Demand Based)			88	189	266			73.86%	40.74%
<b>Non-Domestic Service</b>	<b>658,628</b>	<b>784,833</b>	<b>859,183</b>	<b>1,292,781</b>	<b>1,456,119</b>	<b>21.94%</b>	<b>22.88%</b>	<b>30.18%</b>	<b>12.63%</b>
NDS I - Metered Now Demand Based	100,843	142,811	220,760	333,257	469,827	46.92%	48.73%	45.88%	40.98%
NDS II - Demand Based	557,785	642,021	638,424	959,524	986,292	15.31%	15.39%	24.29%	2.79%
Contract Demand <0.5 kW	619	646	1150.05	1,065	1,207	18.17%	23.17%	2.45%	13.33%
Contract Demand >0.5 kW	557,167	641,375	637,274	958,459	985,085	15.31%	15.38%	24.33%	2.78%
<b>Street Light Services</b>	<b>10,089</b>	<b>14,692</b>	<b>12,969</b>	<b>15,416</b>	<b>20249</b>	<b>19.03%</b>	<b>11.29%</b>	<b>24.95%</b>	<b>31.35%</b>
SS Metered	4,386	3,584	2,839	2,784	3491	-5.55%	-0.87%	10.89%	25.40%
SS Unmetered	5,703	11,108	10,130	12,632	16,758	30.93%	14.69%	28.62%	32.66%
<b>Irrigation &amp; Allied Services</b>	<b>87,243</b>	<b>111,321</b>	<b>232,774</b>	<b>282,384</b>	<b>324,193</b>	<b>38.84%</b>	<b>42.80%</b>	<b>18.01%</b>	<b>14.81%</b>
IAS I	31,406	62,467	180,784	229,139	270,302	71.28%	62.95%	22.28%	17.96%
IAS II	55,837	48,854	51,991	53,245	53,891	-0.88%	3.32%	1.81%	1.21%
<b>Public Service Connections</b>	<b>18,074</b>	<b>19,736</b>	<b>43,731</b>	<b>101,053</b>	<b>135,340</b>	<b>65.42%</b>	<b>89.99%</b>	<b>75.92%</b>	<b>33.93%</b>
Public Water Works	18,074	19,736	21,397	23,975	25,114	8.57%	8.36%	8.34%	4.75%
Har Ghar Nal			22,334	77,078	110,226			122.16%	43.01%
<b>Low Tension Industrial Services</b>	<b>242,594</b>	<b>313,066</b>	<b>385,075</b>	<b>504,708</b>	<b>606,096</b>	<b>25.72%</b>	<b>24.63%</b>	<b>25.46%</b>	<b>20.09%</b>
LTIS I (0-19 kW)	199,993	266,175	333,145	444,997	546,047	28.54%	27.06%	28.03%	22.71%
LTIS II (>19 kW - 74 kW)	42,601	46,891	51,930	59,711	60,049	8.96%	8.59%	7.53%	0.57%
<b>High Tension</b>	<b>252,724</b>	<b>299,391</b>	<b>310,491</b>	<b>324,028</b>	<b>389,191</b>	<b>11.40%</b>	<b>9.14%</b>	<b>11.96%</b>	<b>20.11%</b>
HTS I - 11 kV	157,336	200,826	213,868	226,705	260,198	13.40%	9.02%	10.30%	14.77%
HTS II - 33 kV	42,481	54,378	62,323	63,023	77923	16.38%	12.74%	11.82%	23.64%
HTS III -132 kV	42,170	30,500	22,500	22,500	41670	-0.30%	10.96%	36.09%	85.20%
HTS IV - 220 kV					0				
HTSS	10,737	13,687	11,800	11,800	9400	-3.27%	11.77%	-10.75%	20.34%
<b>Railway Traction Services</b>	<b>69,900</b>	<b>69,900</b>	<b>36,600</b>	<b>48,300</b>	<b>37,500</b>	<b>14.42%</b>	<b>18.74%</b>	<b>1.22%</b>	<b>22.36%</b>
<b>DF</b>	<b>477,915</b>								
<b>Total</b>	<b>6,405,836</b>	<b>8,012,579</b>	<b>8,802,012</b>	<b>10,422,040</b>	<b>11,193,199</b>	<b>14.97%</b>	<b>11.79%</b>	<b>12.77%</b>	<b>7.40%</b>

**Table 6.6: Category-wise connected load for the past 5 years and growth rates for SBPDCL****(kW)**

<b>Consumer Category</b>	<b>FY 2017-18</b>	<b>FY 2018-19</b>	<b>FY 2019-20</b>	<b>FY 2020-21</b>	<b>FY 2021-22</b>	<b>4 Years</b>	<b>3 Years</b>	<b>2 Years</b>	<b>YoY</b>
<b>Domestic</b>	<b>5,064,053</b>	<b>5,788,901</b>	<b>6,239,565</b>	<b>6,716,397</b>	<b>7,098,210</b>	<b>8.81%</b>	<b>7.03%</b>	<b>6.66%</b>	<b>5.68%</b>
Kutir Jyoti	89,187	168,129	188,886	383,906	386,620	44.29%	31.99%	43.07%	0.71%
DS-I (Rural-Connected Load Based)	1,523,232	2,088,730	2,335,509	2,543,812	2,727,721	15.68%	9.30%	8.07%	7.23%
DS-II (Urban-Demand Based)	3,451,634	3,532,042	3,715,007	3,788,380	3,983,578	3.65%	4.09%	3.55%	5.15%
DS III (Optional-Demand Based)	0		163	299	291			33.61%	-2.68%
<b>Non-Domestic</b>	<b>988,476</b>	<b>1,041,976</b>	<b>1,132,865</b>	<b>1,381,833</b>	<b>1,504,310</b>	<b>11.07%</b>	<b>13.02%</b>	<b>15.23%</b>	<b>8.86%</b>
NDS-I (Rural-Connected Load Based)	53,848	70,385	116,050	210,622	267,325	49.27%	56.02%	51.77%	26.92%
NDS-II (Demand Based)	934,628	971,591	1,016,815	1,171,211	1,236,985	7.26%	8.38%	10.30%	5.62%
<b>Street Light Services (SS-Demand Based)</b>	<b>10,393</b>	<b>11,549</b>	<b>19,001</b>	<b>20,418</b>	<b>28,081</b>	<b>28.21%</b>	<b>34.47%</b>	<b>21.57%</b>	<b>37.53%</b>
<b>Irrigation &amp; Agriculture Services (IAS)</b>	<b>379,423</b>	<b>432,864</b>	<b>501,513</b>	<b>528,275</b>	<b>544,994</b>	<b>9.48%</b>	<b>7.98%</b>	<b>4.24%</b>	<b>3.16%</b>
IAS-I (Pvt Tubewells-Connected Load Based)	338,229	394,561	466,356	489,826	505,841	10.59%	8.63%	4.15%	3.27%
IAS-II (State Tubewells-Connected Load Based - Metered)	41,194	38,303	35,157	38,449	39,153	-1.26%	0.73%	5.53%	1.83%
<b>Public Service Connections</b>	<b>33,817</b>	<b>36,611</b>	<b>47,949</b>	<b>81,046</b>	<b>106,730</b>	<b>33.29%</b>	<b>42.85%</b>	<b>49.19%</b>	<b>31.69%</b>
Public Water Works (PWW-Demand Based)	33,817	36,611	38,878	42,657	45,058	7.44%	7.17%	7.65%	5.63%
Har Ghar Nal			9,071	38,389	61,672			160.75%	60.65%
<b>Low Tension Industrial Supply (LTIS- Demand Based)</b>	<b>627,114</b>	<b>676,257</b>	<b>721,979</b>	<b>803,166</b>	<b>862,016</b>	<b>8.28%</b>	<b>8.43%</b>	<b>9.27%</b>	<b>7.33%</b>
<b>High Tension Supply</b>	<b>649,396</b>	<b>674,648</b>	<b>701,108</b>	<b>745,091</b>	<b>813,825</b>	<b>5.80%</b>	<b>6.45%</b>	<b>7.74%</b>	<b>9.22%</b>
HTS-I (11 kV)	295,283	326,242	333,635	361,457	422,132	9.35%	8.97%	12.48%	16.79%
HTS-II (33 kV)	171,560	193,086	205,944	222,105	214,992	5.80%	3.65%	2.17%	-3.20%
HTS-III (132 kV)	86,850	46,350	46,350	46,350	60,030	-8.82%	9.00%	13.80%	29.51%
HTS-IV (220 kV)					0				
HTSS	95,703	108,970	115,179	115,179	116,671	5.08%	2.30%	0.65%	1.30%
<b>RTS (132 kV)</b>	<b>155,160</b>	<b>27,720</b>	<b>9,000</b>	<b>24,750</b>	<b>25,650</b>	<b>-36.24%</b>	<b>-2.55%</b>	<b>68.82%</b>	<b>3.64%</b>
<b>Grand Total</b>	<b>7,907,832</b>	<b>8,690,526</b>	<b>9,372,980</b>	<b>10,300,976</b>	<b>10,983,816</b>	<b>8.56%</b>	<b>8.12%</b>	<b>8.25%</b>	<b>6.63%</b>

The Petitioners have submitted that for projecting connected load, the average connected load per consumer has been taken as per the actual data of the past few years and this has been then multiplied by projected number of consumers to arrive at the connected load for that category of consumers.

The Commission has noted that the average connected load per consumer for Kutir Jyoti is projected considering more than the stipulated norm of 250 watt per consumer i.e. NBPDCCL has considered 264 watts per consumer and SBPDCL has considered 287 watts per consumer.

### Energy Sales:

The category-wise energy sales and the year on year growth rates in past five years are as shown in the Tables below:

**Table 6.7: Category-wise energy sales for the past 5 years and growth rates for NBPDCCL**

(MU)									
Category of Consumers	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	4 Years	3 Years	2 Years	YoY
<b>Domestic</b>	<b>4,935</b>	<b>5,512</b>	<b>7,516</b>	<b>7,947</b>	<b>8,191.09</b>	13.50%	14.12%	4.39%	3.07%
Kutir Jyoti	1,573	1,421	2,539	2,368	2,254.23	9.41%	16.63%	-5.77%	-4.80%
DS I Rural	2,230	2,067	3,421	3,855	4,054.63	16.12%	25.18%	8.87%	5.18%
DS II Demand Based	1,132	2,024	1,556	1,724	1,881.97	13.55%	-2.40%	9.98%	9.16%
DS III	0	0	0	0	0.26	125.81%		260.56%	271.43%
<b>Non-Domestic Service</b>	<b>690</b>	<b>1075</b>	<b>1037</b>	<b>1161</b>	<b>1508.88</b>	21.60%	11.96%	20.63%	29.96%
NDS I - Metered Demand Based	112	132	149	234	341.49	32.14%	37.28%	51.39%	45.94%
NDS II - Demand Based	578	943	888	927	1,167.39	19.21%	7.37%	14.66%	25.93%
Contract Demand <0.5 kW	1	3	2	2	2	18.92%	-12.64%	0.00%	0.00%
Contract Demand >0.5 kW	577	940	886	925	1166	19.23%	7.45%	14.72%	26.05%
<b>Street Light Services</b>	<b>20</b>	<b>27</b>	<b>35</b>	<b>31</b>	<b>99.90</b>	49.50%	54.67%	68.95%	222.26%
SS Metered	8	5	6	5	10.85	7.92%	29.47%	34.47%	117.00%
SS Unmetered	12	22	29	26	89.05	65.05%	59.37%	75.23%	242.50%
<b>Irrigation &amp; Allied Services</b>	<b>162</b>	<b>152</b>	<b>119</b>	<b>313</b>	<b>467.48</b>	30.34%	45.43%	98.20%	49.35%
IAS I	14	28	80	276	363.75	125.77%	135.08%	113.23%	31.79%
IAS II	148	124	39	37	103.73	-8.50%	-5.78%	63.09%	180.35%
<b>Public Service Connections</b>	<b>24</b>	<b>27</b>	<b>51</b>	<b>110</b>	<b>240.27</b>	77.88%	107.23%	117.05%	118.43%
Public Water Works	24	27	21	36	59.50	25.48%	30.13%	68.33%	65.28%
Har Ghar Nal	0	0	30	74	180.77			145.47%	144.28%
<b>Low Tension Industrial Services</b>	<b>192</b>	<b>214</b>	<b>227</b>	<b>341</b>	<b>372.39</b>	18.01%	20.28%	28.08%	9.21%
LTIS I (0-19 kW)	172	177	201	310	338.58	18.45%	24.14%	29.79%	9.22%
LTIS II (>19 kW - 74 kW)	20	37	26	31	33.81	14.03%	-2.96%	14.03%	9.06%
<b>High Tension</b>	<b>467</b>	<b>593</b>	<b>603</b>	<b>669</b>	<b>768.41</b>	13.26%	9.02%	12.89%	14.86%
HTS I - 11 kV	272	375	383	416	483.29	15.45%	8.82%	12.33%	16.18%

Category of Consumers	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	4 Years	3 Years	2 Years	YoY
HTS II - 33 kV	95	107	118	143	187.72	18.56%	20.61%	26.13%	31.27%
HTS III -132 kV	58	49	53	62	54.52	-1.53%	3.62%	1.42%	-12.06%
HTS IV - 220 kV					0.00				
HTSS	42	62	49	48	42.88	0.52%	-11.57%	-6.45%	-10.67%
Railway Traction Services	106	223	146	32	67.55	-10.65%	-32.84%	-31.98%	111.09%
Nepal	1363	1355	708	632	630.85	-17.52%	-22.50%	-5.61%	-0.18%
DF /Others	785	315			192.56	-29.62%	-15.13%		
<b>Total</b>	<b>8,744</b>	<b>9,493</b>	<b>10,442</b>	<b>11,236</b>	<b>12,539</b>	<b>9.43%</b>	<b>9.72%</b>	<b>9.58%</b>	<b>11.60%</b>

**Table 6.8: Category-wise energy sales for the past 5 years and growth rates for SBPDCL**

Consumer Category	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	4 Years	3 Years	2 Years	YoY
<b>Domestic</b>	<b>4,150</b>	<b>5,993</b>	<b>7,142</b>	<b>8,507</b>	<b>8,480.31</b>	<b>19.56%</b>	<b>12.27%</b>	<b>8.97%</b>	<b>-0.32%</b>
Kutir Jyoti	487	1,156	1,160	1,235	1,405.61	30.34%	6.73%	10.08%	13.81%
DS-I (Rural-Connected Load Based)	1,415	2,280	2,974	4,136	4,367.64	32.55%	24.19%	21.19%	5.60%
DS-II (Urban-Demand Based)	2,248	2,557	3,008	3,136	2,706.82	4.75%	1.92%	-5.14%	-13.69%
DS III (Optional-Demand Based)			0.04	0.21	0.24			144.95%	14.29%
<b>Non-Domestic</b>	<b>1051.00</b>	<b>992.00</b>	<b>1089.00</b>	<b>1235.00</b>	<b>1509.38</b>	<b>9.47%</b>	<b>15.02%</b>	<b>17.73%</b>	<b>22.22%</b>
NDS-I (Rural-Connected Load Based)	44	69	243	379	512.77	84.76%	95.15%	45.26%	35.30%
NDS-II (Demand Based)	1,007	923	846	856	996.61	-0.26%	2.59%	8.54%	16.43%
<b>Street Light Services (SS-Demand Based)</b>	<b>37.39</b>	<b>35.26</b>	<b>71.55</b>	<b>60.83</b>	<b>133.68</b>	<b>37.51%</b>	<b>55.93%</b>	<b>36.69%</b>	<b>119.76%</b>
<b>Irrigation &amp; Agriculture Services (IAS)</b>	<b>317.06</b>	<b>574.17</b>	<b>814.59</b>	<b>930.92</b>	<b>1176.53</b>	<b>38.79%</b>	<b>27.01%</b>	<b>20.18%</b>	<b>26.38%</b>
IAS-I (Pvt Tubewells-Connected Load Based)	216.46	463.22	735.8	816.3	1,065.95	48.97%	32.02%	20.36%	30.58%
IAS-II (State Tubewells-Connected Load Based - Metered)	100.6	110.95	78.79	114.62	110.58	2.39%	-0.11%	18.47%	-3.52%
<b>Public Service Connections</b>	<b>83.65</b>	<b>78.08</b>	<b>94.42</b>	<b>141.35</b>	<b>341.22</b>	<b>42.12%</b>	<b>63.49%</b>	<b>90.10%</b>	<b>141.40%</b>

Public Water Works (PWW-Demand Based)	83.65	78.08	79.37	100.57	119.02	9.22%	15.09%	22.46%	18.35%
Har Ghar Nal			15.05	40.78	222.2			284.24%	444.87%
<b>Low Tension Industrial Supply (LTIS-Demand Based)</b>	<b>350.94</b>	<b>339.52</b>	<b>427.04</b>	<b>365.41</b>	<b>403.32</b>	<b>3.54%</b>	<b>5.91%</b>	<b>-2.82%</b>	<b>10.37%</b>
<b>High Tension Supply</b>	<b>1,762.58</b>	<b>1,986.91</b>	<b>2,085.96</b>	<b>1,728.30</b>	<b>1,987.09</b>	<b>3.04%</b>	<b>0.00%</b>	<b>-2.40%</b>	<b>14.97%</b>
HTS-I (11 kV)	566.73	628.98	679.72	559.17	648.72	3.44%	1.04%	-2.31%	16.01%
HTS-II (33 kV)	348.31	421.33	425.71	410.62	414.28	4.43%	-0.56%	-1.35%	0.89%
HTS-III (132 kV)	129.79	163.28	171.72	153.42	266.68	19.73%	17.77%	24.62%	73.82%
HTS-IV (220 kV)				0	0.00				
HTSS	717.75	773.32	808.81	605.09	657.41	-2.17%	-5.27%	-9.84%	8.65%
<b>RTS (132 kV)</b>	<b>578.65</b>	<b>307.29</b>	<b>102.3</b>	<b>33.96</b>	<b>60.56</b>	<b>43.12%</b>	<b>-41.81%</b>	<b>-23.06%</b>	<b>78.33%</b>
DF		279.04					100.00%		
SLDC Deviation					218.18				0
<b>Grand Total</b>	<b>8,331.27</b>	<b>10,585.27</b>	<b>11,826.90</b>	<b>13,002.98</b>	<b>14,310.27</b>	<b>14.48%</b>	<b>10.57%</b>	<b>6.56%</b>	<b>10.05%</b>

(kWh)

The Petitioner has projected the category-wise sales based on the CAGR of the previous years' data, the provisional sales along with the projected figures of FY 2022-23 as well as considering factors like available average consumption per consumer per month, new consumers to be added, population data, expected conversion of unauthorized connections, connected load factor and specific growth factors and wherever the data was incongruous such incongruity was ignored while projecting the load growth for the ensuing years.

The Petitioner submits that the forecast model projects the specific consumption level (consumption per consumer) appropriate for each customer category. The Petitioner submits that this forecast is based on expected growth relationships to income and price and effect of Demand Side Management.

The Petitioner also submits that the specific consumption level along with the number of

consumers in each category gives the sales figure for that particular sub-category and the final detailed calculations estimate the connected load for each tariff category.

Segregation of the agricultural feeders will have a positive effect on the overall system stability as well as on demand side management. Hence an appropriate CAGR is assumed in the sales of agricultural category.

The Commission has noted that the average consumption per consumer per month for Kutir Jyoti is projected considering within the stipulated norm of 50 units per consumer per month i.e. NBPDCCL has considered 44.79 units and SBPDCL has considered 49.67 units per consumer per month.

**Number of Consumers, Connected load and Energy Sales approved for FY 2023-24**

Considering that the Discoms might have taken adequate care of all possible options such as electrification of new areas and new households, especially in rural areas, improved number of supply hours in rural areas, pending applications on hand for new connections, impact of Covid etc., the Commission has approved the Category- wise number of Consumers, Connected Load and Energy Sales for FY 2023-24 as projected by NBPDCCL and SBPDCL. However, the Commission has considered the connected load per consumer at 250 watts for Kutir Jyoti category.

The applicability of Kutir Jyoti is to the dwelling houses of rural and urban families Below Poverty Line (BPL) as per the list notified and published by Rural Development Department of Government of Bihar and also the norm of connected load not exceeding 250 watts and consumption per month not exceeding 50 units. Therefore, wherever the applicability is violated the Kutir Jyoti category has to be converted in to DS-I as the case may be. This will also improve the revenue to Discoms.

The category-wise number of consumers, connected load and energy sale approved for FY 2023-24 are as shown in the Table below:

**Table 6.9: Category-wise number consumer approved for NBPDC & SBPDCL for FY 2023-24**

Category	NBPDC	SBPDCL	Total
	Consumers	Consumers	
<b>Domestic</b>	<b>10915513</b>	<b>6000429</b>	<b>16915942</b>
<b>Kutir Jyoti</b>	<b>4386822</b>	<b>1585325</b>	<b>5972147</b>
Unmetered (Now Metered)			0
Metered 0-50	4386822	1585325	5972147
<b>DS I Rural</b>	<b>5129605</b>	<b>2897667</b>	<b>8027272</b>
Unmetered (Now Metered)			0
<b>Metered (Now Demand Based)</b>	<b>5129605</b>	<b>2897668</b>	<b>8027273</b>
First 50 Units	2912964	846260	3759224
51-100 Units	1163312	1179515	2342827
101-200 Units	1053329	871893	1925222
Above 200 Units	0		0
<b>DS II Demand Based</b>	<b>1399001</b>	<b>1517239</b>	<b>2916240</b>
First 100 Units	905428	842402	1747830
101-200 Units	264407	519264	783671
201-300 Units	229166	155573	384739
Above 300 Units	0	0	0
<b>DS III</b>	<b>85</b>	<b>198</b>	<b>283</b>
<b>Non-Domestic Service</b>	<b>814544</b>	<b>619450</b>	<b>1433994</b>
<b>NDS I - Metered Now Demand Based</b>	<b>432357</b>	<b>243128</b>	<b>675485</b>
First 100 Units	257536	87499	345035
101-200 Units	55753	85890	141643
Above 200 Units	119068	69739	188807
<b>NDS II - Demand Based</b>	<b>382187</b>	<b>376322</b>	<b>758509</b>
<b>Contract Demand &lt;0.5 kW</b>	<b>548</b>	<b>8994</b>	<b>9542</b>
<b>Contract Demand &gt;0.5 kW</b>	<b>381640</b>	<b>367328</b>	<b>748968</b>
First 100 Units	134832	155819	290651
101-200 Units	29882	44464	74346
Above 200 Units	216927	167046	383973
<b>Street Light Services</b>	<b>2255</b>	<b>2417</b>	<b>4672</b>
<b>SS Metered</b>	<b>553</b>	<b>1087</b>	<b>1640</b>
<b>SS Unmetered</b>	<b>1703</b>	<b>1330</b>	<b>3033</b>
<b>Irrigation &amp; Allied Services</b>	<b>165398</b>	<b>301330</b>	<b>466728</b>
<b>IAS I</b>	<b>158638</b>	<b>296555</b>	<b>455193</b>
Unmetered	4815	137821	142636
Metered	153823	158734	312557
<b>IAS II</b>	<b>6761</b>	<b>4775</b>	<b>11536</b>
Metered (Now Demand Based)	6761	4775	11536
<b>Public Service Connections</b>	<b>61192</b>	<b>43898</b>	<b>105090</b>
<b>Public Water Works</b>	<b>2048</b>	<b>3365</b>	<b>5413</b>
<b>Har Ghar Nal</b>	<b>59145</b>	<b>40533</b>	<b>99678</b>
<b>Low Tension Industrial Services</b>	<b>80803</b>	<b>73042</b>	<b>153845</b>
<b>LTIS I (0-19 kW)</b>	<b>79120</b>	<b>68282</b>	<b>147402</b>
<b>LTIS II (&gt;19 kW - 74 kW)</b>	<b>1682</b>	<b>4760</b>	<b>6442</b>
<b>LT Electric Vehicle Charging Station</b>	<b>3</b>	<b>5</b>	<b>8</b>
<b>High Tension</b>	<b>1487</b>	<b>2275</b>	<b>3762</b>



Category	NBPDC	SBPDCL	Total
	Consumers	Consumers	
HTS (General)- I (11 kV)	1410	2035	3445
HTS (General)- II (33 kV)	68	185	253
HTS (General)- III (132 kV)	3	5	8
HTS (General)- IV (220 kV)	0	0	0
HTSS – (33 kV/11 kV)	3	13	16
<b>HT-Industrial Services</b>			
HTIS (Oxygen Manufacturers)	0	34	34
HT Electric Vehicle Charging Stations.	3	3	6
<b>Railway Traction Services</b>	<b>5</b>	<b>4</b>	<b>9</b>
<b>Nepal</b>	<b>1</b>	<b>0</b>	<b>1</b>
<b>Grand Total</b>	<b>12041203</b>	<b>7042850</b>	<b>19084053</b>

**Table 6.10: Category-wise Connected Load approved for NBPDC & SBPDCL for FY 2023-24**

Category	NBPDC	SBPDCL	Total
	Connected Load (KW)	Connected Load (KW)	
<b>Domestic</b>	<b>9320549</b>	<b>8534863</b>	<b>17855412</b>
<b>Kutir Jyoti</b>	<b>1096706</b>	<b>396331</b>	<b>1493037</b>
Unmetered (Now Metered)			0
Metered 0-50	1096706	396331	1493037
<b>DS I Rural</b>	<b>5518374</b>	<b>3443829</b>	<b>8962203</b>
Unmetered (Now Metered)			0
<b>Metered (Now Demand Based)</b>	<b>5518374</b>	<b>3443829</b>	<b>8962203</b>
First 50 Units	3133736	1005765	4139501
51-100 Units	1251479	1401834	2653313
101-200 Units	1133160	1036230	2169390
Above 200 Units	0		0
<b>DS II Demand Based</b>	<b>2705041</b>	<b>4694217</b>	<b>7399258</b>
First 100 Units	1750691	2606324	4357015
101-200 Units	511245	1606562	2117807
201-300 Units	443105	481331	924436
Above 300 Units	0	0	0
<b>DS III</b>	<b>428</b>	<b>486</b>	<b>914</b>
<b>Non-Domestic Service</b>	<b>1830096</b>	<b>1915086</b>	<b>3745182</b>
<b>NDS I - Metered Now Demand Based</b>	<b>610555</b>	<b>430390</b>	<b>1040945</b>
First 100 Units	363681	154893	518574
101-200 Units	78732	152044	230776
Above 200 Units	168142	123453	291595
<b>NDS II - Demand Based</b>	<b>1219540</b>	<b>1484696</b>	<b>2704236</b>
<b>Contract Demand &lt;0.5 kW</b>	<b>544</b>	<b>6229</b>	<b>6773</b>
<b>Contract Demand &gt;0.5 kW</b>	<b>1218996</b>	<b>1478467</b>	<b>2697463</b>
First 100 Units	430666	627159	1057825
101-200 Units	95445	178962	274407
Above 200 Units	692885	672346	1365231
<b>Street Light Services</b>	<b>26368</b>	<b>47287</b>	<b>73655</b>
<b>SS Metered</b>	<b>5310</b>	<b>24023</b>	<b>29333</b>

Category	NBPDC	SBPDCL	Total
	Connected Load (KW)	Connected Load (KW)	
<b>SS Unmetered</b>	21059	23264	44323
<b>Irrigation &amp; Allied Services</b>	<b>442438</b>	<b>737416</b>	<b>1179854</b>
<b>IAS I</b>	<b>362037</b>	<b>679497</b>	<b>1041534</b>
Unmetered	18591	338094	356685
Metered	343446	341403	684849
<b>IAS II</b>	<b>80401</b>	<b>57919</b>	<b>138320</b>
Metered (Now Demand Based)	80401	57919	138320
<b>Public Service Connections</b>	<b>173131</b>	<b>197666</b>	<b>370797</b>
<b>Public Water Works</b>	31654	54325	85979
<b>Har Ghar Nal</b>	141477	143341	284818
<b>Low Tension Industrial Services</b>	<b>810406</b>	<b>941260</b>	<b>1751666</b>
<b>LTIS I (0-19 kW)</b>	709767	649593	1359360
<b>LTIS II (&gt;19 kW - 74 kW)</b>	100639	291667	392306
<b>LT Electric Vehicle Charging Station</b>	<b>173</b>	<b>259</b>	<b>432</b>
<b>High Tension</b>	<b>464558</b>	<b>1070738</b>	<b>1535296</b>
HTS (General)- I (11 kV)	305012	497152	802164
HTS (General)- II (33 kV)	102992	347434	450426
HTS (General)- III (132 kV)	45543	73721	119264
HTS (General)- IV (220 kV)	0	0	0
HTSS – (33 kV/11 kV)	10375	144780	155155
<b>HT-Industrial Services</b>			
HTIS (Oxygen Manufacturers)	0	7017	7017
HT Electric Vehicle Charging Stations.	636	633.62	1270
<b>Railway Traction Services</b>	<b>42207</b>	<b>54833</b>	<b>97040</b>
<b>Nepal</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Grand Total</b>	<b>13109925</b>	<b>13499408</b>	<b>26609333</b>

Table 6.11: Category-wise Energy Sales approved for NBPDC &amp; SBPDCL for FY 2023-24

Category	NBPDC	SBPDCL	Total
	Sales (MU)	Sales (MU)	
<b>Domestic</b>	<b>9690.92</b>	<b>9474.32</b>	<b>19165.24</b>
<b>Kutir Jyoti</b>	<b>2358.09</b>	<b>945.35</b>	<b>3303.44</b>
Unmetered (Now Metered)			0.00
Metered 0-50	2358.09	945.35	3303.44
<b>DS I Rural</b>	<b>4868.19</b>	<b>5305.86</b>	<b>10174.05</b>
Unmetered (Now Metered)			0.00
<b>Metered (Now Demand Based)</b>	<b>4868.19</b>	<b>5305.86</b>	<b>10174.05</b>
First 50 Units	2764.52	1549.57	4314.09
51-100 Units	1104.03	2159.78	3263.81
101-200 Units	999.65	1596.51	2596.16
Above 200 Units	0.00		0.00
<b>DS II Demand Based</b>	<b>2464.24</b>	<b>3222.74</b>	<b>5686.98</b>
First 100 Units	1594.84	1789.33	3384.17
101-200 Units	465.73	1102.96	1568.69

Category	NBPDCCL	SBPDCL	Total
	Sales (MU)	Sales (MU)	
201-300 Units	403.66	330.45	734.11
Above 300 Units	0.00	0.00	0.00
<b>DS III</b>	<b>0.39</b>	<b>0.37</b>	<b>0.76</b>
<b>Non-Domestic Service</b>	<b>1887.62</b>	<b>1833.40</b>	<b>3721.02</b>
<b>NDS I - Metered Now Demand Based</b>	<b>539.95</b>	<b>581.43</b>	<b>1121.38</b>
First 100 Units	321.63	209.25	530.88
101-200 Units	69.63	205.40	275.03
Above 200 Units	148.70	166.78	315.48
<b>NDS II - Demand Based</b>	<b>1347.67</b>	<b>1251.97</b>	<b>2599.64</b>
<b>Contract Demand &lt;0.5 kW</b>	<b>1.93</b>	<b>6.17</b>	<b>8.10</b>
<b>Contract Demand &gt;0.5 kW</b>	<b>1345.73</b>	<b>1245.80</b>	<b>2591.53</b>
First 100 Units	475.44	528.46	1003.90
101-200 Units	105.37	150.80	256.17
Above 200 Units	764.92	566.54	1331.46
<b>Street Light Services</b>	<b>74.45</b>	<b>161.35</b>	<b>235.80</b>
<b>SS Metered</b>	<b>11.21</b>	<b>57.74</b>	<b>68.95</b>
<b>SS Unmetered</b>	<b>63.23</b>	<b>103.61</b>	<b>166.84</b>
<b>Irrigation &amp; Allied Services</b>	<b>508.59</b>	<b>1532.63</b>	<b>2041.22</b>
<b>IAS I</b>	<b>404.93</b>	<b>1392.29</b>	<b>1797.22</b>
Unmetered	3.27	453.28	456.55
Metered	401.66	939.01	1340.67
<b>IAS II</b>	<b>103.66</b>	<b>140.34</b>	<b>244.00</b>
Metered (Now Demand Based)	103.66	140.34	244.00
<b>Public Service Connections</b>	<b>410.86</b>	<b>523.82</b>	<b>934.68</b>
<b>Public Water Works</b>	<b>54.86</b>	<b>152.92</b>	<b>207.78</b>
<b>Har Ghar Nal</b>	<b>356.00</b>	<b>370.90</b>	<b>726.90</b>
<b>Low Tension Industrial Services</b>	<b>632.73</b>	<b>477.36</b>	<b>1110.09</b>
<b>LTIS I (0-19 kW)</b>	<b>511.66</b>	<b>281.61</b>	<b>793.27</b>
<b>LTIS II (&gt;19 kW - 74 kW)</b>	<b>121.08</b>	<b>195.75</b>	<b>316.83</b>
<b>LT Electric Vehicle Charging Station</b>	<b>0.09</b>	<b>0.12</b>	<b>0.21</b>
<b>High Tension</b>	<b>1006.66</b>	<b>2529.81</b>	<b>3536.47</b>
HTS (General)- I (11 kV)	646.64	813.04	1459.68
HTS (General)- II (33 kV)	265.37	655.18	920.55
HTS (General)- III (132 kV)	58.72	273.16	331.88
HTS (General)- IV (220 kV)	0.00	0.00	0.00
HTSS – (33 kV/11 kV)	35.92	788.43	824.35
<b>HT-Industrial Services</b>	<b>0.00</b>	<b>5.23</b>	<b>5.23</b>
HTIS (Oxygen Manufacturers)	0.00	5.23	5.23
HT Electric Vehicle Charging Stations.	<b>0.38</b>	<b>0.34</b>	<b>0.72</b>
<b>Railway Traction Services</b>	<b>81.20</b>	<b>115.72</b>	<b>196.92</b>
<b>Nepal</b>	<b>458.95</b>	<b>0.00</b>	<b>458.95</b>
<b>Grand Total</b>	<b>14752.43</b>	<b>16654.10</b>	<b>31406.53</b>

### 6.3. Distribution Loss

#### Petitioners' submission

The Commission has relied on the UDAY MoU for approving the AT&C losses target for FY 2023-24. However, the DISCOMs in a letter to Ministry of Power in July 2019, has expressed their inability to achieve the losses of 15% as agreed under UDAY.

The difference in the loss target and the actual loss levels is practically impossible to achieve in the given period, and therefore Bihar DISCOMs requested for a revision of the UDAY targets for FY 2019-20 from the present 15% to 20%.

Further, this is to inform that Government of India, through Ministry of Power introduced "Revamped Distribution Sector Scheme – A Reform based, and Results linked scheme" in July 2021. The scheme is applicable for all the State/UTs Utilities or Power Departments to avail such financial assistance under the revamped scheme. The scheme has a total outlay of Rs 3,03,758 Crores with an estimated gross budgetary support of Rs 97,631 Crores (~32% of total outlay) from the Government of India.

The Petitioner participated in the said scheme and submitted the action plan, DPR of the total project outlay & roadmap for AT&C Loss to the State Government for its approval in the month of March 2022. The Monitoring Committee for RDSS constituted under Chairmanship of Secretary (Power), Govt of India, in its 9<sup>th</sup> meeting held on 28.04.2022, has approved the Action Plan and Loss Reduction DPR of North Bihar Power Distribution Company Limited under Revamped Distribution Sector Scheme. Accordingly, the Monitoring Committee approved the following trajectory for AT&C loss for the Petitioner.

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
NBPDCCL	25%	22%	19%	16%
SBPDCL	35%	31%	25%	20%

The Commission had approved the collection efficiency of 100% in the ARR for FY 2023-24 as per the UDAY scheme. However, the per capita income of Bihar, especially for the domestic consumer is very low which restricts their paying capacity, and this has proven to be a challenge to recover the billed amount despite taking various measures for timely billing and easy payment of the bill.

It is also to be noted that to improve the metering, billing and collection process, the petitioner has also started implementation of smart pre-paid meter project envisaging that the same shall enable Discoms to significantly improve its metering billing & collection and minimize the commercial losses.

Further, the Petitioner has time and again informed the Commission about various initiatives taken for improvement in Collection efficiency through Quarterly Directives. Therefore, the Commission requested to consider the collection efficiency of 98.95% for NBPDCCL and 93.75% for SBPDCL for FY 2023-24.

Accordingly, the Petitioner requested to approve the Distribution Loss, Billing Efficiency, Collection Efficiency, AT&C Loss for FY 2023-24, as below:

**Table 6.12: AT&C loss for FY 2023-24**

Sl. No	Particulars	NBPDCCL	SBPDCL
1	Distribution Loss (%)	18.14%	20.00%
2	Billing Efficiency (%)	81.86%	80.00%
3	Collection Efficiency (%)	98.95%	93.75%
4	AT&C Loss (%)	19.00%	25.00%

### **Commission's analysis**

As regard to the request of Petitioners to revise the Distribution losses, the Commission has already dealt with such an issue in detailed at para 5.3 of Chapter 5 (APR) of this Order. The Commission held that it is the responsibility of the Discoms to achieve the agreed distribution loss target which is controllable in nature. 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 Discoms have already been given sufficient opportunity to reduce their actual distribution losses below specified targets.

Distribution loss over and above the stipulated target of 15% is mainly due to higher commercial losses such as non-metering, improper billing and predominantly due to theft which could be controlled without any additional capital investment but only with good operational performance accountability, responsibility etc. These inefficiencies shall be borne by the utility and such inefficiencies shall not be passed

on to the consumers since the utility itself is responsible for such excess loss / inefficiencies. Approving more AT&C loss shall mean approving the inefficiencies of the utility.

The Commission had approved the Distribution loss trajectory at 15% for the control period FY 2019-20 to FY 2021-22 in the MYT Order dated 25<sup>th</sup> February, 2019 and retained the same 15% without any reduction for the control period FY 2022-23 to FY 2024-25 in the MYT Order dated 25<sup>th</sup> March, 2022.

Accordingly, the Commission does not deem it prudent and appropriate to revise the distribution loss trajectory time and again in the interest of operational efficiency of the Discoms and safeguarding the consumers' interest. However, the Commission decides to retain the Distribution loss for the Discoms at 15% at the same level as approved for FY 2023-24 in the MYT Order date 25.03.2022

**(A). Collection Efficiency:**

As per UDAY scheme, the Discoms have agreed to achieve the collection efficiency of 100% in FY 2019-20. The Commission approved the same 100% collection efficiency for FY 2023-24 for the Discoms in the MYT Order dated 25<sup>th</sup> March, 2022. Therefore, the Commission retains the collection efficiency at 100% for FY 2023-24.

**(B). AT&C Losses:**

From the UDAY MOU, the Commission has also noted that the AT&C loss target for FY 2019-20 is agreed by the Discoms at 15%. The Commission approved the AT&C losses for the Discoms for FY 2021-22 at 15% in the MYT Order, dated 25 February, 2019. Therefore, the Commission retains the AT&C losses for FY 2022-23, FY 2023-24 and FY 2024-25 at 15% as shown in the table below:

**Table 6.13: Distribution Loss, Collection Efficiency and AT&C Loss approved for FY 2022-23 to FY 2024-25**

Particulars	NBPDCCL	SBPDCL
Distribution Loss	15%	15%
Collection Efficiency	100%	100%
AT&C Loss	15%	15%

The Commission has explained with an example the methodology to be followed for computation of AT&C loss in the Regulation 18.5 of BERC (Multi Year Distribution

Tariff) Regulations, 2018. The Discoms are directed to compute the AT&C loss following the same formulae and methodology in next tariff filings.

#### **6.4. Transmission Loss**

##### **Petitioners' submission**

The Petitioners have considered intra-state transmission loss at 3.00% for FY 2023-24 as per approved in MYT Order dated 25.03.2022.

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

The Commission has approved the Intra-State Transmission Loss at 3% for FY 2022-23 to FY 2024-25 in the MYT Order dated 25th March, 2022 of BSPTCL. Therefore, the Commission considers the Intra-State Transmission Loss for FY 2023-24 at 3%, subject to True-up based on actuals.

#### **6.5. Central Transmission Loss (CTU)**

##### **Petitioners' submission**

The Petitioner has submitted CTU loss of 3.34% as per latest available data for FY 2022-23 and requests the Commission to consider the same.

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

The Commission considers the Central Transmission Loss at 3.34% for FY 2023-24 at same level considered for FY 2022-23 in APR, subject to True-up based on actuals.

However, while truing up for the relevant year, the CTU losses will be considered based on the actual energy billed and scheduled from those sources which have injected power into CTU grid.

#### **6.6. Power Purchase**

##### **Petitioners' submission**

The DISCOMs rely on allocation from central generating stations and state projects for procuring power for sale in the state. This power has been proposed to be allocated between North and South Bihar in the proportion as determined by the Board resolution as detailed below:

Bihar State Power Holding Company Ltd (BSPHCL) issued vide its Resolution No.55-10 dated 14th July 2017 for approval regarding distribution of power purchase agreement between NBPDC & SBPDCL. The notification states that,

*“RESOLVED THAT Power Purchase & Transmission charges bills are to be admitted and payment by both DISCOMs i.e NBPDCCL 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, BSHPCCL 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. NBPDCCL and SBPDCL”*

The following plant addition has been considered by the Petitioner in FY 2023-24:

**Table 6.14: Upcoming Plant Addition in FY 2023-24**

Sl. No	Name of Unit	Expected COD	Quantum (MW)	Plant type
1	Barh Stage I U3	Jul-23	342	Thermal
2	North K'Pura U2	Jul-23	229	Thermal
3	Buxar TPP U1	Jul-23	561	Thermal
4	Buxar TPP U2	Jan-24	561	Thermal
5	SECI Phase-V (Wind)	Dec-23	300	RE
6	BREDA Solar Project	Mar-24	250	RE
7	SECI Hybrid Project	Dec-23	210	RE

The Petitioners have considered the power purchase computed/ projected for FY 2022-23 and for FY 2023-24 which is based on the following methodology.

- Share allocation has been considered as per Eastern Regional Power Committee.
- The Petitioners have implemented the methodology of Merit Order Despatch (MoD) for projecting its power purchase in order to meet its projected demand. While implementing the MoD, the Petitioner has firstly estimated utilization of its allocated capacity of must run plants i.e., the Solar and Non-solar Renewable generating stations and its hydro stations based on the minimum offtakes or their normative PLF, whichever is maximum. For the purpose of projection, the Petitioner has considered the Medium Term PPAs of the petitioner to be must run due to the fact that the Petitioner has a minimum off-take liability in its Medium Term PPAs. Further, the remaining demand of the Petitioner has been tried to be fulfilled through its conventional power purchase tie-ups. The



methodology followed by the Petitioner here is that it has firstly allocated the minimum technical limit to all its conventional plants i.e., up till 60% PLF of the plants based on their variable charge per unit (ECR). Further, the remaining demand of the system has then been tried to be fulfilled through bucket-filling up to a maximum PLF of 85% for the conventional generating stations based on their ECR. If any more demand is remaining unfilled after the process, the same has been tried to be purchased through Open market purchase.

- c. The overall annual projected demand of the system has been distributed on month-on-month basis based on the monthly power supply data published by CEA for Bihar.
- d. Normative auxiliary consumption provided by Central Electricity Regulatory Commission (CERC) for the thermal and hydro plants and the auxiliary consumptions specified for plants.
- e. Considering the methodology as mentioned above and using the power purchase allocation data mentioned in the above table total number of units purchased were calculated from every source/ plant for every month separately.

Total Power purchase projections data for FY 2023-24 is provided in the below table.

**Table 6.15: Power Purchase allocation projected by NBPDC & SBPDCL for FY 2023-24**

Name of The Source	NBPDC		SBPDCL		Total	
	Share allocated (MW)	Units purchased (MU)	Share allocated (MW)	Units purchased (MU)	Share allocated (MW)	Units purchased (MU)
<b>Stations injecting at CTU</b>	3304.74	13615.39	4,443.06	15,983.28	7747.80	29598.67
<i>FSTPP I &amp; II</i>	231.10	614.08	271.3	720.88	502.40	1334.96
<i>FSTPP III</i>	49.50	191.10	58.1	224.34	107.60	415.44
<i>KHSTPP I</i>	161.75	569.24	189.88	668.24	351.63	1237.48
<i>KHSTPP II</i>	34.36	136.38	40.34	160.1	74.70	296.48
<i>Barh Stage I Unit I</i>	157.26	695.55	184.62	816.51	341.88	1512.06
<i>Barh Stage I Unit II</i>	157.26	695.55	184.62	816.51	341.88	1512.06
<i>Barh Stage I Unit III</i>	157.26	595.23	184.62	698.75	341.88	1293.98
<i>Barh Stage II</i>	550.97	1530.46	646.79	1,796.63	1197.76	3327.09
<i>Nabinagar (BRBCL)</i>	46.00	201.88	54	236.98	100.00	438.86
<i>Korba</i>	0.00	0.00	-	-		
<i>Talcher Stage I</i>	189.75	979.91	222.75	1,150.33	412.50	2130.24
<i>KBUNL Stage II</i>	134.50	580.60	157.89	681.58	292.39	1262.18
<i>NPGCL</i>	772.09	3397.24	906.36	3,988.07	1678.45	7385.31
<i>North Karanpura Unit I</i>	0.00	470.08	123.85	551.83	123.85	1021.91
<i>North Karanpura Unit II</i>	0.00	347.80	123.85	408.29	123.85	756.09
<i>North Karanpura Unit III</i>	0.00	0.00		-		

Name of The Source	NBPDC		SBPDCL		Total	
	Share allocated (MW)	Units purchased (MU)	Share allocated (MW)	Units purchased (MU)	Share allocated (MW)	Units purchased (MU)
<i>Darlipali STPS</i>	87.29	475.52	102.47	558.22	189.76	1033.74
<i>Buxar TPP U1</i>	258.06	582.58	302.94	683.9	561.00	1266.48
<i>Buxar TPP U2</i>	258.06	93.40	302.94	109.64	561.00	203.04
<i>BSPHCL_RAIL</i>	0.00	0.00	-	-		
<i>Chuka</i>	0.00	230.37	53.38	270.43	53.38	500.80
<i>Rangit</i>	9.66	51.02	11.34	59.89	21.00	110.91
<i>Tala</i>	0.00	364.93	140.45	428.4	140.45	793.33
<i>Teesta</i>	49.88	263.41	58.55	309.23	108.43	572.64
<i>Mangdechu</i>	0.00	549.05	122.04	644.54	122.04	1193.59
<i>Capacity Refund Charges by NTPC</i>	0.00	0.00	-	-		
<b>Stations injecting at STU</b>	144.44	1228.92	304.56	1,442.64	449.00	2671.56
<i>BSPHC</i>	29.44	4.39	34.56	5.15	64.00	9.54
<i>KBUNL Stage I</i>	0.00	0.00	-	-		
<i>BTPS Stage I Unit I</i>		0.00		-		
<i>BTPS Stage I Unit II</i>		0.00		-		
<i>BTPS Stage II Unit I</i>	115.00	612.27	135	718.75	250.00	1331.02
<i>BTPS Stage II Unit II</i>	0.00	612.27	135	718.75	135.00	1331.02
					0.00	0.00
<b>IPPs</b>	224.48	1274.44	263.52	1,496.08	488.00	2770.52
<i>GMR</i>	119.60	649.05	140.4	761.93	260.00	1410.98
<i>JITPL</i>	104.88	625.39	123.12	734.15	228.00	1359.54
					0.00	0.00
<b>Renewables</b>	1224.24	2803.88	1,913.44	3,291.51	3137.68	6095.39
<i>M/s Sunmark Energy Projects Limited (Formerly MBCEL)</i>	4.60	7.60	5.4	8.92	10.00	16.52
<i>M/s Response renewable Energy Ltd, Kolkata.</i>	4.60	7.60	5.4	8.92	10.00	16.52
<i>M/s Avantika Contractors Ltd., Hyderabad</i>	2.30	3.80	2.7	4.46	5.00	8.26
<i>M/s Glatt Solutions Pvt. Ltd, Kolkata.</i>	1.38	2.28	1.62	2.68	3.00	4.96
<i>Alfa Infraprop Pvt. Ltd.</i>	9.20	15.20	10.8	17.84	20.00	33.04
<i>Udipta Energy &amp; Equipment Pvt. Ltd.</i>	2.30	3.80	2.7	4.46	5.00	8.26
<i>Azure Power India Pvt. Ltd.</i>	4.60	7.60	5.4	8.92	10.00	16.52
<i>Welspun Renewables Project – I</i>	4.60	7.60	5.4	8.92	10.00	16.52
<i>Welspun Renewables Project – II</i>	6.90	11.40	8.1	13.38	15.00	24.78
<i>Welspun Renewables Project – III</i>	6.90	11.40	8.1	13.38	15.00	24.78
<i>Acme Cleantech Project (Nalanda)</i>	6.90	11.40	8.1	13.38	15.00	24.78
<i>Acme Cleantech Project</i>	4.60	7.60	5.4	8.92	10.00	16.52

Name of The Source	NBPDC		SBPDCL		Total	
	Share allocated (MW)	Units purchased (MU)	Share allocated (MW)	Units purchased (MU)	Share allocated (MW)	Units purchased (MU)
(Magadh)						
Solar Energy Corporation of India Ltd., Government of India	4.60	8.80	5.4	10.33	10.00	19.13
SECI Phase-II Solar	0.00	131.98	81	154.93	81.00	286.91
SECI Phase-III (Renew Sunwaves)	138.00	263.96	162	309.86	300.00	573.82
NTPC ISTS Solar	138.00	263.96	162	309.86	300.00	573.82
GRT Jewellers (SECI-V)	69.00	131.98	81	154.93	150.00	286.91
Wind ISTS Scheme Tranche I (PTC) (Green Infra, Inox, Mytrah & Ostro)	92.00	255.96	108	300.48	200.00	556.44
Wind ISTS Scheme Tranche II (SECI) (Orange)	46.00	127.98	54	150.24	100.00	278.22
SECI Phase-III Wind	0.00	0.00	-	-		
SECI Green Infra	46.00	139.98	54	164.32	100.00	304.30
Torrent Power	22.91	0.00	26.89	-	49.80	
Adani Green	23.00	0.00	27	-	50.00	
Alfanar	23.00	69.99	27	82.16	50.00	152.15
Betam	23.09	70.27	27.11	82.49	50.20	152.76
Adani Green (SECI-V)	57.50	58.00	67.5	68.09	125.00	126.09
Ecoren Energy (SECI-V)	80.50	81.21	94.5	95.33	175.00	176.54
SECI Phase-VI Wind	0.00	0.00	189	-	189.00	
Ostro Kannad	138.00	419.93	162	492.97	300.00	912.90
Morjar Windfarm	0.00	69.99	27	82.16	27.00	152.15
SBE Renewable (SECI Phase-V)	0.00	290.35	178.2	340.85	178.20	631.20
BREDA Floating Solar Project	0.00	1.76	1.08	2.07	1.08	3.83
BREDA Solar Project	115.00	18.68	135	21.93	250.00	40.61
Kajra+Pirpainti Solar Project	0.00	0.00		-	0.00	
SECI Hybrid Project	96.60	61.25	113.4	71.91	210.00	133.16
New Swadeshi Sugar Mill, Narkataganj	4.60	20.28	5.4	23.81	10.00	44.09
Hasanpur Sugar Mill, Dalsinghsarai	6.67	29.40	7.83	34.52	14.50	63.92
Bharat Sugar Mills, Sidhwalia, Gopalganj	6.90	30.42	8.1	35.71	15.00	66.13
Hari Nagar Sugar Mills, Hari Nagar, West Champaran	6.67	29.40	7.83	34.52	14.50	63.92
HPCL Biofuels Ltd., Sugauli, East Champaran	9.20	40.56	10.8	47.61	20.00	88.17
HPCL Biofuels Ltd., Lauria, West	9.20	40.56	10.8	47.61	20.00	88.17

Name of The Source	NBPDCCL		SBPDCL		Total	
	Share allocated (MW)	Units purchased (MU)	Share allocated (MW)	Units purchased (MU)	Share allocated (MW)	Units purchased (MU)
<i>Champaran</i>						
<i>Riga Sugar Company Ltd.</i>	1.38	6.08	1.62	7.14	3.00	13.22
<i>Siddhashram Rice Mill Cluster Pvt Ltd</i>	0.46	2.95	0.54	3.46	1.00	6.41
<i>Bihar Distillers &amp; Bottlers Pvt Ltd</i>	4.32	27.73	5.08	32.55	9.40	60.28
<i>Tirupati Sugar</i>	2.76	13.20	3.24	15.49	6.00	28.69
<i>REC Cost</i>	0.00	0.00	-	-		
					0.00	0.00
<b>Others</b>	0.00	82.49	108	96.83	108.00	179.32
<i>PTC(IEX)</i>	0.00	82.49	-	96.83		179.32
<i>GTAM IEX</i>	0.00	0.00	-	-		
<i>DB Power</i>	0.00	0.00	-	-		
<i>Prior Period Expenses</i>	0.00	0.00	-	-		
<i>UPPCL</i>	0.00	0.00	-	-		
<i>NEA</i>	0.00	0.00	-	-		
<i>UI</i>	0.00	0.00	-	-		
<i>PTC JITPL</i>			67.5	-	67.50	
<i>PTC SKS Power</i>			40.5	-	40.50	
<b>Total</b>	<b>4897.91</b>	<b>19005.11</b>	<b>7032.58</b>	<b>22310.35</b>	<b>11930.49</b>	<b>41315.46</b>

### Commissions' analysis

The Commission has noted that Discoms have made arrangement to procure power from the following new stations during FY 2023-24.

Sl. No	Name of Unit	Expected COD	Quantum (MW)	Plant type
1	Barh Stage I U3	Jul-23	342	Thermal
2	North K'Pura U2	Jul-23	229	Thermal
3	Buxar TPP U1	Jul-23	561	Thermal
4	Buxar TPP U2	Jan-24	561	Thermal
5	SECI Phase-V (Wind)	Dec-23	300	RE
6	BREDA Solar Project	Mar-24	250	RE
7	SECI Hybrid Project	Dec-23	210	RE

The energy procurement projected in FY 2023-24 from Buxar Unit-I and Unit-II are not considered since they are not approved by the Commission.

The Commission has also observed from the energy availability projected from various sources, the Petitioners have considered the energy at the generation terminals instead of Ex-Bus i.e. after deducting the auxiliary energy consumption from the expected generation.

Therefore, the Commission has recomputed the energy availability to Bihar and these are to NBPDCCL and SBPDCL in the 46:54 ratio for FY 2023-24 as shown in the Table below:

**Table 6.16: Power Availability for FY 2023-24 computed by the Commission**

Sl. No	Particulars	Bihar Share allocation (MW)	Normative PLF (85%)	Aux (%) Consumption	Power at Ex-bus (MU) after Aux consumption	SBPDCL (54%)	NBPDCCL (46%)
I	<b>Stations with injection at CTU</b>	<b>7,105.89</b>			<b>46,021.05</b>	<b>24,851.37</b>	<b>21,169.68</b>
1	FSTPP I & II	502.40	85.00	8.50	3,432.27	1,853.43	1,578.85
2	FSTPP III	107.60	85.00	8.50	735.10	396.95	338.14
3	KHSTPP I	351.62	85.00	8.50	2,402.18	1,297.18	1,105.00
4	KHSTPP II	74.70	85.00	8.50	510.33	275.58	234.75
5	Barh Stage I Unit I	341.88	85.00	8.50	2,335.64	1,261.25	1,074.39
6	Barh Stage I Unit II	341.88	85.00	8.50	2,335.64	1,261.25	1,074.39
7	Barh Stage I Unit III	341.88	85.00	8.50	1,886.54	1,018.73	867.81
8	Barh Stage II	1,197.77	85.00	8.50	8,182.86	4,418.74	3,764.12
9	Nabinagar (BRBCL) Unit I - III	75.00	85.00	8.50	512.38	276.69	235.70
10	Nabinagar (BRBCL) Unit IV	25.00	85.00	8.50	170.79	92.23	78.57
11	Korba	-			-	-	-
12	Talcher Stage I	412.50	85.00	8.50	2,818.10	1,521.77	1,296.33
13	KBUNL Stage II	292.38	85.00	8.50	1,997.49	1,078.64	918.85
14	NPGCL Unit I	559.48	85.00	8.50	3,822.24	2,064.01	1,758.23
15	NPGCL Unit II	559.48	85.00	8.50	3,822.24	2,064.01	1,758.23
16	NPGCL Unit III	559.48	85.00	8.50	3,822.24	2,064.01	1,758.23
17	North Karanpura Unit I	229.35	85.00	8.50	1,566.86	846.11	720.76
18	North Karanpura Unit II	229.35	85.00	8.50	1,265.58	683.42	582.17
19	North Karanpura Unit III		-		-	-	-
20	Darlipali STPS Unit I	94.88	85.00	8.50	648.20	350.03	298.17
21	Darlipali STPS Unit II	94.88	85.00	8.50	648.20	350.03	298.17
22	Buxar TPP U1	-			-	-	-
23	Buxar TPP U2	-			-	-	-
24	BSPHCL_RAIL	-			-	-	-
25	Chuka	98.85	50.00	1.00	429.79	232.09	197.70
26	Rangit	21.00	50.00	1.00	91.31	49.31	42.00
27	Tala	260.10	50.00	1.00	1,130.94	610.71	520.23
28	Teesta	108.43	50.00	1.00	471.44	254.58	216.86
29	Mangdechhu	226.00	50.00	1.00	982.67	530.64	452.03

Sl. No	Particulars	Bihar Share allocation (MW)	Normative PLF (85%)	Aux (%) Consumption	Power at Ex-bus (MU) after Aux consumption	SBPDCL (54%)	NBPDCCL (46%)
II	<b>Stations with injection at STU</b>	<b>564.00</b>			<b>3,488.23</b>	<b>1,883.64</b>	<b>1,604.59</b>
1	BSPHC	64.00	13.00	1.00	72.35	39.07	33.28
2	KBUNL Stage I	-			-	-	-
3	BTPS Stage I Unit I	-	-	-	-	-	-
4	BTPS Stage I Unit II	-	-	-	-	-	-
5	BTPS Stage II Unit I	250.00	85.00	8.50	1,707.94	922.29	785.65
6	BTPS Stage II Unit II	250.00	85.00	8.50	1,707.94	922.29	785.65
III	<b>IPPs</b>	<b>488.00</b>			<b>3,333.90</b>	<b>1,800.30</b>	<b>1,533.59</b>
1	GMR	260.00	85.00	8.50	1,776.26	959.18	817.08
2	JITPL	228.00	85.00	8.50	1,557.64	841.13	716.51
IV	<b>Renewables</b>	<b>3,093.60</b>			<b>6,047.65</b>	<b>3,265.73</b>	<b>2,781.92</b>
1	M/s Sunmark Energy Projects Limited (Formerly MBCEL)	10.00	18.91	0.25	16.57	8.95	7.62
2	M/s Response renewable Energy Ltd, Kolkata.	10.00	18.91	0.25	16.57	8.95	7.62
3	M/s Avantika Contractors Ltd., Hyderabad	5.00	18.91	0.25	8.28	4.47	3.81
4	M/s Glatt Solutions Pvt. Ltd, Kolkata.	3.00	18.91	0.25	4.97	2.68	2.29
5	Alfa Infraprop Pvt. Ltd.	20.00	18.91	0.25	33.14	17.89	15.24
6	Udipta Energy & Equipment Pvt. Ltd.	5.00	18.91	0.25	8.28	4.47	3.81
7	Azure Power India Pvt. Ltd.	10.00	18.91	0.25	16.57	8.95	7.62
8	Welspun Renewables Project - I	10.00	18.91	0.25	16.57	8.95	7.62
9	Welspun Renewables Project – II	15.00	18.91	0.25	24.85	13.42	11.43
10	Welspun Renewables Project – III	15.00	18.91	0.25	24.85	13.42	11.43
11	Acme Cleantech Project (Nalanda)	15.00	18.91	0.25	24.85	13.42	11.43
12	Acme Cleantech Project	10.00	18.91	0.25	16.57	8.95	7.62

Sl. No	Particulars	Bihar Share allocation (MW)	Normative PLF (85%)	Aux (%) Consumption	Power at Ex-bus (MU) after Aux consumption	SBPDCL (54%)	NBPDCCL (46%)
	(Magadh)						
13	Solar Energy Corporation of India Ltd., Government of India	10.00	18.91	0.75	16.49	8.90	7.58
14	SECI Phase-II Solar	150.00	25.40	0.75	332.16	179.37	152.79
15	SECI Phase-III (Renew Sunwaves)	300.00	25.85	0.75	676.09	365.09	311.00
16	NTPC ISTS Solar	300.00	23.90	0.75	625.09	337.55	287.54
17	GRT Jewellers (SECI - V)	150.00	21.84	0.75	285.61	154.23	131.38
18	Wind ISTS Scheme Tranche I (PTC) (Green Infra, Inox, Mytrah & Ostro)	200.00	26.87	0.75	468.51	253.00	215.52
19	Wind ISTS Scheme Tranche II (SECI) (Orange)	100.00	26.87	0.75	234.26	126.50	107.76
20	SECI Phase-III Wind				-	-	-
21	SECI Green Infra	100.00	26.87	0.75	234.26	126.50	107.76
22	Alfanar	50.00	26.87	0.75	117.13	63.25	53.88
23	Betam	50.20	34.70	0.75	151.86	82.01	69.86
24	Adani Green (SECI - V)	125.00	32.27	0.75	351.67	189.90	161.77
25	Ecoren Energy (SECI - V)	175.00	11.52	0.75	175.76	94.91	80.85
26	Ostro Kannad	300.00	31.47	0.75	823.08	444.46	378.62
27	Morjar Windfarm	50.00	28.28	0.75	123.27	66.57	56.71
28	SEB Renewables (SECI Phase-V Solar)	330.00	23.48	0.75	675.51	364.78	310.74
29	BREDA Floating Solar Project	2.00	19.05	0.75	3.32	1.79	1.53
30	BREDA Solar Project	250.00	14.32	0.75	14.21	7.67	6.54
31	SECI Hybrid Project	210.00	7.24	0.75	43.76	23.63	20.13
32	New Swadeshi Sugar Mill, Narkataganj	10.00	50.46	8.50	40.56	21.90	18.66
33	Hasanpur Sugar Mill, Dalsinghsarai	14.50	50.46	8.50	58.81	31.76	27.05
34	Bharat Sugar Mills, Sidhwalia,	15.00	50.46	8.50	60.83	32.85	27.98

Sl. No	Particulars	Bihar Share allocation (MW)	Normative PLF (85%)	Aux (%) Consumption	Power at Ex-bus (MU) after Aux consumption	SBPDCL (54%)	NBPDC (46%)
	Gopalganj						
35	Hari Nagar Sugar Mills, Hari Nagar, West Champaran	14.50	50.46	8.50	58.81	31.76	27.05
36	HPCL Biofuels Ltd., Sugauli, East Champaran	20.00	50.46	8.50	81.11	43.80	37.31
37	HPCL Biofuels Ltd., Lauria, West Champaran	20.00	50.46	8.50	81.11	43.80	37.31
38	Riga Sugar Company Ltd.	3.00	50.46	8.50	12.17	6.57	5.60
39	Siddhashram Rice Mill Cluster Pvt Ltd	1.00	73.40	8.50	5.90	3.19	2.71
40	Bihar Distillers & Bottlers Pvt Ltd	9.40	73.40	8.50	55.45	29.95	25.51
41	Tirupati Sugar	6.00	54.74	0.25	28.78	15.54	13.24
V	<b>Others</b>				<b>179.32</b>	<b>96.83</b>	<b>82.49</b>
1	PTC(IEX)				179.32	96.83	82.49
	<b>Grand Total</b>	<b>11,251.49</b>			<b>59,070.15</b>	<b>31,897.88</b>	<b>27,172.27</b>

## 6.7. Energy Balance

### Petitioners' submission

The energy balance projected by NBPDC & SBPDCL for 2023-24 is as shown in the table below:

**Table 6.17: Energy Balance projected by NBPDC & SBPDCL for FY 2023-24**

Sl. No	Particulars	Unit	NBPDC	SBPDCL
<b>A</b>	<b>Energy Requirement</b>			
1	Energy sales	MU	14,752.43	16,654.10
2	Less: Inter-state sales	MU	458.95	-
3	Energy sales excluding Inter-state sales	MU	14,293.48	16,654.10
4	Distribution Loss	%	18.14%	20.00%
5	Add: Distribution Loss	MU	3,167.40	4,163.53
<b>6</b>	<b>Energy required at Distribution periphery</b>	<b>MU</b>	<b>17,460.88</b>	<b>20,817.63</b>
7	Add: Inter-state sales	MU	458.95	
<b>8</b>	<b>Total energy required at Distribution periphery</b>	<b>MU</b>	<b>17,919.83</b>	<b>20,817.63</b>
9	State Transmission Loss	%	3.00%	3.00%
10	Add: State Transmission Loss	MU	554.22	643.84
<b>11</b>	<b>Total energy required at State Transmission Periphery</b>	<b>MU</b>	<b>18,474.05</b>	<b>21,461.47</b>



Sl. No	Particulars	Unit	NBPDCCL	SBPDCL
12	Losses in Regional Transmission system	%	3.34%	3.34%
13	Losses in Regional Transmission system	MU	638.35	741.58
14	<b>Total Energy Requirement at ex-bus</b>	MU	<b>19,112.41</b>	<b>22,203.05</b>
15	<b>Total energy Purchased</b>	MU	19,005.11	22,310.35
16	<b>Energy Surplus/(Deficit) at State Periphery</b>	MU	<b>(107.30)</b>	<b>107.30</b>

Petitioners have calculated a deficit energy at state periphery to be 107.30 MU for NBPDCCL and surplus energy of 107.30 for SBPDCL in FY 2023-24 which would be used for an Intra-DISCOM transaction to counter the surplus of SBPDCL at state periphery as the power purchase is undertaken at BSPHCL level and further distributed between SBPDCL and NBPDCCL in the ratio of 54:46, further to be adjusted as per actual ratio of consumption.

### Commission's analysis

The Commission has noted that in the above Table, the Petitioners have computed the energy requirement considering the distribution loss at 18.14% for NBPDCCL and at 20.00% for SBPDCL as against 15% approved by the Commission.

Commission has considered the distribution loss at 15% as approved in this order and STU loss at 3.00% and CTU loss at 3.34% as projected by the Petitioner.

Accordingly, the details of energy requirement, energy availability during FY 2023-24 is computed as shown in the Table below:

**Table 6.18: Energy Balance Computed with approved sales and losses for NBPDCCL and SBPDCL for FY 2023-24 considering power availability**

Sl. No	Particulars	Unit	FY 2023-24	
A	Energy Requirement		NBPDCCL	SBPDCL
1	Energy sales	MU	14,752.43	16,654.10
2	Less: Inter-state sales	MU	458.95	
3	Energy sales excluding Inter-state sales	MU	14,293.48	16,654.10
4	Distribution Loss	%	15.00	15.00
5	Add: Distribution Loss	MU	2,522.38	2,938.96
6	Total energy required at Distribution periphery	MU	16,815.86	19,593.06
7	Add: Inter-state sales	MU	458.95	-
8	Total energy required at	MU	17,274.81	19,593.06

Sl. No	Particulars	Unit	FY 2023-24	
	Distribution periphery			
9	State Transmission Loss	%	3.00	3.00
10	Add: State Transmission Loss	MU	534.27	605.97
11	Total energy required at State Transmission Periphery	MU	<b>17,809.08</b>	<b>20,199.03</b>
B	<b>Energy Available</b>			
1	From Central Sector Stations injecting at CTU	MU	21,169.68	24,851.37
2	From IPP	MU	1,533.59	1,800.30
3	From Stations injecting at STU	MU	1,604.59	1,883.64
4	From Renewable Sources	MU	2,781.92	3,265.73
5	UI (Net)	MU	-	
6	Others	MU	82.49	96.83
7	Total		<b>27,172.27</b>	<b>31,897.88</b>
8	CTU losses	%	3.34	3.34
9	CTU Losses	MU	758.29	890.17
10	Net power available at State periphery (7-9)	MU	<b>26,413.98</b>	<b>31,007.71</b>
C	<b>Energy Surplus/(Deficit) at State Periphery</b>	MU	<b>8,604.90</b>	<b>10,808.68</b>

#### 6.8. Power Purchase Requirement

The Commission observes that based on power availability from various sources, there will be surplus availability in FY 2023-24. Therefore, the Commission has regulated the power purchase in FY 2023-24 duly observing Merit Order Despatch (MoD) principle.

As per MoD principle, the plants which are not “Must Run” are stacked in ascending order of their variable cost (Rs/kWh). The demand is then met through stations in ascending order of their variable cost subject to “Technical Minimum” procurement.

The following table shows the details of Merit Order Dispatch considered for FY 2023-24 for estimating the power purchase requirement for FY 2023-24.

**Table 6.19: Merit Order Dispatch Considered by the Commission**

Sl. No	Particulars	Source	Mode of Operation	Energy Cost (Rs/Kwh)
A	<b>Hydel</b>			
1	Teesta	Hydel	Must Run	1.16
2	Rangit	Hydel	Must Run	1.90
3	Tala	Hydel	Must Run	2.16
4	Chuka	Hydel	Must Run	2.40
5	BSPHC	Hydel	Must Run	2.49
6	Mangdechu	Hydel	Must Run	4.19

Sl. No	Particulars	Source	Mode of Operation	Energy Cost (Rs/Kwh)
<b>B</b>	<b>Renewables</b>			
1	Ostro Kannad	Non Solar	Must Run	2.19
2	Morjar Windfarm	Non Solar	Must Run	2.19
3	GRT Jewellers (SECI - V)	Solar	Must Run	2.50
4	SECI Phase-II Solar	Solar	Must Run	2.51
5	SECI Phase-III (Renew Sunwaves)	Solar	Must Run	2.51
6	SECI Green Infra	Solar	Must Run	2.51
7	Alfanar	Non Solar	Must Run	2.52
8	Betam	Non Solar	Must Run	2.52
9	NTPC ISTS Solar	Solar	Must Run	2.67
10	Wind ISTS Scheme Tranche II (SECI) (Orange)	Non Solar	Must Run	2.71
11	SBE Renewables (SECI Phase-V Solar)	Solar	Must Run	2.72
12	Adani Green (SECI -V)	Non Solar	Must Run	2.76
13	Ecoren Energy (SECI - V)	Non Solar	Must Run	2.77
14	BREDA Solar Project	Solar	Must Run	3.11
15	Wind ISTS Scheme Tranche I (PTC) (Green Infra, Inox, Mytrah & Ostro)	Non Solar	Must Run	3.18
16	SECI Hybrid Project	Solar	Must Run	4.02
17	BREDA Floating Solar Project	Solar	Must Run	4.15
18	Bharat Sugar Mills, Sidhwalia, Gopalganj	Non Solar	Must Run	5.02
19	New Swadeshi Sugar Mill, Narkataganj	Non Solar	Must Run	5.07
20	HPCL Biofuels Ltd., Sugauli, East Champaran	Non Solar	Must Run	5.07
21	Hari Nagar Sugar Mills, Hari Nagar, West Champaran	Non Solar	Must Run	5.08
22	HPCL Biofuels Ltd., Lauria, West Champaran	Non Solar	Must Run	5.08
23	Solar Energy Corporation of India Ltd., Government of India	Solar	Must Run	5.93
24	Hasanpur Sugar Mill, Dalsinghsarai	Non Solar	Must Run	6.22
25	Riga Sugar Company Ltd.	Non Solar	Must Run	6.25
26	Bihar Distillers & Bottlers Pvt Ltd	Non Solar	Must Run	6.36
27	Tirupati Sugar	Non Solar	Must Run	6.36
28	M/s Glatt Solutions Pvt. Ltd, Kolkata.	Solar	Must Run	7.01
29	M/s Sunmark Energy Projects Limited (Formerly MBCEL)	Solar	Must Run	7.02
30	M/s Response renewable Energy Ltd, Kolkata.	Solar	Must Run	7.02
31	Siddhashram Rice Mill Cluster Pvt Ltd	Non Solar	Must Run	7.23
32	M/s Avantika Contractors Ltd., Hyderabad	Solar	Must Run	7.69
33	Alfa Infraprop Pvt. Ltd.	Solar	Must Run	7.87
34	Udipta Energy & Equipment Pvt. Ltd.	Solar	Must Run	7.97
35	Azure Power India Pvt. Ltd.	Solar	Must Run	8.40
36	Welspun Renewables Project – III	Solar	Must Run	8.56

Sl. No	Particulars	Source	Mode of Operation	Energy Cost (Rs/Kwh)
37	Welspun Renewables Project – II	Solar	Must Run	8.64
38	Welspun Renewables Project - I	Solar	Must Run	8.70
39	Acme Cleantech Project (Nalanda)	Solar	Must Run	8.73
40	Acme Cleantech Project (Magadh)	Solar	Must Run	8.73
C	<b>THERMAL</b>			
1	JITPL	THERMAL	Merit	1.12
2	GMR	THERMAL	Merit	1.20
2	Darlipali STPS Unit I	THERMAL	Merit	1.22
3	Darlipali STPS Unit II	THERMAL	Merit	1.22
4	Talcher Stage I	THERMAL	Merit	2.08
6	North Karanpura Unit I	THERMAL	Merit	2.22
7	North Karanpura Unit II	THERMAL	Merit	2.22
8	BTPS Stage II Unit I	THERMAL	Merit	2.69
9	BTPS Stage II Unit II	THERMAL	Merit	2.69
10	Nabinagar (BRBCL) Unit I - III	THERMAL	Merit	2.75
11	Nabinagar (BRBCL) Unit IV	THERMAL	Merit	2.75
12	NPGCL Unit I	THERMAL	Merit	2.77
13	NPGCL Unit II	THERMAL	Merit	2.77
14	NPGCL Unit III	THERMAL	Merit	2.77
15	KBUNL Stage II	THERMAL	Merit	2.92
16	Barh Stage I Unit I	THERMAL	Merit	3.19
17	Barh Stage I Unit II	THERMAL	Merit	3.19
18	Barh Stage I Unit III	THERMAL	Merit	3.19
19	Barh Stage II	THERMAL	Merit	3.19
20	KHSTPP I	THERMAL	Merit	3.61
21	KHSTPP II	THERMAL	Merit	3.61
22	FSTPP I & II	THERMAL	Merit	3.93
23	FSTPP III	THERMAL	Merit	3.93
24	KBUNL Stage I	THERMAL	Merit	
25	BTPS Stage I Unit I	THERMAL	Merit	
26	BTPS Stage I Unit II	THERMAL	Merit	
27	PTC(IX)	THERMAL	Merit	

The Commission approves the power purchase from various sources / stations for FY 2023-24 based on the above Merit Order and considering the energy availability as shown in Table below:

Table 6.20: Power Purchase (MU) for NBPDC &amp; SBPDCL FY 2023-24 as computed by Commission considering Merit Order

Sl. No	Particulars	Bihar Share allocation (MW)	SBPDCL Allocation (MW)	NBPDC Allocation (MW)	Normative PLF (85%)	Aux (%) Cons	Power at Ex-bus (MU) after Aux consumption	SBPDCL (54%)	NBPDC (46%)	Energy Cost (Rs/Kwh)	SBPDCL		NBPDC	
A	Hydel										%	MU	%	MU
1	Teesta	108.43	58.55	49.88	50.00	1.00	471.44	254.58	216.86	1.16	100	254.58	100	216.86
2	Tala	260.10	140.45	119.65	50.00	1.00	1,130.94	610.71	520.23	2.16	100	610.71	100	520.23
3	Rangit	21.00	11.34	9.66	50.00	1.00	91.31	49.31	42.00	1.90	100	49.31	100	42.00
4	Chuka	98.85	53.38	45.47	50.00	1.00	429.79	232.09	197.70	2.40	100	232.09	100	197.70
5	BSPHC	64.00	34.56	29.44	13.00	1.00	72.35	39.07	33.28	2.49	100	39.07	100	33.28
6	Mangdechu	226.00	122.04	103.96	50.00	1.00	982.67	530.64	452.03	4.19	100	530.64	100	452.03
	<b>Total Hydel</b>	<b>778.37</b>	<b>420.32</b>	<b>358.05</b>			<b>3,178.50</b>	<b>1,716.39</b>	<b>1,462.11</b>			<b>1,716.39</b>		<b>1,462.11</b>
B	<b>Renewables Total</b>	<b>3,093.60</b>	<b>1,670.54</b>	<b>1,423.06</b>			<b>6,047.65</b>	<b>3,265.73</b>	<b>2,781.92</b>			<b>3,265.73</b>		<b>2,781.92</b>
C	<b>THERMAL</b>													
1	JITPL	228.00	123.12	104.88	85.00	8.50	1,557.64	841.13	716.51	1.12	100	841.13	100	716.51
2	GMR	260.00	140.40	119.60	85.00	8.50	1,776.26	959.18	817.08	1.20	55	527.55	89	722.64
3	Darlipali STPS Unit I	94.88	51.24	43.64	85.00	8.50	648.20	350.03	298.17	1.22	100	350.03	100	298.17
4	Darlipali STPS Unit II	94.88	51.24	43.64	85.00	8.50	648.20	350.03	298.17	1.22	100	350.03	100	298.17
5	Talcher Stage I	412.50	222.75	189.75	85.00	8.50	2,818.10	1,521.77	1,296.33	2.08	76	1,158.66	100	1,296.33
6	North Karanpura Unit I	229.35	123.85	105.50	85.00	8.50	1,566.86	846.11	720.76	2.22	55	465.36	55	396.42
7	North Karanpura Unit II	229.35	123.85	105.50	85.00	8.50	1,265.58	683.42	582.17	2.22	55	375.88	62	360.94
8	BTPS Stage II Unit I	250.00	135.00	115.00	85.00	8.50	1,707.94	922.29	785.65	2.69	55	507.26	55	432.11
9	BTPS Stage II Unit II	250.00	135.00	115.00	85.00	8.50	1,707.94	922.29	785.65	2.69	55	507.26	55	432.11

Sl. No	Particulars	Bihar Share allocation (MW)	SBPDCL Allocation (MW)	NBPDC Allocation (MW)	Normative PLF (85%)	Aux (%) Cons	Power at Ex-bus (MU) after Aux consumption	SBPDCL (54%)	NBPDC (46%)	Energy Cost (Rs/Kwh)	SBPDCL		NBPDC	
10	Nabinagar (BRBCL) Unit I - III	75.00	40.50	34.50	85.00	8.50	512.38	276.69	235.70	2.75	55	152.18	55	129.63
11	Nabinagar (BRBCL) Unit IV	25.00	13.50	11.50	85.00	8.50	170.79	92.23	78.57	2.75	55	50.73	55	43.21
12	NPGCL Unit I	559.48	302.12	257.36	85.00	8.50	3,822.24	2,064.01	1,758.23	2.77	55	1,135.21	55	967.03
13	NPGCL Unit II	559.48	302.12	257.36	85.00	8.50	3,822.24	2,064.01	1,758.23	2.77	55	1,135.21	55	967.03
14	NPGCL Unit III	559.48	302.12	257.36	85.00	8.50	3,822.24	2,064.01	1,758.23	2.77	55	1,135.21	55	967.03
15	KBUNL Stage II	292.38	157.89	134.50	85.00	8.50	1,997.49	1,078.64	918.85	2.92	55	593.25	55	505.36
16	Barh Stage I Unit II	341.88	184.62	157.26	85.00	8.50	2,335.64	1,261.25	1,074.39	3.19	55	693.69	55	590.92
17	Barh Stage I Unit III	341.88	184.62	157.26	85.00	8.50	1,886.54	1,018.73	867.81	3.19	55	560.30	55	477.29
18	Barh Stage I Unit I	341.88	184.62	157.26	85.00	8.50	2,335.64	1,261.25	1,074.39	3.19	55	693.69	55	590.92
19	Barh Stage II	1,197.77	646.79	550.97	85.00	8.50	8,182.86	4,418.74	3,764.12	3.19	55	2,430.31	55	2,070.26
20	KHSTPP I	74.70	40.34	34.36	85.00	8.50	510.33	275.58	234.75	3.61	55	151.57	55	129.11
21	KHSTPP II	351.62	189.87	161.75	85.00	8.50	2,402.18	1,297.18	1,105.00	3.61	55	713.45	55	607.75
22	FSTPP I& II	107.60	58.10	49.50	85.00	8.50	735.10	396.95	338.14	3.93	55	218.32	55	185.98
23	FSTPP III	502.40	271.30	231.10	85.00	8.50	3,432.27	1,853.43	1,578.85	3.93	55	1,019.39	55	868.37
24	PTC(IEC)		-	-			179.32	96.83	82.49					
		<b>7,379.52</b>	<b>3,984.94</b>	<b>3,394.58</b>			<b>49,844.00</b>	<b>26,915.76</b>	<b>22,928.24</b>			<b>15,765.62</b>		<b>14,053.29</b>
	<b>Total</b>	<b>11,251.49</b>	<b>6,075.80</b>	<b>5,175.68</b>			<b>59,070.15</b>	<b>31,897.88</b>	<b>27,172.27</b>			<b>20,747.74</b>		<b>18,297.32</b>

The Discoms are required to procure power in economical manner following the Merit Order Dispatch which is integral part of power procurement.

The details of energy requirement and energy from various sources required to be purchased during FY 2023-24 is as given in the Energy Balance Table below:

**Table 6.21: Revised Energy Balance Computed with approved energy availability for FY 2023-24**

Particulars	Unit	NBPDCCL	SBPDCL
<b>Energy Requirement</b>			
Energy sales	MU	14,752.43	16,654.10
Less: Inter-state sales	MU	458.95	
Energy sales excluding Inter-state sales	MU	14,293.48	16,654.10
Distribution Loss	%	15.00	15.00
Add: Distribution Loss	MU	2,522.38	2,938.96
Total energy required at Distribution periphery	MU	16,815.86	19,593.06
Add: Inter-state sales	MU	458.95	-
Total energy required at Distribution periphery	MU	17,274.81	19,593.06
State Transmission Loss	%	3.00	3.00
Add: State Transmission Loss	MU	534.27	605.97
Total energy required at State Transmission Periphery	MU	<b>17,809.08</b>	<b>20,199.03</b>
<b>Energy Available</b>			
From Central Sector Stations injecting at CTU	MU	13,178.75	15,059.75
From IPP	MU	1,439.15	1,368.67
From Stations injecting at STU	MU	897.50	1,053.59
From Renewable Sources	MU	2,781.92	3,265.73
UI (Net)	MU	-	
Others	MU	0.00	0.00
Total		<b>18,297.32</b>	<b>20,747.74</b>
CTU losses	%	3.34	3.34
CTU Losses	MU	488.24	548.71
Net power available at State periphery (7-9)	MU	<b>17,809.08</b>	<b>20,199.03</b>
<b>Energy Surplus/(Deficit) at State Periphery</b>	MU	0.00	0.00

As shown in the above table the power purchase required to purchase is 18297.32 MU by NBPDCCL and 20747.74 MU by SBPDCL as against 19005.11 MU projected by NBPDCCL and 22310.35 MU projected by SBPDCL for FY 2023-24.

**6.9. Power Purchase Cost for FY 2023-24****Petitioners' submission**

The power purchase cost mainly comprises of fixed charges and energy charges for two-part tariff stations i.e. NTPC, NHPC & PTC in case of Petitioner. The Petitioners have considered the actual fixed cost as prevailing in FY 2021-22 for existing power stations. No increase in fixed charges has been considered in FY 2023-24 with respect to the fixed charges in FY 2021-22.

Further, as there has been increase in Variable cost of the plants due to coal blending allowed by the MoP as explained in the previous Chapter, no increase in the Variable cost has been considered in FY 2023-24 and same variable cost has been considered as assumed for 2nd half (September 2022- March 2023) of the FY 2022-23.

Transmission charges have been increased 10% with respect to that approved by the Commission for FY 22-23 in MYT Order dated 25.03.2022.

Petitioners have considered the new plants as per information available with them. The new plants for which cost details are not available, the cost break-up of similar capacity plants has been considered for projection.

The Petitioners have considered the upcoming conventional projects power purchase cost as per the approved PPA/PSA. For Non-Conventional, it has considered as per tariff discovered.

The detailed projected power purchase costs of different Power generating stations for FY 2023-24 is as given in the tables below:



**Table 6.22: Power Purchase Cost projected by NBPDC for FY 2023-24**

Name of The Source	Share allocated (MW)	Units purchased (MU)	Fixed Cost (Rs. Cr /MW)	Fixed charge (Rs Crs)	Energy cost (Rs/kWh)	Energy cost (Rs Crs)	Misc cost (Rs Crs)	Total Cost (Rs Crs)	Avg Cost (Rs/kWh)
<b>Stations injecting at CTU</b>	<b>3,304.74</b>	<b>13,615.39</b>	<b>1.03</b>	<b>3,391.95</b>	<b>3.19</b>	<b>4,338.86</b>	-	<b>7,730.80</b>	<b>5.68</b>
FSTPP I & II	231.10	614.08	0.56	128.27	4.42	271.42	-	399.70	6.51
FSTPP III	49.50	191.10	1.04	51.40	4.21	80.44	-	131.84	6.90
KHSTPP I	161.75	569.24	0.69	112.06	4.23	240.74	-	352.80	6.20
KHSTPP II	34.36	136.38	0.71	24.41	4.03	55.03	-	79.44	5.82
Barh Stage I Unit I	157.26	695.55	1.09	171.42	3.46	240.57	-	411.99	5.92
Barh Stage I Unit II	157.26	695.55	1.09	171.42	3.46	240.57	-	411.99	5.92
Barh Stage I Unit III	157.26	595.23	0.82	128.56	3.46	205.87	-	334.43	5.62
Barh Stage II	550.97	1,530.46	1.48	812.77	3.83	586.21	-	1,398.98	9.14
Nabinagar (BRBCL)	46.00	201.88	1.19	54.61	3.01	60.76	-	115.37	5.71
Korba	-	-	-	-	-	-	-	-	-
Talcher Stage I	189.75	979.91	0.66	125.78	2.24	219.39	-	345.17	3.52
KBUNL Stage II	134.50	580.60	1.86	250.07	3.20	185.50	-	435.58	7.50
NPGCL	772.09	3,397.24	0.94	726.01	3.14	1,065.53	-	1,791.54	5.27
North Karanpura Unit I	-	470.08	-	115.00	2.22	104.36	-	219.35	4.67
North Karanpura Unit II	-	347.80	-	86.25	2.22	77.21	-	163.46	4.70
North Karanpura Unit III	-	-	-	-	-	-	-	-	-
Darlipali STPS	87.29	475.52	0.97	84.28	1.28	60.71	-	144.99	3.05
Buxar TPP U1	258.06	582.58	0.82	210.96	3.46	201.50	-	412.46	7.08
Buxar TPP U2	258.06	93.40	0.37	95.17	3.46	32.30	-	127.47	13.65
BSPHCL_RAIL	-	-	-	-	-	-	-	-	-
Chuka	-	230.37	-	-	2.40	55.32	-	55.32	2.40
Rangit	9.66	51.02	1.13	10.92	2.33	11.90	-	22.82	4.47
Tala	-	364.93	-	-	2.27	82.84	-	82.84	2.27
Teesta	49.88	263.41	0.65	32.58	1.16	30.64	-	63.21	2.40
Mangdechhu	-	549.05	-	-	4.19	230.05	-	230.05	4.19
Capacity Refund Charges by NTPC	-	-	-	-	-	-	-	-	-
								-	
<b>Stations injecting at STU</b>	<b>144.44</b>	<b>1,228.92</b>	<b>3.48</b>	<b>502.30</b>	<b>2.94</b>	<b>361.35</b>	-	<b>863.65</b>	<b>7.03</b>
BSPHC	29.44	4.39	-	-	2.49	1.09	-	1.09	2.49
KBUNL Stage I	-	-	-	-	-	-	-	-	-
BTPS Stage I Unit I	-	-	-	-	-	-	-	-	-
BTPS Stage I Unit II	-	-	-	-	-	-	-	-	-
BTPS Stage II Unit I	115.00	612.27	2.18	251.15	2.94	180.13	-	431.28	7.04
BTPS Stage II Unit II	-	612.27	-	251.15	2.94	180.13	-	431.28	7.04
								-	
<b>IPPs</b>	<b>224.48</b>	<b>1,274.44</b>	<b>1.67</b>	<b>374.39</b>	<b>1.25</b>	<b>159.27</b>	-	<b>533.66</b>	<b>4.19</b>
GMR	119.60	649.05	1.34	160.54	1.32	85.70	-	246.24	3.79
JITPL	104.88	625.39	2.04	213.85	1.18	73.57	-	287.42	4.60
								-	
<b>Renewables</b>	<b>1,224.24</b>	<b>2,803.88</b>	-	-	<b>3.07</b>	<b>861.72</b>	-	<b>861.72</b>	<b>3.07</b>
M/s Sunmark Energy Projects Limited (Formerly MBCEL)	4.60	7.60	-	-	7.02	5.33	-	5.33	7.02
M/s Response renewable Energy Ltd, Kolkata.	4.60	7.60	-	-	7.02	5.33	-	5.33	7.02

Name of The Source	Share allocated (MW)	Units purchased (MU)	Fixed Cost (Rs. Cr /MW)	Fixed charge (Rs Crs)	Energy cost (Rs/kWh)	Energy cost (Rs Crs)	Misc cost (Rs Crs)	Total Cost (Rs Crs)	Avg Cost (Rs/kWh)
M/s Avantika Contractors Ltd., Hyderabad	2.30	3.80	-	-	7.69	2.92	-	2.92	7.69
M/s Glatt Solutions Pvt. Ltd, Kolkata.	1.38	2.28	-	-	7.01	1.60	-	1.60	7.01
Alfa Infraprop Pvt. Ltd.	9.20	15.20	-	-	7.87	11.96	-	11.96	7.87
Udipta Energy & Equipment Pvt. Ltd.	2.30	3.80	-	-	7.97	3.03	-	3.03	7.97
Azure Power India Pvt. Ltd.	4.60	7.60	-	-	8.40	6.38	-	6.38	8.40
Welspun Renewables Project – I	4.60	7.60	-	-	8.70	6.61	-	6.61	8.70
Welspun Renewables Project – II	6.90	11.40	-	-	8.64	9.85	-	9.85	8.64
Welspun Renewables Project – III	6.90	11.40	-	-	8.56	9.76	-	9.76	8.56
Acme Cleantech Project (Nalanda)	6.90	11.40	-	-	8.73	9.95	-	9.95	8.73
Acme Cleantech Project (Magadh)	4.60	7.60	-	-	8.73	6.63	-	6.63	8.73
Solar Energy Corporation of India Ltd., Government of India	4.60	8.80	-	-	5.93	5.21	-	5.21	5.93
SECI Phase-II Solar	-	131.98	-	-	2.51	33.14	-	33.14	2.51
SECI Phase-III (Renew Sunwaves)	138.00	263.96	-	-	2.51	66.36	-	66.36	2.51
NTPC ISTS Solar	138.00	263.96	-	-	2.67	70.47	-	70.47	2.67
GRT Jewellers (SECI-V)	69.00	131.98	-	-	2.50	32.99	-	32.99	2.50
Wind ISTS Scheme Tranche I (PTC) (Green Infra, Inox, Mytrah & Ostro)	92.00	255.96	-	-	3.18	81.45	-	81.45	3.18
Wind ISTS Scheme Tranche II (SECI) (Orange)	46.00	127.98	-	-	2.71	34.68	-	34.68	2.71
SECI Phase-III Wind	-	-	-	-	-	-	-	-	-
SECI Green Infra	46.00	139.98	-	-	2.51	35.13	-	35.13	2.51
Torrent Power	22.91	-	-	-	-	-	-	-	-
Adani Green	23.00	-	-	-	-	-	-	-	-
Alfanar	23.00	69.99	-	-	2.52	17.64	-	17.64	2.52
Betam	23.09	70.27	-	-	2.52	17.71	-	17.71	2.52
Adani Green (SECI-V)	57.50	58.00	-	-	2.76	16.01	-	16.01	2.76
Ecoren Energy (SECI-V)	80.50	81.21	-	-	2.77	22.49	-	22.49	2.77
SECI Phase-VI Wind	-	-	-	-	-	-	-	-	-
Ostro Kannad	138.00	419.93	-	-	2.19	91.76	-	91.76	2.19
Morjar Windfarm	-	69.99	-	-	2.19	15.29	-	15.29	2.19
SBE Renewable (SECI Phase-V)	-	290.35	-	-	2.72	78.98	-	78.98	2.72
BREDA Floating	-	1.76	-	-	4.15	0.73	-	0.73	4.15

Name of The Source	Share allocated (MW)	Units purchased (MU)	Fixed Cost (Rs. Cr /MW)	Fixed charge (Rs Crs)	Energy cost (Rs/kWh)	Energy cost (Rs Crs)	Misc cost (Rs Crs)	Total Cost (Rs Crs)	Avg Cost (Rs/kWh)
Solar Project									
BREDA Solar Project	115.00	18.68	-	-	3.11	5.81	-	5.81	3.11
Kajra+Pirpainti Solar Project	-	-		-		-	-	-	
SECI Hybrid Project	96.60	61.25	-	-	4.02	24.62	-	24.62	4.02
New Swadeshi Sugar Mill, Narkataganj	4.60	20.28	-	-	5.07	10.28	-	10.28	5.07
Hasanpur Sugar Mill, Dalsinghsarai	6.67	29.40	-	-	6.22	18.29	-	18.29	6.22
Bharat Sugar Mills, Sidhwalia, Gopalganj	6.90	30.42	-	-	5.02	15.26	-	15.26	5.02
Hari Nagar Sugar Mills, Hari Nagar, West Champaran	6.67	29.40	-	-	5.08	14.93	-	14.93	5.08
HPCL Biofuels Ltd., Sugauli, East Champaran	9.20	40.56	-	-	5.07	20.58	-	20.58	5.07
HPCL Biofuels Ltd., Lauria, West Champaran	9.20	40.56	-	-	5.08	20.59	-	20.59	5.08
Riga Sugar Company Ltd.	1.38	6.08	-	-	6.25	3.80	-	3.80	6.25
Siddhashram Rice Mill Cluster Pvt Ltd	0.46	2.95	-	-		2.13	-		
Bihar Distillers & Bottlers Pvt Ltd	4.32	27.73	-	-		17.63	-		
Tirupati Sugar	2.76	13.20	-	-		8.39	-		
REC Cost	-	-		-		-	-		
								-	
<b>Others</b>	-	<b>82.49</b>		-	<b>6.68</b>	<b>55.12</b>	-	55.12	6.68
PTC(IEX)	-	82.49		-	6.68	55.12	-	55.12	6.68
GTAM IEX	-	-		-		-	-	-	
DB Power	-	-		-		-	-	-	
Prior Period Expenses	-	-		-		-	-	-	
UPPCL	-	-		-		-	-	-	
NEA	-	-		-		-	-	-	
UI	-	-		-		-	-	-	
PTC JITPL				-			-	-	
PTC SKS Power				-			-	-	
								-	
<b>Total</b>	<b>4,897.91</b>	<b>19005.11</b>	<b>1.26</b>	<b>6193.90</b>	<b>3.04</b>	<b>5776.31</b>	<b>0.00</b>	<b>11970.22</b>	<b>6.30</b>

**Table 6.23: Power Purchase Cost Projected by SBPDCL for FY 2023-24**

Name of The Source	Share allocated (MW)	Units purchased (MU)	Fixed Cost (Rs. Cr /MW)	Fixed charge (Rs Crs)	Energy cost (Rs/kWh)	Energy cost (Rs Crs)	Misc cost (Rs Crs)	Total Cost (Rs Crs)	Avg Cost
<b>Stations injecting at CTU</b>	<b>4,443.06</b>	<b>15,983.28</b>	<b>0.90</b>	<b>3,981.85</b>	<b>3.19</b>	<b>5,093.44</b>	-	<b>9,075.29</b>	<b>5.68</b>
FSTPP I & II	271.30	720.88	0.56	150.58	4.42	318.63	-	469.21	6.51
FSTPP III	58.10	224.34	1.04	60.34	4.21	94.43	-	154.77	6.90
KHSTPP I	189.88	668.24	0.69	131.55	4.23	282.61	-	414.16	6.20
KHSTPP II	40.34	160.10	0.71	28.66	4.03	64.60	-	93.25	5.82
Barh Stage I Unit I	184.62	816.51	1.09	201.23	3.46	282.40	-	483.63	5.92
Barh Stage I Unit II	184.62	816.51	1.09	201.23	3.46	282.40	-	483.63	5.92
Barh Stage I Unit III	184.62	698.75	0.82	150.92	3.46	241.67	-	392.60	5.62
Barh Stage II	646.79	1,796.63	1.48	954.12	3.83	688.16	-	1,642.28	9.14
Nabinagar (BRBCL)	54.00	236.98	1.19	64.11	3.01	71.33	-	135.43	5.71
Korba	-	-	-	-	-	-	-	-	-
Talcher Stage I	222.75	1,150.33	0.66	147.66	2.24	257.54	-	405.20	3.52
KBUNL Stage II	157.89	681.58	1.86	293.57	3.20	217.77	-	511.33	7.50
NPGCL	906.36	3,988.07	0.94	852.27	3.14	1,250.84	-	2,103.11	5.27
North Karanpura Unit I	123.85	551.83	1.09	135.00	2.22	122.51	-	257.50	4.67
North Karanpura Unit II	123.85	408.29	0.82	101.25	2.22	90.64	-	191.89	4.70
North Karanpura Unit III	-	-	-	-	-	-	-	-	-
Darlipali STPS	102.47	558.22	0.97	98.94	1.28	71.27	-	170.21	3.05
Buxar TPP U1	302.94	683.90	0.82	247.65	3.46	236.54	-	484.19	7.08
Buxar TPP U2	302.94	109.64	0.37	111.72	3.46	37.92	-	149.64	13.65
BSPHCL_RAIL	-	-	-	-	-	-	-	-	-
Chuka	53.38	270.43	-	-	2.40	64.95	-	64.95	2.40
Rangit	11.34	59.89	1.13	12.82	2.33	13.97	-	26.79	4.47
Tala	140.45	428.40	-	-	2.27	97.25	-	97.25	2.27
Teesta	58.55	309.23	0.65	38.24	1.16	35.96	-	74.21	2.40
Mangdechhu	122.04	644.54	-	-	4.19	270.06	-	270.06	4.19
Capacity Refund Charges by NTPC	-	-	-	-	-	-	-	-	-
								-	
<b>Stations injecting at STU</b>	<b>304.56</b>	<b>1,442.64</b>	<b>1.94</b>	<b>589.66</b>	<b>2.94</b>	<b>424.19</b>	-	<b>1,013.85</b>	<b>7.03</b>
BSPHC	34.56	5.15	-	-	2.49	1.28	-	1.28	2.49
KBUNL Stage I	-	-	-	-	-	-	-	-	-
BTPS Stage I Unit I	-	-	-	-	-	-	-	-	-
BTPS Stage I Unit II	-	-	-	-	-	-	-	-	-
BTPS Stage II Unit I	135.00	718.75	2.18	294.83	2.94	211.46	-	506.29	7.04
BTPS Stage II Unit II	135.00	718.75	2.18	294.83	2.94	211.46	-	506.29	7.04
								-	
<b>IPPs</b>	<b>263.52</b>	<b>1,496.08</b>	<b>1.67</b>	<b>439.50</b>	<b>1.25</b>	<b>186.97</b>	-	<b>626.47</b>	<b>4.19</b>
GMR	140.40	761.93	1.34	188.46	1.32	100.61	-	289.06	3.79
JITPL	123.12	734.15	2.04	251.04	1.18	86.36	-	337.41	4.60
								-	

Name of The Source	Share allocated (MW)	Units purchased (MU)	Fixed Cost (Rs. Cr /MW)	Fixed charge (Rs Crs)	Energy cost (Rs/ kWh)	Energy cost (Rs Crs)	Misc cost (Rs Crs)	Total Cost (Rs Crs)	Avg Cost
<b>Renewables</b>	<b>1,913.44</b>	<b>3,291.51</b>	-	-	<b>3.07</b>	<b>1,011.58</b>	-	<b>1,011.58</b>	<b>3.07</b>
M/s Sunmark Energy Projects Limited (Formerly MBCEL)	5.40	8.92	-	-	7.02	6.26	-	6.26	7.02
M/s Response renewable Energy Ltd, Kolkata.	5.40	8.92	-	-	7.02	6.26	-	6.26	7.02
M/s Avantika Contractors Ltd., Hyderabad	2.70	4.46	-	-	7.69	3.43	-	3.43	7.69
M/s Glatt Solutions Pvt. Ltd, Kolkata.	1.62	2.68	-	-	7.01	1.88	-	1.88	7.01
Alfa Infraprop Pvt. Ltd.	10.80	17.84	-	-	7.87	14.04	-	14.04	7.87
Udipta Energy & Equipment Pvt. Ltd.	2.70	4.46	-	-	7.97	3.55	-	3.55	7.97
Azure Power India Pvt. Ltd.	5.40	8.92	-	-	8.40	7.49	-	7.49	8.40
Welspun Renewables Project – I	5.40	8.92	-	-	8.70	7.76	-	7.76	8.70
Welspun Renewables Project – II	8.10	13.38	-	-	8.64	11.56	-	11.56	8.64
Welspun Renewables Project – III	8.10	13.38	-	-	8.56	11.45	-	11.45	8.56
Acme Cleantech Project (Nalanda)	8.10	13.38	-	-	8.73	11.68	-	11.68	8.73
Acme Cleantech Project (Magadh)	5.40	8.92	-	-	8.73	7.79	-	7.79	8.73
Solar Energy Corporation of India Ltd., Government of India	5.40	10.33	-	-	5.93	6.12	-	6.12	5.93
SECI Phase-II Solar	81.00	154.93	-	-	2.51	38.90	-	38.90	2.51
SECI Phase-III (Renew Sunwaves)	162.00	309.86	-	-	2.51	77.90	-	77.90	2.51
NTPC ISTS Solar	162.00	309.86	-	-	2.67	82.73	-	82.73	2.67
GRT Jewellers (SECI-V)	81.00	154.93	-	-	2.50	38.73	-	38.73	2.50
Wind ISTS Scheme Tranche I (PTC) (Green Infra, Inox, Mytrah & Ostro)	108.00	300.48	-	-	3.18	95.61	-	95.61	3.18
Wind ISTS Scheme Tranche II (SECI) (Orange)	54.00	150.24	-	-	2.71	40.71	-	40.71	2.71
SECI Phase-III Wind	-	-	-	-	-	-	-	-	-
SECI Green Infra	54.00	164.32	-	-	2.51	41.24	-	41.24	2.51
Torrent Power	26.89	-	-	-	-	-	-	-	-
Adani Green	27.00	-	-	-	-	-	-	-	-
Alfanar	27.00	82.16	-	-	2.52	20.70	-	20.70	2.52
Betam	27.11	82.49	-	-	2.52	20.79	-	20.79	2.52
Adani Green (SECI-V)	67.50	68.09	-	-	2.76	18.79	-	18.79	2.76
Ecoren Energy (SECI-V)	94.50	95.33	-	-	2.77	26.41	-	26.41	2.77
SECI Phase-VI Wind	189.00	-	-	-	-	-	-	-	-
Ostro Kannad	162.00	492.97	-	-	2.19	107.71	-	107.71	2.19
Morjar Windfarm	27.00	82.16	-	-	2.19	17.95	-	17.95	2.19
SBE Renewable (SECI	178.20	340.85	-	-	2.72	92.71	-	92.71	2.72

Name of The Source	Share allocated (MW)	Units purchased (MU)	Fixed Cost (Rs. Cr /MW)	Fixed charge (Rs Crs)	Energy cost (Rs/ kWh)	Energy cost (Rs Crs)	Misc cost (Rs Crs)	Total Cost (Rs Crs)	Avg Cost
Phase-V)									
BREDA Floating Solar Project	1.08	2.07	-	-	4.15	0.86	-	0.86	4.15
BREDA Solar Project	135.00	21.93	-	-	3.11	6.82	-	6.82	3.11
Kajra+Pirpainti Solar Project		-		-		-	-	-	
SECI Hybrid Project	113.40	71.91	-	-	4.02	28.91	-	28.91	4.02
New Swadeshi Sugar Mill, Narkataganj	5.40	23.81	-	-	5.07	12.06	-	12.06	5.07
Hasanpur Sugar Mill, Dalsinghsarai	7.83	34.52	-	-	6.22	21.47	-	21.47	6.22
Bharat Sugar Mills, Sidhwalia, Gopalganj	8.10	35.71	-	-	5.02	17.91	-	17.91	5.02
Hari Nagar Sugar Mills, Hari Nagar, West Champaran	7.83	34.52	-	-	5.08	17.53	-	17.53	5.08
HPCL Biofuels Ltd., Sugauli, East Champaran	10.80	47.61	-	-	5.07	24.16	-	24.16	5.07
HPCL Biofuels Ltd., Lauria, West Champaran	10.80	47.61	-	-	5.08	24.17	-	24.17	5.08
Riga Sugar Company Ltd.	1.62	7.14	-	-	6.25	4.46	-	4.46	6.25
Siddhashram Rice Mill Cluster Pvt Ltd	0.54	3.46	-	-		2.50	-		
Bihar Distillers & Bottlers Pvt Ltd	5.08	32.55	-	-		20.70	-		
Tirupati Sugar	3.24	15.49	-	-		9.85	-		
REC Cost	-	-		-		-	-		
								-	
<b>Others</b>	<b>108.00</b>	<b>96.83</b>	-	-	<b>6.68</b>	<b>64.70</b>	-	<b>64.70</b>	<b>6.68</b>
PTC(IEX)	-	96.83		-	6.68	64.70	-	64.70	6.68
GTAM IEX	-	-		-		-	-	-	
DB Power	-	-		-		-	-	-	
Prior Period Expenses	-	-		-		-	-	-	
UPPCL	-	-		-		-	-	-	
NEA	-	-		-		-	-	-	
UI	-	-		-		-	-	-	
PTC JITPL	67.50	-	-	-		-	-	-	
PTC SKS Power	40.50	-	-	-		-	-	-	
								-	
<b>Transmission and Other Charges</b>	-	-		<b>2,260.09</b>		-	-	<b>2,260.09</b>	
SLDC	-	-		7.54		-	-	7.54	
BGCL	-	-		267.88		-	-	267.88	
BSPTCL	-	-		939.77		-	-	939.77	
POSOCO	-	-		4.91		-	-	4.91	
Pr Pd PGCIL	-	-		-		-	-	-	
PGCIL	-	-		1,040.00		-	-	1,040.00	
	-	-		-		-	-	-	
<b>Total</b>	<b>7032.58</b>	<b>22310.35</b>	<b>1.03</b>	<b>7271.10</b>	<b>3.04</b>	<b>6780.89</b>	<b>0.00</b>	<b>14051.99</b>	<b>6.30</b>

The Petitioners have made PPA agreements with the new plants according to 24x7 Power For All MoU approved by the Hon'ble Commission. The expected COD from the plants have been considered as per actual scenario. The average cost of power calculated above is subject to change on actual basis since power may be required to be procured from open market, as per demand and availability to the DISCOMs in a particular block.

The Commission is kindly requested to approve the above-mentioned projected power purchase costs for FY 2023-24.

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

The Commission has noted the submissions of Petitioners regarding power purchase costs in FY 2023-24. It is submitted that the Petitioners have considered the actual fixed cost as prevailing in FY 2021-22 for existing power stations, no increase in fixed charges has been considered in FY 2023-24 with respect to fixed charges in FY 2021-22.

It is also submitted that as there has been increase in variable cost of the plants due to coal (imported coal) blending allowed by the MoP. However, no increase in variable cost has been considered for FY 2023-24 and the variable cost is adopted at the same level of FY 2022-23.

The Commission has considered the fixed costs as projected by the Petitioners and the variable costs as considered by the Commission for FY 2022-23 in APR.

The power purchase cost approved by the Commission for FY 2023-24 is as shown in Tables below:

Table 6.24: Power Purchase Cost for FY 2023-24 as computed by Commission for NBPDC

Sl. No	Particulars	Bihar Share allocation (MW)	NBPDC allocation (MW)	Units considered (MU)	Fixed Cost (Rs Crs/MW)	Energy Cost (Rs/Kwh)	Total Fixed Charges Rs. Crs	Total Energy Cost Rs. Crs	Total Cost Rs. Crs	Ave Cost Rs.
I	<b>Stations with injection at CTU</b>	<b>7,105.89</b>	<b>3,268.71</b>	<b>13,178.75</b>			<b>3,089.54</b>	<b>3,762.94</b>	<b>6,852.48</b>	<b>5.20</b>
1	FSTPP I & II	502.40	231.10	868.37	0.56	3.93	129.42	341.27	470.69	5.42
2	FSTPP III	107.60	49.50	185.98	1.04	3.93	51.48	73.09	124.57	6.70
3	KHSTPP I	351.62	161.75	607.75	0.69	3.61	111.60	219.40	331.00	5.45
4	KHSTPP II	74.70	34.36	129.11	0.71	3.61	24.40	46.61	71.01	5.50
5	Barh Stage I Unit I	341.88	157.26	590.92	1.09	3.19	171.42	188.68	360.10	6.09
6	Barh Stage I Unit II	341.88	157.26	590.92	1.09	3.19	171.42	188.50	359.92	6.09
7	Barh Stage I Unit III	341.88	157.26	477.29	0.82	3.19	128.96	152.26	281.21	5.89
8	Barh Stage II	1,197.77	550.97	2,070.26	1.48	3.19	815.44	660.41	1,475.85	7.13
9	Nabinagar (BRBCL) Unit I - III	75.00	34.50	129.63	1.19	2.75	41.06	35.62	76.68	5.92
10	Nabinagar (BRBCL) Unit IV	25.00	11.50	43.21	1.19	2.75	13.69	11.87	25.56	5.92
11	Talcher Stage I	412.50	189.75	1,296.33	0.66	2.08	125.24	269.51	394.74	3.05
12	KBUNL Stage II	292.38	134.50	505.36	1.86	2.92	250.16	147.72	397.88	7.87
13	NPGCL Unit I	559.48	257.36	967.03	0.94	2.77	241.92	268.25	510.17	5.28
14	NPGCL Unit II	559.48	257.36	967.03	0.94	2.77	241.92	268.25	510.17	5.28
15	NPGCL Unit III	559.48	257.36	967.03	0.94	2.77	241.92	268.25	510.17	5.28
16	North Karanpura Unit I	229.35	105.50	396.42	1.09	2.22	115.00	88.00	203.00	5.12
17	North Karanpura Unit II	229.35	105.50	360.94	0.82	2.22	86.51	80.13	166.64	4.62
18	Darlipali STPS Unit I	94.88	43.64	298.17	0.97	1.22	42.34	36.38	78.71	2.64
19	Darlipali STPS Unit II	94.88	43.64	298.17	0.97	1.22	42.34	36.38	78.71	2.64
20	Chuka	98.85	45.47	197.70		2.40	-	47.45	47.45	2.40
21	Rangit	21.00	9.66	42.00	1.13	1.90	10.92	7.98	18.90	4.50
22	Tala	260.10	119.65	520.23		2.16	-	112.37	112.37	2.16
23	Teesta	108.43	49.88	216.86	0.65	1.16	32.42	25.16	57.58	2.65
24	Mangdechu	226.00	103.96	452.03		4.19	-	189.40	189.40	4.19
II	<b>Stations with injection at STU</b>	<b>564.00</b>	<b>259.44</b>	<b>897.50</b>			<b>501.40</b>	<b>240.33</b>	<b>741.73</b>	<b>8.26</b>



Sl. No	Particulars	Bihar Share allocation (MW)	NBPDCCL allocation (MW)	Units considered (MU)	Fixed Cost (Rs Crs/MW)	Energy Cost (Rs/Kwh)	Total Fixed Charges Rs. Crs	Total Energy Cost Rs. Crs	Total Cost Rs. Crs	Ave Cost Rs.
1	BSPHC	64.00	29.44	33.28		2.49	-	8.29	8.29	2.49
2	BTPS Stage II Unit I	250.00	115.00	432.11	2.18	2.69	250.70	116.02	366.72	8.49
3	BTPS Stage II Unit II	250.00	115.00	432.11	2.18	2.69	250.70	116.02	366.72	8.49
III	<b>IPPs</b>	<b>488.00</b>	<b>224.48</b>	<b>1,439.15</b>			<b>374.22</b>	<b>166.97</b>	<b>541.19</b>	<b>3.76</b>
1	GMR	260.00	119.60	722.64	1.34	1.20	160.26	86.72	246.98	3.42
2	JITPL	228.00	104.88	716.51	2.04	1.12	213.96	80.25	294.20	4.11
IV	<b>Renewables</b>	<b>3,093.60</b>	<b>1,423.06</b>	<b>2,781.92</b>			<b>-</b>	<b>845.80</b>	<b>845.80</b>	<b>3.04</b>
1	M/s Sunmark Energy Projects Limited (Formerly MBCEL)	10.00	4.60	7.62		7.02		5.35	5.35	7.02
2	M/s Response renewable Energy Ltd, Kolkata.	10.00	4.60	7.62		7.02		5.35	5.35	7.02
3	M/s Avantika Contractors Ltd., Hyderabad	5.00	2.30	3.81		7.69		2.93	2.93	7.69
4	M/s Glatt Solutions Pvt. Ltd, Kolkata.	3.00	1.38	2.29		7.01		1.60	1.60	7.01
5	Alfa Infraprop Pvt. Ltd.	20.00	9.20	15.24		7.87		12.00	12.00	7.87
6	Udipta Energy & Equipment Pvt. Ltd.	5.00	2.30	3.81		7.97		3.04	3.04	7.97
7	Azure Power India Pvt. Ltd.	10.00	4.60	7.62		8.40		6.40	6.40	8.40
8	Welspun Renewables Project - I	10.00	4.60	7.62		8.70		6.63	6.63	8.70
9	Welspun Renewables Project – II	15.00	6.90	11.43		8.64		9.88	9.88	8.64
10	Welspun Renewables Project – III	15.00	6.90	11.43		8.56		9.79	9.79	8.56
11	Acme Cleantech Project (Nalanda)	15.00	6.90	11.43		8.73		9.98	9.98	8.73
12	Acme Cleantech Project (Magadh)	10.00	4.60	7.62		8.73		6.65	6.65	8.73
13	Solar Energy Corporation of India Ltd., Government of India	10.00	4.60	7.58		5.93		4.50	4.50	5.93
14	SECI Phase-II Solar	150.00	69.00	152.79		2.51		38.35	38.35	2.51
15	SECI Phase-III (Renew Sunwaves)	300.00	138.00	311.00		2.51		78.06	78.06	2.51
16	NTPC ISTS Solar	300.00	138.00	287.54		2.67		76.77	76.77	2.67
17	GRT Jewellers (SECI - V)	150.00	69.00	131.38		2.50		32.84	32.84	2.50

Sl. No	Particulars	Bihar Share allocation (MW)	NBPDCCL allocation (MW)	Units considered (MU)	Fixed Cost (Rs Crs/MW)	Energy Cost (Rs/Kwh)	Total Fixed Charges Rs. Crs	Total Energy Cost Rs. Crs	Total Cost Rs. Crs	Ave Cost Rs.
18	Wind ISTS Scheme Tranche I (PTC) (Green Infra, Inox, Mytrah & Ostro)	200.00	92.00	215.52		3.18		68.53	68.53	3.18
19	Wind ISTS Scheme Tranche II (SECI) (Orange)	100.00	46.00	107.76		2.71		29.20	29.20	2.71
20	SECI Green Infra	100.00	46.00	107.76		2.51		27.05	27.05	2.51
21	Alfanar	50.00	23.00	53.88		2.52		13.58	13.58	2.52
22	Betam	50.20	23.09	69.86		2.52		17.60	17.60	2.52
23	Adani Green (SECI -V)	125.00	57.50	161.77		2.76		44.65	44.65	2.76
24	Ecoren Energy (SECI - V)	175.00	80.50	80.85		2.77		22.39	22.39	2.77
25	Ostro Kannad	300.00	138.00	378.62		2.19		82.92	82.92	2.19
26	Morjar Windfarm	50.00	23.00	56.71		2.19		12.42	12.42	2.19
27	SBE Renewables (SECI Phase-V Solar)	330.00	151.80	310.74		2.72		84.52	84.52	2.72
28	BREDA Floating Solar Project	2.00	0.92	1.53		4.15		0.63	0.63	4.15
29	BREDA Solar Project	250.00	115.00	6.54		3.11		2.03	2.03	3.11
30	SECI Hybrid Project	210.00	96.60	20.13		4.02		8.09	8.09	4.02
31	New Swadeshi Sugar Mill, Narkataganj	10.00	4.60	18.66		5.07		9.46	9.46	5.07
32	Hasanpur Sugar Mill, Dalsinghsarai	14.50	6.67	27.05		6.22		16.83	16.83	6.22
33	Bharat Sugar Mills, Sidhwalia, Gopalganj	15.00	6.90	27.98		5.02		14.05	14.05	5.02
34	Hari Nagar Sugar Mills, Hari Nagar, West Champaran	14.50	6.67	27.05		5.08		13.74	13.74	5.08
35	HPCL Biofuels Ltd., Sugauli, East Champaran	20.00	9.20	37.31		5.07		18.92	18.92	5.07
36	HPCL Biofuels Ltd., Lauria, West Champaran	20.00	9.20	37.31		5.08		18.95	18.95	5.08
37	Riga Sugar Company Ltd.	3.00	1.38	5.60		6.25		3.50	3.50	6.25
38	Siddhashram Rice Mill Cluster Pvt Ltd	1.00	0.46	2.71		7.23		1.96	1.96	7.23

Sl. No	Particulars	Bihar Share allocation (MW)	NBPDCCL allocation (MW)	Units considered (MU)	Fixed Cost (Rs Crs/MW)	Energy Cost (Rs/Kwh)	Total Fixed Charges Rs. Crs	Total Energy Cost Rs. Crs	Total Cost Rs. Crs	Ave Cost Rs.
39	Bihar Distillers & Bottlers Pvt Ltd	9.40	4.32	25.51		6.36		16.22	16.22	6.36
40	Tirupati Sugar	6.00	2.76	13.24		6.36		8.42	8.42	6.36
V	<b>Others</b>			-		5.20		-	-	
1	PTC(IEX)			-		5.20		-	-	
	<b>Grand Total</b>	<b>11,251.49</b>	<b>5,175.68</b>	<b>18,297.32</b>			<b>3,965.16</b>	<b>5,016.04</b>	<b>8,981.20</b>	<b>4.91</b>

Table 6.25: Power Purchase Cost for FY 2023-24 as computed by Commission for SBPDCL

Sr. No	Particulars	Bihar Share allocation (MW)	SBPDCL allocation (MW)	Units Considered (MU)	Fixed Cost (Rs Crs/MW)	Energy Cost (Rs/Kwh)	Total Fixed Charges Rs. Crs	Total Energy Cost Rs. Crs	Total Cost Rs. Crs	Ave Cost Rs.
I	<b>Stations with injection at CTU</b>	<b>7,105.89</b>	<b>3,837.18</b>	<b>15,059.75</b>			<b>3,626.85</b>	<b>4,331.26</b>	<b>7,958.11</b>	<b>5.28</b>
1	FSTPP I & II	502.40	271.30	1,019.39	0.56	3.93	151.93	400.62	552.54	5.42
2	FSTPP III	107.60	58.10	218.32	1.04	3.93	60.43	85.80	146.23	6.70
3	KHSTPP I	351.62	189.87	713.45	0.69	3.61	131.01	257.55	388.57	5.45
4	KHSTPP II	74.70	40.34	151.57	0.71	3.61	28.64	54.72	83.36	5.50
5	Barh Stage I Unit I	341.88	184.62	693.69	1.09	3.19	201.23	221.49	422.72	6.09
6	Barh Stage I Unit II	341.88	184.62	560.30	1.09	3.19	201.23	178.74	379.97	6.78
7	Barh Stage I Unit III	341.88	184.62	693.69	0.82	3.19	151.38	221.29	372.67	5.37
8	Barh Stage II	1,197.77	646.79	2,430.31	1.48	3.19	957.26	775.27	1,732.52	7.13
9	Nabinagar (BRBCL) Unit I - III	75.00	40.50	152.18	1.19	2.75	48.20	41.82	90.01	5.92
10	Nabinagar (BRBCL) Unit IV	25.00	13.50	50.73	1.19	2.75	16.07	13.94	30.00	5.92
11	Talcher Stage I	412.50	222.75	1,158.66	0.66	2.08	147.02	240.88	387.90	3.35
12	KBUNL Stage II	292.38	157.89	593.25	1.86	2.92	293.67	173.41	467.08	7.87
13	NPGCL Unit I	559.48	302.12	1,135.21	0.94	2.77	283.99	314.91	598.90	5.28
14	NPGCL Unit II	559.48	302.12	1,135.21	0.94	2.77	283.99	314.91	598.90	5.28
15	NPGCL Unit III	559.48	302.12	1,135.21	0.94	2.77	283.99	314.91	598.90	5.28
16	North Karanpura Unit I	229.35	123.85	465.36	1.09	2.22	135.00	103.31	238.30	5.12
17	North Karanpura Unit II	229.35	123.85	375.88	0.82	2.22	101.56	83.45	185.00	4.92
18	Darlipali STPS Unit I	94.88	51.24	350.03	0.97	1.22	49.70	42.70	92.40	2.64
19	Darlipali STPS Unit II	94.88	51.24	350.03	0.97	1.22	49.70	42.70	92.40	2.64
20	Chuka	98.85	53.38	232.09		2.40	-	55.70	55.70	2.40
21	Rangit	21.00	11.34	49.31	1.13	1.90	12.81	9.37	22.18	4.50
22	Tala	260.10	140.45	610.71		2.16	-	131.91	131.91	2.16

Sr. No	Particulars	Bihar Share allocation (MW)	SBPDCL allocation (MW)	Units Considered (MU)	Fixed Cost (Rs Crs/MW)	Energy Cost (Rs/Kwh)	Total Fixed Charges Rs. Crs	Total Energy Cost Rs. Crs	Total Cost Rs. Crs	Ave Cost Rs.
23	Teesta	108.43	58.55	254.58	0.65	1.16	38.06	29.53	67.59	2.65
24	Mangdech	226.00	122.04	530.64		4.19	-	222.34	222.34	4.19
II	<b>Stations with injection at STU</b>	<b>564.00</b>	<b>304.56</b>	<b>1,053.59</b>			<b>588.60</b>	<b>282.13</b>	<b>870.73</b>	<b>8.26</b>
1	BSPHC	64.00	34.56	39.07		2.49	-	9.73	9.73	2.49
2	BTPS Stage II Unit I	250.00	135.00	507.26	2.18	2.69	294.30	136.20	430.50	8.49
3	BTPS Stage II Unit II	250.00	135.00	507.26	2.18	2.69	294.30	136.20	430.50	8.49
III	<b>IPPs</b>	<b>488.00</b>	<b>263.52</b>	<b>1,368.67</b>			<b>439.30</b>	<b>157.51</b>	<b>596.81</b>	<b>4.36</b>
1	GMR	260.00	140.40	527.55	1.34	1.20	188.14	63.31	251.44	4.77
2	JITPL	228.00	123.12	841.13	2.04	1.12	251.16	94.21	345.37	4.11
IV	<b>Renewables</b>	<b>3,093.60</b>	<b>1,670.54</b>	<b>3,265.73</b>			<b>-</b>	<b>992.90</b>	<b>992.90</b>	<b>3.04</b>
1	M/s Sunmark Energy Projects Limited (Formerly MBCEL)	10.00	5.40	8.95		7.02		6.28	6.28	7.02
2	M/s Response renewable Energy Ltd, Kolkata.	10.00	5.40	8.95		7.02		6.28	6.28	7.02
3	M/s Avantika Contractors Ltd., Hyderabad	5.00	2.70	4.47		7.69		3.44	3.44	7.69
4	M/s Glatt Solutions Pvt. Ltd, Kolkata.	3.00	1.62	2.68		7.01		1.88	1.88	7.01
5	Alfa Infraprop Pvt. Ltd.	20.00	10.80	17.89		7.87		14.08	14.08	7.87
6	Udipta Energy & Equipment Pvt. Ltd.	5.00	2.70	4.47		7.97		3.57	3.57	7.97
7	Azure Power India Pvt. Ltd.	10.00	5.40	8.95		8.40		7.52	7.52	8.40
8	Welspun Renewables Project - I	10.00	5.40	8.95		8.70		7.78	7.78	8.70
9	Welspun Renewables Project – II	15.00	8.10	13.42		8.64		11.60	11.60	8.64
10	Welspun Renewables Project – III	15.00	8.10	13.42		8.56		11.49	11.49	8.56
11	Acme Cleantech Project (Nalanda)	15.00	8.10	13.42		8.73		11.72	11.72	8.73

Sr. No	Particulars	Bihar Share allocation (MW)	SBPDCL allocation (MW)	Units Considered (MU)	Fixed Cost (Rs Crs/MW)	Energy Cost (Rs/Kwh)	Total Fixed Charges Rs. Crs	Total Energy Cost Rs. Crs	Total Cost Rs. Crs	Ave Cost Rs.
12	Acme Cleantech Project (Magadh)	10.00	5.40	8.95		8.73		7.81	7.81	8.73
13	Solar Energy Corporation of India Ltd., Government of India	10.00	5.40	8.90		5.93		5.28	5.28	5.93
14	SECI Phase-II Solar	150.00	81.00	179.37		2.51		45.02	45.02	2.51
15	SECI Phase-III (Renew Sunwaves)	300.00	162.00	365.09		2.51		91.64	91.64	2.51
16	NTPC ISTS Solar	300.00	162.00	337.55		2.67		90.13	90.13	2.67
17	GRT Jewellers (SECI - V)	150.00	81.00	154.23		2.50		38.56	38.56	2.50
18	Wind ISTS Scheme Tranche I (PTC) (Green Infra, Inox, Mytrah & Ostro)	200.00	108.00	253.00		3.18		80.45	80.45	3.18
19	Wind ISTS Scheme Tranche II (SECI) (Orange)	100.00	54.00	126.50		2.71		34.28	34.28	2.71
20	SECI Green Infra	100.00	54.00	126.50		2.51		31.75	31.75	2.51
21	Alfanar	50.00	27.00	63.25		2.52		15.94	15.94	2.52
22	Betam	50.20	27.11	82.01		2.52		20.67	20.67	2.52
23	Adani Green (SECI -V)	125.00	67.50	189.90		2.76		52.41	52.41	2.76
24	Ecoren Energy (SECI - V)	175.00	94.50	94.91		2.77		26.29	26.29	2.77
25	Ostro Kannad	300.00	162.00	444.46		2.19		97.34	97.34	2.19
26	Morjar Windfarm	50.00	27.00	66.57		2.19		14.58	14.58	2.19
27	SEB Renewables (SECI Phase-V Solar)	330.00	178.20	364.78		2.72		99.22	99.22	2.72
28	BREDA Floating Solar Project	2.00	1.08	1.79		4.15		0.74	0.74	4.15
29	BREDA Solar Project	250.00	135.00	7.67		3.11		2.39	2.39	3.11
30	SECI Hybrid Project	210.00	113.40	23.63		4.02		9.50	9.50	4.02
31	New Swadeshi Sugar Mill, Narkataganj	10.00	5.40	21.90		5.07		11.10	11.10	5.07

Sr. No	Particulars	Bihar Share allocation (MW)	SBPDCL allocation (MW)	Units Considered (MU)	Fixed Cost (Rs Crs/MW)	Energy Cost (Rs/Kwh)	Total Fixed Charges Rs. Crs	Total Energy Cost Rs. Crs	Total Cost Rs. Crs	Ave Cost Rs.
32	Hasanpur Sugar Mill, Dalsinghsarai	14.50	7.83	31.76		6.22		19.75	19.75	6.22
33	Bharat Sugar Mills, Sidhwalia, Gopalganj	15.00	8.10	32.85		5.02		16.49	16.49	5.02
34	Hari Nagar Sugar Mills, Hari Nagar, West Champaran	14.50	7.83	31.76		5.08		16.13	16.13	5.08
35	HPCL Biofuels Ltd., Sugauli, East Champaran	20.00	10.80	43.80		5.07		22.21	22.21	5.07
36	HPCL Biofuels Ltd., Lauria, West Champaran	20.00	10.80	43.80		5.08		22.25	22.25	5.08
37	Riga Sugar Company Ltd.	3.00	1.62	6.57		6.25		4.11	4.11	6.25
38	Siddhashram Rice Mill Cluster Pvt Ltd	1.00	0.54	3.19		7.23		2.30	2.30	7.23
39	Bihar Distillers & Bottlers Pvt Ltd	9.40	5.08	29.95		6.36		19.05	19.05	6.36
40	Tirupati Sugar	6.00	3.24	15.54		6.36		9.88	9.88	6.36
V	<b>Others</b>			-		5.20		-	-	
1	PTC(IEX)			-		5.20		-	-	
	<b>Grand Total</b>	<b>11,251.49</b>	<b>6,075.80</b>	<b>20,747.74</b>			<b>4,654.75</b>	<b>5,763.79</b>	<b>10,418.54</b>	<b>5.02</b>

### 6.10. Transmission Charges

#### Petitioners' submission

It is submitted that the Petitioners have to pay transmission charges to CTU for use of transmission facilities enabling power drawl from Eastern Region. Further the Petitioner also pays BSPTCL, BGCL and SLDC charges as approved by the Commission for FY 2023-24.

The Petitioners have considered same Transmission charges as approved by the Commission for FY 2023-24 in MYT Order dated 25.03.2022 with 10% escalation rate. The Commission is requested to approve the transmission and related charges for inter-state as well as intra-state transmission transactions for FY 2023-24 as per the below table:

**Table 6.26: Transmission charges projected for FY 2023-24**

	(Rs. Crore)		
	NBPDC	SBPDCL	Total
SLDC	6.42	7.54	13.96
BGCL	228.2	267.88	496.08
BSPTCL	800.54	939.77	1740.31
POSO	4.18	4.91	9.09
POWERGRID	885.93	1040	1925.93
<b>Total Transmission Purchase</b>	<b>1925.26</b>	<b>2260.9</b>	<b>4186.16</b>

#### Commission's analysis

##### PGCIL & POSOCO Charges

NBPDC & SBPDCL have projected PGCIL charges at Rs. 885.93 Crore and Rs. 1040.00 Crore and POSOCO charges at Rs. 4.18 Cr and 4.91 for FY 2023-24 after escalating the PGCIL and POSOCO charges approved for FY 2023-24 in the MYT order dated 25.03.2022 which are found to be reasonable. Therefore, the Commission approves the PGCIL and POSOCO charges as projected by NBPDC & SBPDCL for FY 2023-24.



**Table 6.27: PGCIL and POSOCO Charges approved for FY 2023-24****(Rs.Crore)**

Sl. No	Particulars	NBPDCCL	SBPDCL	Total
1	PGCIL Charges	885.93	1040.00	1925.93
2	POSOCO Charges	4.18	4.91	9.09
	Total	890.11	1044.91	1935.02

**BSPTCL Transmission Charges**

The Commission has approved the transmission charges of BSPTCL for FY 2023-24 to in BSPTCL Tariff Order dated 21<sup>st</sup> March 2023 as given in the Table below. The Commission has allocated the same among SBPDCL and NBPDCCL in their power purchase sharing ratio of 54:46 respectively. Accordingly, the Commission has considered the BSPTCL Transmission charges for FY 2023-24 and included the same in the power purchase cost of Discoms.

**Table 6.28: BSPTCL Charges approved for Discoms for FY 2023-24****(Rs. Crore)**

Sl. No	Particulars	Total
1	BSPTCL Charges approved in its Tariff Order for FY 2023-24	1176.62
2	NBPDCCL (46%)	541.25
3	SBPDCL (54%)	635.37

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

The Commission has approved the transmission charges of for FY 2023-24 to FY 2024-25 in BGCL Tariff Order dated 21<sup>st</sup> March 2023 as given in the Table below.

The Commission has allocated the same to SBPDCL and NBPDCCL in their power purchase sharing ratio of 54:46 respectively. Accordingly, the Commission has considered the BGCL transmission charges for FY 2023-24 and included the same in the Power purchase cost of Discoms.

**Table 6.29: BGCL Charges approved for Discoms for FY 2023-24****(Rs. Crore)**

Sl. No	Particulars	Total
1	BGCL Charges approved in its Tariff Order for FY 2023-24	219.38
2	NBPDCCL (46%)	100.91
3	SBPDCL (54%)	118.47

**SLDC Charges**

The Commission has approved the SLDC charges for FY 2023-24 in SLDC Tariff Order dated 21<sup>st</sup> March 2023 as given in Table below. The Commission has allocated to SBPDCL and NBPDCCL in their power purchase sharing ratio of 54 : 46 respectively. Accordingly, the Commission has considered SLDC charges for FY 2022-23 to FY 2023-24 and included in their power purchase cost.

**Table 6.30: SLDC Charges approved for Discoms for FY 2023-24**

		(Rs. Crore)
Sl. No	Particulars	Total
1	SLDC Charges approved in its Tariff Order for FY 2023-24	13.37
2	NBPDCCL (46%)	6.15
3	SBPDCL (54%)	7.22

**6.11. Total Power Purchase Cost**

The total power purchase cost approved for the Discoms for the FY 2023-24 are given in the Table below:

**Table 6.31: Total Power Purchase Cost approved for FY 2023-24**

		(Rs. Crore)		
Sl. No.	Particulars	NBPDCCL	SBPDCL	Total
1	<b>Power Purchase Cost</b>	<b>8981.20</b>	<b>10418.54</b>	<b>19399.74</b>
2	PGCIL Charges	885.93	1040.00	1925.93
3	POSOCO Charges	4.18	4.91	9.09
4	BSPTCL Charges	541.25	635.37	1176.62
5	SLDC Charges	6.15	7.22	13.37
6	BGCL Charges	100.91	118.47	219.38
7	<b>Total</b>	<b>10519.62</b>	<b>12224.51</b>	<b>22744.13</b>
8	Less: 1% Rebate	105.20	122.25	227.44
9	<b>Net Power Purchase Cost (7-8)</b>	<b>10414.42</b>	<b>12102.27</b>	<b>22516.69</b>

The Commission approves total power purchase cost of for both companies put together for FY 2022-23 to FY 2024-25 as shown in the table above.

**6.12. Incremental Power Purchase Cost**

The Commission has dealt with the procedure for identification of incremental cost and process of recovery of incremental cost in the Regulation, 20.1 of BERC (Multi-Year Distribution Tariff) Regulations, 2021. The formula for computation of Fuel and Power Purchase Cost Adjustment (FPPCA) and Terms and Conditions for application of the FPPCA formula are also explained in detail in Regulation 20.2 of BERC (Multi-

Year Distribution Tariff) Regulation, 2021 to facilitate the Discoms to claim additional power purchase cost, if any, promptly.

### **6.13. Renewable Power Purchase Obligation**

#### **Petitioners' submission**

The Commission initiated the Suo-motu proceeding for 4th amendment in BERC (Renewable Purchase Obligation, its compliance and REC Framework Implementation) Regulations, 2010. The Draft BERC (Renewable Purchase Obligation, its compliance and REC Framework Implementation) (4th Amendment) Regulations, 2022 was also floated by the Commission for comments from the Stakeholders. The Commission in the draft Regulations has specified the following:

*“Further, Ministry of Power, Govt. of India, through its order no. 09/13/2021-RCM dated 22.07.2022 has specified separate Wind RPO, HPO and other RPO within the overall RPO target for the FY 2022-23 to FY 2029-30.*

*In view of above, the Commission has decided to adopt the RPO target as specified by the Ministry of Power through its order no. 09/13/2021-RCM dated 22.07.2022 for the FY 2022-23 to FY 2029-30, including introduction of a separate hydro purchase obligation (HPO) as recommended previously by the ministry through MoP Notification F No. 15/2/2016-H-I(Pt.) dated 08.03.2019.*

*In line with the directions from MoP, the Commission proposes to specify separate Wind RPO, HPO and other RPO within the overall RPO target.*

*Provided that Wind RPO shall be met through energy produced from wind power projects commissioned after 31st March 2022; HPO shall be met only by energy produced from Large Hydro Projects (including pump storage plants) commissioned after 8th March 2019; other RPO target may be met by energy produced from any RE power project not qualifying for meeting Wind RPO and HPO. Further, as the directives of the MoP, the Commission proposes to specify separate Energy Storage Obligation for the energy consumed from solar/wind along with /through storage. The Energy Storage obligation to the extent of energy stored from RE sources shall be considered as part of fulfilment of the total RPO.”*

As above, the Hon'ble Commission in the draft Regulations has adopted the RPO trajectory specified by the MoP. So, the Petitioner has computed RPO for FY 2023-24 as per the trajectory specified by the MoP. However, the Petitioner has not considered any Energy Storage Obligation for FY 2023-24 considering the comments submitted in response to the draft BERC (4rth amendment) RPO Regulations, 2022. The details of RPO to be met by the Petitioner for FY 2023-24 are given in the table below:

**Table 6.32: Renewable energy purchase obligation for FY 2023-24**

Particulars (in MU)	NBPDCCL	SBPDCL
Energy Sale (excluding interstate sales)	14293.48	16578.00
<b>RPO Targets (%)</b>	<b>27.07%</b>	<b>27.07%</b>
Wind % (K)	1.60%	1.60%
HPO % (L)	0.66%	0.66%
Other RPO % (M)	24.81%	24.81%
<b>RPO Targets</b>	<b>3574.65</b>	<b>374.66</b>
Wind (J*K)	211.28	265.25
HPO (J*L)	87.15	109.41
Other RPO (J*M)	3276.22	4113.00
<b>Renewable Power Purchase</b>	<b>4267.05</b>	<b>738.55</b>
Wind	629.14	738.55
HPO	0.00	0.00
Other RPO	3637.91	4265.45
<b>RPO Shortfall</b>		
Wind	(417.86)	(473.30)
HPO	(330.71)	(363.89)
Other RPO	(692.40)	(516.34)

Discoms have stated that there is NIL RPO shortfall.

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

The Commission vide BERC (Renewable Purchase Obligation, its compliance and REC frame work implementation) Regulations, 2010 and its amendment has notified the Renewable Purchase Obligation (RPO) percentages up to FY 2021-22.

The Ministry of Power, Government of India vide Order No F.No.09/13/2021-RCM dated 22.07.2022 has specified the RPO trajectory for period from FY 2022-23 to FY 2029-30 as given below:

Year	Wind RPO	HPO	Other RPO	Total RPO
2022-23	0.81%	0.35%	23.44%	24.61%
2023-24	1.60%	0.66%	24.81%	27.08%
2024-25	2.46%	1.08%	26.37%	29.91%
2025-26	3.36%	1.48%	28.17%	33.01%
2026-27	4.29%	1.80%	29.86%	35.95%
2027-28	5.23%	2.15%	31.43%	38.81%
2028-29	6.16%	2.51%	32.69%	41.36%
2029-30	6.94%	2.82%	33.57%	43.33%

The Commission has initiated suo-moto proceedings/petition No SMP-12/2022 for incorporating the above RPO Targets and proposed to notify the 4<sup>th</sup> amendment to the BERC (Renewable Purchase Obligation, its compliance and REC frame work implementation) Regulations, 2010. The Commission after due process of deliberations, consultations and public hearings has reserved the order on the suo-moto proceedings in case NoSMP-12/2022.

Based on the revised targets notified by the MoP vide Order No F.No.09/13/2021-RCM dated 22.07.2022 the Discoms have proposed the RPO Compliance for FY 2022-23 onwards.

According to the MoP Order No F.No.09/13/2021-RCM dated 22.07.2022, wind RPO shall be met only by Energy produced from wind power projects commissioned after 31.03.2022 and the HPO energy produced from LHPs (including PSPs) commissioned after 08.03.2019. The petitioner has not provided the details of projects commissioned as per MoP guidelines, hence the Commission has not considered the Wind and HPO for compliance for FY 2023-24

The Commission accordingly has considered the RPO targets for FY 2022-23 and FY 2023-24 in this Tariff order and computed the RPO Compliance for FY 2023-24 as shown in the Table below.

**Table 6.33: RPO Approved for NBPDCCL & SBPDCL for FY 2023-24**

Sl.No.	Particulars		Units	NBPDCCL	SBPDCL
1	Energy sale (excluding inter-state sales)	A	MUs	14293.48	16654.10
2	Hydro Power Purchase	B	MUs	1458.78	1712.49
3	Inter-State Transmission Loss	C	%	3.34%	3.34%
4	Inter-State Transmission Loss	D=B*C	MUs	48.72	57.20
5	Intra-State Transmission Loss	E	%	3.00%	3.00%
6	Intra-State Transmission Loss	F=E*(B-D)	MUs	42.30	49.66
7	Distribution Loss	G	%	15.00%	15.00%

Sl.No.	Particulars		Units	NBPDC	SBPDCL
8	Distribution Loss	$H=G*(B-D-F)$	MUs	205.16	240.85
9	Hydro Power Consumed	I	MUs	1162.59	1364.79
10	Conventional Power Consumed	$J=A-I$	MUs	13130.89	15289.31
11	<b>RPO Targets</b>		%	<b>27.07%</b>	<b>27.07%</b>
12	Wind RPO	K	%	1.60%	1.60%
13	HPO	L	%	0.66%	0.66%
14	Other RPO	M		24.81%	24.81%
15	<b>RPO Targets</b>		MUs	<b>3554.53</b>	<b>4138.82</b>
16	Wind RPO	$N=J*K$	MUs	210.09	244.63
17	HPO	$O=J*L$	MUs	86.66	100.91
18	Other RPO	$P=J*M$	MUs	3257.77	3793.28
19	<b>Renewable power purchase</b>	$Q=R+S+T$	MUs	<b>2781.92</b>	<b>3265.73</b>
20	Wind Power Purchased	R	MUs	0.00	0.00
21	Hydro Power Purchased	S	MUs	0.00	0.00
22	Others	T	MUs	2781.92	3265.73
23	<b>Total Wind RPO Compliance</b>	U	MUs	0.00	0.00
24	<b>Total Hydro RPO Compliance</b>	V	MUs	0.00	0.00
25	<b>Others RPO Compliance</b>	W	MUs	2781.92	3265.73
26	<b>RPO Shortfall</b>				
27	Wind Shortfall / (Surplus)	$X=N-U$	MUs	210.09	244.63
28	Hydro Shortfall / (Surplus)	$Y=O-V$	MUs	86.66	100.91
29	Others Shortfall/ (Surplus)	$Z=P-W$	MUs	475.85	527.55
30	<b>RPO Target Achieved</b>				
31	<b>Wind RPO</b>			0.00%	0.00%
32	<b>Hydro RPO</b>			0.00%	0.00%
33	<b>Others RPO</b>			85.39%	86.09%

### 6.15. Capital Expenditure

#### Petitioner's submission:

Discoms have submitted that capitalization of majority of the existing schemes has been done in FY 2022-23 except MKVYS and furnished the details of schemes capitalized in FY 2023-24 as given in the table below:

**Table 6.34: Capitalisation projected for FY 2023-24**

Sl. No.	Name of scheme	(Rs. Crore)	
		Projected by NBPDC for FY 2023-24	Projected by SBPDCL for FY 2023-24
1	MKVYS	215.11	157.90
2	State Plan-RDSS	44.80	44.80
3	Infrastructure works	762.72	881.38
4	IT/OT	50.00	50.00
5	PMA	12.19	13.97

Sl. No.	Name of scheme	Projected by NBPDC for FY 2023-24	Projected by SBPDCL for FY 2023-24
6	Smart Prepaid Meter (Phase 2) 36 Lakhs- 30% Capex	382.57	142.62
7	Smart Prepaid Meter (Phase 3) 1.12 crores- 30% Capex	132.59	56.98
	<b>Total</b>	<b>1599.99</b>	<b>1347.65</b>

The Petitioners have allocated the investments through various schemes into grant, Loan and Equity based on the actual source of funding as detailed hereunder.

**Table 6.35: Capex, Capitalisation and funding projected for FY 2023-24**

(Rs. Crore)			
Sl. No.	Particulars	Projected by NBPDC for FY 2023-24	Projected by SBPDCL for FY 2023-24
1	Opening CWIP	-	12.17
2	New Investment	2094.94	1914.86
3	Less Capitalization	1599.99	1347.65
(a)	CWIP	1279.99	1078.12
(b)	New Investment	320.00	269.53
4	Closing CWIP (1+2-3)	494.94	579.37
<b>5</b>	<b>Funding</b>		
<b>(a)</b>	<b>CWIP Capitalization</b>	<b>1279.99</b>	<b>1078.12</b>
(i)	Grant	568.05	580.09
(ii)	Loan	412.13	159.68
(iii)	Equity	299.81	338.35
<b>(b)</b>	<b>New Investment Capitalization</b>	<b>320.00</b>	<b>269.53</b>
(i)	Grant	142.01	145.02
(ii)	Loan	103.03	39.92
(iii)	Equity	74.95	84.59
<b>6</b>	<b>Total capitalization</b>	<b>1599.99</b>	<b>1347.65</b>
(i)	Total Grant	710.06	725.11
(ii)	Total Loan	515.17	199.60
(iii)	Equity	374.77	422.94

#### Commission's analysis:

The Discoms during the tariff year FY 2022-23 and determination of ARR for the MYT control period FY 2022-23 to FY 2024-25, have requested the Commission to allow to file revised ARR upon approval of Action Plan and DPRs submitted to Ministry of Power (Government of India) under Revamped Distribution Sector Scheme.

It was opined by the Commission that the RDSS scheme is aimed at to improve the quality, reliability and affordability of power supply to consumers through a financially sustainable and operationally efficient distribution sector. These are the day to day

activities of the licensee and the capex required for strengthening of network should have been projected for MYT period and later the same schemes can be regrouped under RDSS. Accordingly, the Commission, vide letter no.903 dated 29.11.2021 has addressed the Discoms and stated that the Capex and Capitalisation has major impact on the ARR parameters/components of Depreciation, interest on Loans, RoE, interest on working capital and the O&M expenses also impacted as the O&M expenses are considered based on the no. of SS and the GFA. Non-projection of capex and capitalisation for the MYT control period and considering other parameters makes the entire process futile and hollow.

The Discoms, in response have submitted that the tariff petition filed for the upcoming control period constitutes of projections that are to be undertaken by the Discoms which is yet to be approved under the Revamped Distribution Sector Scheme. Hence, it would be appropriate and realistic for the Discoms that the projections in the Capital investment and Capitalization plan is in line with the capex plan approved under the Revamped Distribution Sector Scheme by the Monitoring Committee as this will form the core of total plan for creation of infrastructure both for AT&C loss reduction and supplying quality, reliable 24\*7 power to the consumers as mandated by BEREC. In view of the above, it is requested that the Discoms may be allowed to submit the details of the projected capex and capitalisation after approval of the RDSS scheme based on the approved and sanctioned funds under the Revamped Distribution Sector Scheme.

The Commission opined that the project proposals initiated should have been considered in the tariff petition as the ARR parameters except power purchase are directly influenced by the capitalisation and impact of these parameters shall be around 15% ~ 20% on the ARR and also on the determination of tariffs.

The Commission opines that ARR/expenditure shall not be deferred and the guidelines of GoI also prescribe and aims at achieving cost reflective tariffs. Deferring the expenses results in deferring the revenue requirement resulting in revenue gap in truing up which attract cost in terms of carrying cost on the revenue gap, which is an additional cost to the consumers. ***The Commission thinks it appropriate not to allow or consider carrying cost on the revenue gap resulted in truing up for FY 2022-23 and***



**accordingly, decides that no carrying cost shall be allowed on the trued-up revenue gap of FY 2022-23 since, the Discoms inefficiencies shall not be a pass through into the ARR and Tariffs.** The Commission based on the information available in the tariff petition for FY 2022-23 and on record has processed the tariff petition and issued the order dated 25.03.2022 determining the ARR for MYT control period of FY 2022-23 to FY 2024-25 and Retail tariff for FY 2022-23.

The Discoms have projected the capex and capitalisation of new schemes of Mukya Manthri Krishi Vikas Yojana (MKVYS) and creation of new infrastructure, implementation of smart prepaid meters, IT/OT, etc. works under RDSS schemes for FY 2023-24 as given hereunder:

**Table 6.36: Capex, Capitalisation and funding projected for FY 2023-24 by NBPDCCL**

(Rs. Crore)

Sl. No.	Name of scheme / Project	Capex projected for FY 2023-24	Capitalisation projected for FY 2023-24	Funding pattern			Funding		
				Loan	Grant	Equity	Loan	Grant	Equity
1	MKVYS	215.11	215.11		100%			215.11	
2	State Plan - RDSS	44.80	44.80			100%			44.80
3	Infrastructure works	1,220.36	762.72		60%	40%		457.63	305.09
4	IT/OT	80.00	50.00		60%	40%		30.00	20.00
5	PMA	19.50	12.19		60%	40%		7.31	4.88
6	Smart Prepaid meters (Phase 2)	382.57	382.57	100%			382.57		
7	Smart Prepaid meters (Phase 3)	132.59	132.59	100%			132.59		
8	<b>Total</b>	<b>2,094.93</b>	<b>1,599.98</b>				<b>515.16</b>	<b>710.06</b>	<b>374.76</b>

**Table 6.37: Capex, Capitalisation and funding projected for FY 2023-24 by SBPDCL**

(Rs. Crore)

Sl. No.	Name of scheme / Project	Capex projected for FY 2023-24	Capitalisation projected for FY 2023-24	Funding pattern			Funding		
				Loan	Grant	Equity	Loan	Grant	Equity
1	MKVYS	157.90	157.90		100%			157.90	
2	State Plan - RDSS	44.80	44.80			100%			44.80
3	Infrastructure works	1,410.21	881.38		60%	40%		528.83	352.55
4	IT/OT	80.00	50.00		60%	40%		30.00	20.00
5	PMA	22.35	13.97		60%	40%		8.38	5.59
6	Smart Prepaid meters (Phase 2)	142.62	142.62	100%			142.62		
7	Smart Prepaid meters (Phase 3)	56.98	56.98	100%			56.98		
8	<b>Total</b>	<b>1,914.86</b>	<b>1,347.65</b>				<b>199.60</b>	<b>725.11</b>	<b>422.94</b>

The Commission provisionally considers capex of these schemes for FY 2023-24 as

projected by the petitioners. Capitalisation in respect of MKVYS is considered as projected by the petitioner, since the scheme is being implemented through Grants and capitalisation has no impact on the ARR. Capitalisation in respect of other works is considered at 50% of the projected capitalisation (except PMA) for FY 2023-24 since, the said works involve gestation period and performance parameter efficiency, handing over taking over, etc. Accordingly, the Commission provisionally considers the capex and capitalisation during FY 2023-24 as given below.

**Table 6.38: Capex, Capitalisation and funding approved for NBPDC for FY 2023-24****(Rs. Crore)**

Sl. No.	Name of scheme / Project	CWIP Opening balance as on 1st April 2023 (as per CB approved in review for FY 2022-23)	Capex projected for FY 2023-24	Capitalisation projected for FY 2023-24	Closing CWIP for FY 2023-24	Loan	Grant	Equity
1	Reconductoring	122.77			122.77			
2	IPDS	438.48			438.48			
3	RGGVY	176.94			176.94			
4	DDUGJY	951.86			951.86			
5	Own Sources (reconciliation difference)	2.99			2.99			
6	MKVYS		215.11	215.11			215.11	
7	State Plan - RDSS		44.80	22.40	22.40			22.40
8	Infrastructure works		1,220.36	381.36	839.00		228.82	152.54
9	IT/OT		80.00	25.00	55.00		15.00	10.00
10	PMA		19.50	12.19	7.31		7.31	4.88
11	Smart Prepaid meters (Phase 2)		382.57	191.29	191.29	191.29		
12	Smart Prepaid meters (Phase 3)		132.59	66.30	66.30	66.30		
	<b>Total</b>	<b>1693.04</b>	<b>2,094.93</b>	<b>913.64</b>	<b>2874.33</b>	<b>257.58</b>	<b>466.24</b>	<b>189.82</b>

**Table 6.39: Capex, Capitalisation and funding approved for SBPDCL for FY 2023-24****(Rs. Crore)**

Sl. No.	Name of scheme / Project	CWIP Opening balance as on 1st April 2023 (as per CB approved in review for FY 2022-23)	Capex projected for FY 2023-24	Capitalisation projected for FY 2023-24	Closing CWIP for FY 2023-24	Loan	Grant	Equity
1	Reconductoring	528.52			528.52	-	-	-
2	IPDS	237.86			237.86	-	-	-
3	RGGVY	234.29			234.29	-	-	-
4	DDUGJY	706.56			706.56	-	-	-
5	MKVYS	-	157.90	157.90	-	-	157.90	-
6	State Plan - RDSS		44.80	22.40	22.40	-	-	22.40
7	Infrastructure works		1,410.21	440.69	969.52	-	264.41	176.28
8	IT/OT		80.00	25.00	55.00	-	15.00	10.00
9	PMA		22.35	13.97	8.38	-	8.38	5.59

Sl. No.	Name of scheme / Project	CWIP Opening balance as on 1st April 2023 (as per CB approved in review for FY 2022-23)	Capex projected for FY 2023-24	Capitalisation projected for FY 2023-24	Closing CWIP for FY 2023-24	Loan	Grant	Equity
10	Smart Prepaid meters (Phase 2)	-	142.62	71.31	71.31	71.31	-	-
11	Smart Prepaid meters (Phase 3)	-	56.98	28.49	28.49	28.49	-	-
	<b>Total</b>	<b>1,707.23</b>	<b>1,914.86</b>	<b>759.76</b>	<b>2,862.33</b>	<b>99.80</b>	<b>445.70</b>	<b>214.26</b>

The Commission has considered opening CWIP for NBPDC Rs.1693.04 crore and SBPDCL for Rs.1707.23 crore for FY 2023-24 based on the closing CWIP approved in review for FY 2022-23.

The Commission has considered the opening CWIP, capital investment, capitalisation and funding of capitalisation for FY 2023-24, as detailed in the Table below:

**Table 6.40: CWIP, Capex, Capitalisation and funding considered for FY 2023-24**

(Rs. Crore)

Sl. No.	Particulars	NBPDC			SBPDCL		
		Approved in Tariff order dated 25.03.2022	Projected for FY 2023-24	Approved for FY 2023-24	Approved in Tariff order dated 25.03.2022	Projected for FY 2023-24	Approved for FY 2023-24
1	Opening CWIP	857.56	--	1693.04	1460.51	12.17	1707.23
2	New Investment		2094.94	2094.93		1914.86	1914.86
3	Less: Capitalisation		1599.99	913.64		1347.65	759.76
4	<b>Closing CWIP (1+2-3)</b>	<b>857.56</b>	<b>494.94</b>	<b>2874.33</b>	<b>1460.51</b>	<b>579.37</b>	<b>2862.33</b>
	<b>Funding</b>						
5	Grant		710.06	466.24		725.11	445.70
6	Equity		374.77	189.82		422.94	214.26
7	Loan		515.17	257.58		199.60	99.80

## 6.16. Gross Fixed Assets

### Petitioner's submission

Discoms have submitted the computation of GFA based on the opening GFA and capitalisation for FY 2023-24 as detailed in the Table below:

**Table 6.41: Gross Fixed Assets projected for FY 2023-24**

Sl. No.	Particulars	(Rs. Crore)			
		NBPDCCL		SBPDCL	
		Approved in Tariff order dated 25.03.2022	Projected for FY 2023-24	Approved in Tariff order dated 25.03.2022	Projected for FY 2023-24
1	Opening GFA	25290.78	24601.39	18916.55	19533.35
2	Additions during the year		1599.99		1347.62
3	Closing GFA (1+2)	25290.78	26201.38	18916.55	20881.00

**Commission's analysis:**

The Commission has adopted the opening GFA for FY 2023-24 (Rs.22503.27 crore for NBPDCCL and Rs.17956.76 crore for SBPDCL) based on the closing GFA considered for FY 2022-23 in review and further updated with the capitalisation considered (Table 6.40) for FY 2023-24.

The Commission has arrived at the opening GFA, additions to GFA and closing GFA for FY 2023-24 as detailed in the Table below:

**Table 6.42: Gross Fixed Assets approved for FY 2023-24**

Sl. No.	Particulars	(Rs. Crore)					
		NBPDCCL			SBPDCL		
		Approved in Tariff order dated 25.03.2022	Projected for FY 2023-24	Approved for FY 2023-24	Approved in Tariff order dated 25.03.2022	Projected for FY 2023-24	Approved for FY 2023-24
1	Opening GFA	25290.78	24601.39	22503.27	18916.55	19533.35	17956.76
2	Additions during the year		1599.99	913.64		1347.62	799.76
3	Closing GFA (1+2)	25290.78	26201.38	23416.91	18916.55	20881.00	18716.52

**6.17. Depreciation****Petitioner's submission:**

Discoms have submitted that depreciation is computed annually on straight line method by applying weighted average rate of depreciation on the average GFA in accordance with Regulation 23 of BERC (Multi Year Distribution Tariff) Regulations 2021. Discoms have 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. The GFA at the beginning of the year and additions during the year does not include value of land. Discoms have projected the depreciation for FY 2023-24 as detailed in the Table below:

**Table 6.43: Depreciation projected for FY 2023-24****(Rs. Crore)**

Sl. No.	Particulars	Projected by NBPDC for FY 2023-24	Projected by SBPDCL for FY 2023-24	Total
1	Opening GFA	23448.24	17612	41060.24
2	Additions during the year	1527.45	1221.09	2748.54
3	Closing GFA (1+2)	24975.69	18833.09	43808.78
4	Average GFA (1+3)/2	24211.97	18222.55	42434.51
5	Weighted average rate of depreciation	3.99%	4.04%	
6	Depreciation on assets (4*5)	966.67	736.18	1702.85
7	Opening Grants	12247.00	7380.00	19627.00
8	Grants during the year	667.00	659.00	1326.00
9	Total Grants (7+8)	12914.00	8039.00	20953.00
10	Average Grants (7+9)/2	12580.50	7709.50	20290.00
11	Weighted average rate of depreciation	4.38%	4.64%	
12	Depreciation on Grants used for GFA (10*11)	551.54	357.76	909.30
13	Depreciation for GFA on Loans (6-12)	415.13	378.42	793.55

**Commission's analysis:**

The Commission has considered opening depreciable assets for FY 2023-24 based on the closing depreciable assets approved in review for FY 2022-23. Net addition to assets (excluding land) is considered as projected by the Discoms for FY 2023-24.

The Commission has considered opening grants for FY 2023-24 based on the closing grants approved in review for FY 2022-23 and further updated based on the funding of capitalisation approved in Table 6.40 above.

The Commission has provisionally adopted the weighted average rate of depreciation on asset and grants based on actual weighted average rate of depreciation arrived at as per the audited accounts of NBPDC and SBPDCL and as approved in truing up for FY 2021-22.

The Commission in terms of regulation 23 of BERC (Multi Year Distribution Tariff) Regulations 2021 has computed the depreciation for FY 2023-24 as detailed in the Table below:

**Table 6.44: Depreciation approved for FY 2023-24****(Rs. Crore)**

Sl. No.	Particulars	Approved for NBPDC for FY 2023-24	Approved for SBPDCL for FY 2023-24	Total
1	Opening GFA	21343.03	16035.42	37378.45
2	Additions during the year	843.26	721.38	1564.64
3	Closing GFA (1+2)	22186.29	16756.80	38943.09
4	Average GFA (1+3)/2	21764.66	16396.11	38160.77

Sl. No.	Particulars	Approved for NBPDC for FY 2023-24	Approved for SBPDCL for FY 2023-24	Total
5	Weighted average rate of depreciation	4.04%	4.40%	
6	Depreciation on assets (4*5)	879.55	722.08	1601.63
7	Opening Grants	12608.38	7906.54	20514.92
8	Grants during the year	395.86	407.32	803.18
9	Total Grants (7+8)	13004.24	8313.86	21318.10
10	Average Grants (7+9)/2	12806.31	8110.20	20916.51
11	Weighted average rate of depreciation	4.04%	4.40%	
12	Depreciation on Grants used for GFA (10*11)	517.52	357.17	874.70
13	Depreciation for GFA on Loans (6-12)	362.02	364.91	726.93

The Commission approves depreciation for FY 2023-24 as given in the table above

#### 6.18. Interest on Loans

##### Petitioner's submission:

Discoms have submitted that interest on loans is projected in terms of regulation 25 of the BERC (Multi Year Distribution Tariff) Regulations 2021. Interest on loan is considered at 10.29% by NBPDC and 10.45% by SBPDCL for FY 2023-24 and furnished the computation details as given below:

**Table 6.45: Weighted average rate of interest on loans projected by NBPDC**

Sl. No.	Particulars	Rate of interest %	Opening loan balance	Closing loan balance	Average Loan	Interest
1	REC (RGGVY)	10.50%	296.61	296.61	296.61	31.14
2	PFC (R-APDRP) Part B	9.00%	46.28	46.28	46.28	3.76
3	PFC (Counterpart)	11.00%	83.33	83.33	83.33	9.23
4	REC (DDUGJY)	10.22%	1033.16	1033.16	1033.16	104.06
5	REC (IPDS)	10.22%	302.59	302.59	302.59	32.44
6	State Govt. Non-plan	10.50%	242.06	242.06	242.06	25.42
7	ADB	10.50%	56.01	56.01	56.01	5.88
8	<b>Total</b>		<b>2060.04</b>	<b>2060.04</b>	<b>2060.04</b>	<b>211.93</b>
9	<b>Weighted average rate of interest</b>					<b>10.29%</b>

**Table 6.46: Weighted average rate of interest on loans projected by SBPDCL**

Sl. No.	Particulars	Rate of interest %	Opening loan balance	Closing loan balance	Average Loan	Interest
1	REC (RGGVY)	11.00%	119.24	105.39	112.31	12.35
2	REC (R-APDRP)	10.00%	288.65	253.72	271.19	28.20
3	PFC (R-APDRP)	9.00%	123.20	113.24	118.22	3.76
4	REC (DDUGJY)	10.19%	745.29	745.29	745.29	75.94
5	REC (IPDS)	10.00%	336.45	336.45	336.45	9.23
6	State Govt. Non-plan	10.50%	140.11	166.10	153.10	19.90

Sl. No.	Particulars	Rate of interest %	Opening loan balance	Closing loan balance	Average Loan	Interest
7	ADB	13.00%	6.28	6.28	6.28	104.06
8	<b>Total</b>		<b>1759.22</b>	<b>1726.47</b>	<b>1742.84</b>	<b>253.46</b>
9	<b>Weighted average rate of interest</b>					<b>10.45%</b>

Discoms have computed and projected the interest on loans for FY 2023-24 as detailed in the Table below:

**Table 6.47: Interest on loans projected for FY 2023-24**

(Rs. Crore)

Sl. No.	Particulars	Projected by NBPDCCL for FY 2023-24	Projected by SBPDCL for FY 2023-24	Total
1	Opening Loan	7093.00	5591.00	12684.00
2	Additions during the year	623.00	436.00	1059.00
3	Repayment during the year	415.00	378.00	13743.00
4	<b>Closing loans (1+2-3)</b>	7301.00	5649.00	0.00
5	<b>Average loans (1+4)/2</b>	7197.00	5620.00	6342.00
6	Weighted average rate of interest	10.29%	10.45%	
7	<b>Interest on loans (5*6)</b>	740.63	587.31	1327.94

#### Commission's analysis:

The Commission has considered as opening loan for FY 2023-24 based on the closing loan approved in review for FY 2022-23. Addition to loan is provisionally considered in line with funding of capitalisation considered for 2023-24 as given below:

**Table 6.48: Debt Equity considered for FY 2023-24**

(Rs. Crore)

Sl. No.	Particulars	NBPDCCL	SBPDCL
1	Capitalisation during the year	913.64	759.76
2	<b>Less: Grants</b>	466.24	445.70
3	Net capitalisation	447.40	314.06
4	Equity @30%	134.22	94.22
5	Debt @70%	313.18	219.84

Regulation 25 (g) of the BERC (Multi Year Distribution Tariff) Regulations, 2021 specify that the rate of interest shall be the weighted average rate of interest calculated on the basis of actual loan portfolio at the beginning of the year, 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.

The Commission in terms of regulation 25(g) has provisionally considered rate of interest on loan for FY 2023-24 based on the weighted average rate of interest of 10.29% (last available actual weighted average rate of interest) approved in true up for FY 2021-22 for NBPDCCL and weighted average rate of interest of 10.03% approved for SBPDCL in true up for FY 2021-22.

Regulation 25(e) specify repayment shall be deemed to be equal to the depreciation allowed for the year, the Commission accordingly has considered repayment of loan equal to the depreciation allowed for the year.

The Commission, considering the above, has computed interest on loans for FY 2023-24 as detailed in the Table below:

**Table 6.49: Interest on loan approved for FY 2023-24**

(Rs. Crore)

Sl. No.	Particulars	Approved for FY 2023-24 for NBPDCCL	Approved for FY 2023-24 for SBPDCL	Total
1	Opening loan balance	5338.05	4500.92	9838.96
2	Additions during the year	313.18	219.84	533.02
3	Normative Repayment	362.02	364.91	726.93
4	Closing Loans (1+2-3)	5289.20	4355.85	9645.05
5	Average Loans $\{(1+4)/2\}$	5313.62	4428.38	9742.01
6	Interest rate	10.29%	10.03%	
7	<b>Interest Charges (5x6)</b>	<b>546.77</b>	<b>444.17</b>	<b>990.94</b>

The Commission approves interest on loan for FY 2023-24 as given in the table above

#### 6.19. Other Finance Charges

##### Petitioner's submission:

Discoms have submitted that finance charges represent discount to consumers for timely payment of bills, power factor rebate, interest to suppliers/contractors, etc and projected the other finance charges with escalation of 10% over the expenses considered in review for FY 2022-23 as detailed in the Table below:

**Table 6.50: Other finance charges projected for FY 2023-24**

(Rs. Crore)

Sl. No.	Particulars	Projected by NBPDCCL for FY 2023-24	Projected by SBPDCL for FY 2023-24	Total
1	Other finance charges estimated in previous year	86.99	116.54	203.53



Sl. No.	Particulars	Projected by NBPDC for FY 2023-24	Projected by SBPDCL for FY 2023-24	Total
2	% of escalation	10.00%	10.00%	
3	Increase for the year	8.70	11.65	20.35
4	<b>Other finance charges for the year</b>	95.69	128.19	224.88

**Commission's analysis:**

The Commission has considered the other finance charges approved in review for FY 2022-23 as base expenses for FY 2023-24 and also considers escalation @ 10% provisionally. Accordingly, the Commission considers other finance charges for FY 2023-24 as given in the Table below:

**Table 6.51: Other finance charges approved for FY 2023-24****(Rs. Crore)**

Sl. No.	Particulars	Approved for NBPDC for FY 2023-24	Approved for SBPDCL for FY 2023-24	Total
1	Base Other finance charges	51.96	64.35	116.31
2	% of escalation	10.00%	10.00%	
3	Increase for the year	5.20	6.44	11.64
4	<b>Other finance charges for the year</b>	<b>57.16</b>	<b>70.79</b>	<b>127.95</b>

**The Commission approves other finance charges for FY 2023-24 as given in the table above.**

**6.20. Return on Equity****Petitioner's submission**

Discoms have submitted that Return on Equity has been calculated in terms of regulation 27 of BERC (Multi Year Distribution Tariff) Regulations 2021 and projected the RoE for FY 2023-24 as detailed in the Table below:

**Table 6.52: Return on Equity projected for FY 2023-24****(Rs. Crore)**

Sl. No.	Particulars	Projected by NBPDC for FY 2023-24	Projected by SBPDCL for FY 2023-24	Total
1	Closing equity to end of 31.03.2016	440.86	638.06	1078.92
2	Rate of return on equity %	14.00%	14.00%	
3	Return on Equity	61.72	89.33	151.05
	<b>Equity with effect from 1<sup>st</sup> April 2016</b>			
4	Opening equity	3171.98	2465.89	5637.87
5	Equity addition during the year	266.98	186.75	453.73
6	Closing equity (4+5)	3438.96	2652.64	6091.60

Sl. No.	Particulars	Projected by NBPDCCL for FY 2023-24	Projected by SBPDCL for FY 2023-24	Total
7	Average equity (4+6)/2	3305.47	2559.27	5864.74
8	Rate of return on equity (from 1.4.2016)	15.50%	15.50%	
9	Return on equity (7*8)	503.31	396.69	899.99
10	<b>Total Return on equity (3+9)</b>	<b>565.03</b>	<b>486.02</b>	<b>1051.05</b>

### Commission's analysis

Regulation 27 (c) of the BERC (Multi Year Distribution Tariff) Regulations 2021 specify *Return on equity shall be computed at the rate of 15.50% for the project which is commissioned w.e.f. 01.04.2016 and further incentive equivalent to 0.50% will be allowed in the form of RoE, if the project is completed within original schedule period. However, Return on Equity for the project commissioned prior to 01.04.2016 shall be allowed at the rate of 14.00%.*

The Commission has considered the opening equity for FY 2023-24 based on the closing equity considered in review for FY 2022-23. Addition to equity during the year is provisionally considered based on the capitalisation and funding of capitalisation approved for FY 2023-24 as depicted hereunder.

Sl. No.	Particulars	NBPDCCL	SBPDCL
1	Capitalisation during the year	913.64	759.76
2	<b>Less: Grants</b>	466.24	445.70
3	Net capitalisation	447.40	314.06
4	Equity @30%	134.22	94.22
5	Debt @70%	313.18	219.84

Regulation 29 (1) of the BERC (Multi Year Distribution Tariff) Regulations 2021 specify the base rate of return on equity as allowed by the Commission under Regulation 27 shall be grossed up with the effective tax rate of the respective financial year. For this purpose, the effective tax rate shall be considered on the basis of actual tax paid in the respect of the financial year in line with the provisions of the relevant Finance Acts by the concerned the Distribution Licensee, as the case may be. The actual tax on income from other business including deferred tax liability (i.e. income on business other than business of distribution, as the case may be) shall not be considered for the calculation of effective tax rate.

The Commission has not considered the Tax on Return on Equity as the Discoms have not incurred/paid income tax in earlier year i.e. for FY 2021-22.

The Commission, accordingly, has computed return on equity as detailed in the Table below:

**Table 6.53: Return on Equity approved for FY 2023-24**

(Rs. Crore)

Sl. No.	Particulars	Approved for FY 2023-24 for NBPDCCL	Approved for FY 2023-24 for SBPDCL	Total
1	Closing equity to end of 31.03.2016	440.86	638.06	1078.92
2	Rate of return on equity %	14.00%	14.00%	
3	Return on Equity	61.72	89.33	151.05
	<b>Equity with effect from 1<sup>st</sup> April 2016</b>			
4	Opening equity	2198.48	1820.05	4018.53
5	Equity addition during the year	134.22	94.22	228.44
6	Closing equity (4+5)	2332.70	1914.27	4246.97
7	Average equity (4+6)/2	2265.59	1867.16	4132.75
8	Rate of return on equity	15.50%	15.50%	
9	Return on equity (7x8)	351.17	289.41	640.58
10	<b>Total Return on equity (3+9)</b>	<b>412.89</b>	<b>378.74</b>	<b>791.63</b>

The Commission approves other finance charges for FY 2023-24 as given in the table above

#### 6.21. Operation and Maintenance (O&M) expenses

##### Employee Costs

##### Petitioner's submission:

Discoms have submitted that in terms of regulation 22 of BERC (Multi Year Distribution Tariff) Regulations 2021 the norm for employee expenses have been determined by the Commission for the control period of FY 2022-23 to FY 2024-25 in Tariff order dated 25.03.2022 as given below:

**Table 6.54: Employee norm approved in Tariff order dated 25.03.2022**

Particulars	Base employee expense norm for NBPDCCL	Base employee expense norm for SBPDCL
No. of personnel per substation	6.7650	9.4117
No. of personnel per 1000 consumers	0.0629	0.1504
Annual expenses per personnel (Rs. Crore)	0.0854	0.0914

Regulation 22.1 specify employee cost shall be computed as per the approved norm escalated based on the average increase in CPI for immediately preceding three years i.e. FY 2018-19, FY 2019-20, FY 2020-21 and base year of FY 2017-18. Discoms

have computed the average CPI inflationary increase as given below:

Particulars	2017-18	2018-19	2019-20	2020-21
Average CPI index points for FY	284.42	299.92	322.50	333.00
Increase in CPI index over the previous year		5.45%	7.53%	3.26%
Average CPI inflationary inc.	5.41%			

The Discoms accordingly, considering the norm for employee expense have computed the employee expenses for 2023-24 as given in the table below:

**Table 6.55: Employee expenses projected by Discoms for FY 2023-24**

(Rs. Crore)

Sl. No	Particulars	NBPDCCL		SBPDCL	
		Base Value	Projected for FY 2023-24	Base Value	Projected for FY 2023-24
1	Average annual CPI index		5.41%		5.41%
2	Norms-Number of personnel per 1000 consumers	0.0629	0.0629	0.2667	0.1504
3	Norms-Number of personal per substation	6.765	6.765	19.4782	9.4117
4	No. of consumers (1000)		12041		7043
5	No of substations		631		624
6	Annual expenses per personnel (Rs. Cr)	0.0854	0.0949	0.043614	0.1016
7	Employee cost per 1000 consumers		71.87		107.58
8	Employee cost per substation		405.07		596.45
9	<b>Total Employee cost</b>		<b>476.94</b>		<b>704.03</b>

#### Commission's analysis:

The Commission, in terms of regulation 22 of BERC (Multi Year Distribution Tariff) Regulations 2021, had determined Employee norm for the MYT control period of FY 2022-23 to FY 2024-25 in the Tariff Order dated 25.03.2022. The base value of determined employee expense norm is, as given below:

Particulars	Base Value for NBPDCCL	Base Value for SBPDCL
No. of personnel per 1000 consumers	0.0629	0.1504
No. of personnel per Sub-Station	6.765	9.4117
Annual expenses per personnel (Rs. Crore)	0.0854	0.0914

Regulation 22.1 of BERC (Multi Year Distribution Tariff) Regulations 2021 specifies, employee cost shall be computed as per the approved norm escalated by CPI. CPI inflation is defined as the average increase in the CPI for immediately preceding three

years. The available CPI index points are upto FY 2021-22 and accordingly, the Commission provisionally considers the average CPI inflation at 5.89% for FY 2023-24 based on the available CPI index points as given below:

**Table 6.56: CPI Inflation considered for FY 2023-24**

Particulars	2018-19	2019-20	2020-21	2021-22
Annual Average CPI Index	299.92	322.50	338.69	356.06
CPI Inflation		7.53%	5.02%	5.13%
<b>Weighted average CPI inflation</b>				<b>5.89%</b>

The Discoms have furnished the details of projected total number of consumers and total no. of substations for FY 2023-24 as given below:

Particulars	NBPDCCL	SBPDCL
No. of substations	631	624
No. of consumers	12041203	7042852

Regulation 22 (g) specifies that the norms determined at constant prices of base year shall be escalated on account of inflation. Accordingly, the Commission has considered the weighted average increase in the Consumer Price Index (CPI) at 5.89% for immediately preceding three years in terms of regulation 22.1 and escalated the base annual expenses per personnel to arrive the normative annual expenses for personnel for FY 2023-24.

The Commission considering the base value of employee expense norm has computed the employee expenses with CPI inflationary indexation of 5.89% for FY 2023-24 as detailed in the table below:

**Table 6.57: Employee expenses based on norm considered for FY 2023-24 for Discoms**

(Rs. Crore)						
Sl. No.	Particulars	NBPDCCL		SBPDCL		Total
		Base Value	2023-24	Base Value	2023-24	
1	Average annual CPI index		5.89%		5.89%	
2	Norms-Number of personnel per 1000 consumers	0.0629	0.0629	0.1504	0.1504	
3	Norms-Number of personal per substation	6.765	6.765	9.4117	9.4117	
4	No. of consumers (1000)		12,041		7,043	
5	No of substations		631		624	
6	Annual expenses per personnel (Rs. Crore)	0.0904	0.09576	0.0914	0.10248	
7	Employee cost on the norm of		72.53		108.56	

Sl. No.	Particulars	NBPDC		SBPDCL		Total
		Base Value	2023-24	Base Value	2023-24	
	1000 consumers (2*5*6) (Rs. Crore)					
8	Employee cost on the norms of substation (4*5*6) (Rs. crore)		408.76		601.88	
9	<b>Total Employee cost (7+8)</b> (Rs. Crore)		<b>481.29</b>		<b>710.44</b>	<b>1191.73</b>

The Commission, accordingly, considers the employee expenses for FY 2023-24 as given in the table above.

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

##### Petitioner's submission

Discoms have submitted that Administration and General expenses are projected in terms of regulation 22.3 with escalation for WPI inflationary index for FY 2023-24.

It is submitted that the Commission has determined the base value of A&G expense norm per 1000 consumers and A&G expense per employee and annual A&G expenses per 1000 consumers and per employee in the Tariff Order dated 25.03.2022 as detailed in the table below:

**Table 6.58: A&G expense norm approved for NBPDC & SBPDCL in TO dated 25.03.2022**

Particulars	Base A&G expense norm for NBPDC	Base A&G expense norm for SBPDCL
Norms-A&G expenses per 1000 consumers	0.4200	0.850
Norms-A&G expenses per personal	0.3600	0.0099
Annual expenses per 1000 consumers (Rs. Cr)	0.0079	0.121

Regulation 22.3 specifies A&G expenses shall be computed as per the approved norm escalated by the average increase in WPI for immediately preceding three years. The Discoms have computed the WPI inflationary increase as given below:

##### WPI inflationary increase projected by Discoms

Years	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
Average WPI index points for FY	119.79	121.80	123.38	139.41
Increase in WPI index over previous year		1.68%	1.29%	13.00%
Average WPI inflationary increase	5.32%			

The Discoms, in addition to the normative A&G expenses have projected rent charges for smart prepaid meters proposed to be installed under Phase-II and Phase-III under RDSS scheme. The total A&G expenses computed the A&G expenses for 2023-24 as given in the table below:

**Table 6.59: A&G expenses projected for FY 2023-24**

(Rs. Crore)			
Sl. No	Particulars	Projected by NBPDC for FY 2023-24	Projected by SBPDCL for FY 2023-24
1	Average annual WPI CPI index	5.32%	5.32%
2	Norms-A&G expenses per 1000 consumers	0.42	1.00
3	Norms-A&G expenses per personal	0.36	0.85
4	No. of consumers (1000)	12041	7043
5	No of employees	10765	11755
6	Annual expenses per 1000 consumers (Rs. Cr)	0.00854	0.01098
7	Annual expenses per employee (Rs. Cr)	0.02496	0.01342
8	A&G cost per 1000 consumers	102.85	77.34
9	A&G cost per employee	268.68	157.78
10	<b>Total</b>	<b>371.53</b>	<b>235.12</b>
11	Rent Charges for Smart Prepaid Meter (Phase 1) 23.5 Lakhs	57.32	73.47
12	Rent Charges for Smart Prepaid Meter (Phase 2) 36 Lakhs- 70% Opex	70.69	25.70
13	Rent Charges for Smart Prepaid Meter (Phase 3) 1.12 crores- 70% Opex	9.29	3.99
14	<b>Total A&amp;G cost</b>	<b>508.83</b>	<b>338.28</b>

**Commission's analysis:**

The Commission, in terms of regulation 22 of BERC (Multi Year Distribution Tariff) Regulations 2021, had determined A&G expense norm for the MYT control period of FY 2022-23 to FY 2024-25 in the Tariff Order dated 25.03.2022. The base value of determined A&G expense norm is, as given below:

Particulars	Base Value for NBPDC	Base Value for SBPDCL
Norm-A&G expense per 1000 consumers	0.420	1.000
Norm-A&G expense per personal/employee	0.360	0.850
Annual A&G expenses per 1000 consumers (Rs. Crore)	0.0077	0.0099
Annual A&G expenses per employee (Rs. Crore)	0.0225	0.0121

Regulation 22.3 of BERC (Multi Year Distribution Tariff) Regulations 2021 specifies, A&G expenses shall be computed as per the approved norm escalated by WPI. WPI inflation is defined as the average increase in the WPI for immediately preceding three

years. Accordingly, the Commission has worked out average WPI inflation based on the available WPI index points as given hereunder.

**Table 6.60: Weighted average WPI index inflation**

Particulars	2018-19	2019-20	2020-21	2021-22
Average annual WPI index	119.79	121.80	123.38	139.41
Year on year increase		1.68%	1.29%	13.00%
Average increase	5.32%			

Discoms have furnished the no. of employees in Format 10 and no. of consumers in Format 7 of the petition for the year FY 2023-24 as given below.

Particulars	NBPDCCL	SBPDCL
No. of employees	10765	11755
No. of consumers	12041203	7042852

The Commission considering the base year A&G expense norm and no. of consumers has computed the A&G expenses with WPI inflationary indexation of 5.32% for FY 2023-24 as detailed in the table below:

**Table 6.61: A&G expenses based on norm considered for FY 2023-24 for Discoms**

Sl. No.	Particulars	NBPDCCL		SBPDCL		Total
		Base Value	2023-24	Base Value	2023-24	
1	Average annual WPI index		5.32%		5.32%	
2	Norms-A&G expenses per 1000 consumers	0.42	0.42	1.000	1.000	
3	No. of consumers (1000)		12,041		7,043	
4	No of employees		4645		5805	
5	Annual expenses per 1000 consumers (Rs. Crore)	0.00811	0.00854	0.01043	0.01098	
6	Annual expenses per employee (Rs. Crore)	0.02370	0.02496	0.01274	0.01342	
7	A&G cost for 1000 consumers (3*5)		102.84		77.34	
8	A&G cost for employees (4*6)		115.93		77.91	
9	<b>Total A&amp;G expenses (G+H)</b> (Rs. Crore)		<b>218.77</b>		<b>155.25</b>	<b>374.03</b>

*The Commission has not considered the rental charges for smart prepaid meters since the capex and opex of the said scheme has not yet been approved. However, the said expenses shall be considered in truing up based on actual expenses reported through audited accounts due prudence check and validation.*



The Commission, accordingly, considers the A&G expenses for FY 2023-24 as given in the table above.

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

##### Petitioner's submission:

Discoms have submitted that R&M is projected as a percentage of gross fixed assets in accordance to regulation 22.2 for FY 2023-24. It is submitted that R&M expenses are computed based on the R&M norm 'K' factor as given in the table below:

**Table 6.62: Repairs and Maintenance expenses projected for FY 2023-24**

(Rs. Crore)

Sl. No.	Particulars	Projected by NBPDC for FY 2023-24	Projected by SBPDCL for FY 2023-24	Total
1	Opening GFA	24601.39	19533.35	
2	Opening Land Cost	1153.15	1921.34	
3	Opening GFA exc land cost	23448.24	17612.00	
4	K Factor	1.24%	1.71%	
5	<b>R&amp;M Expense</b>	<b>290.76</b>	<b>301.17</b>	<b>591.93</b>

##### Commission's analysis

Regulation 22.2 of BERC (Multi Year Distribution Tariff) Regulations 2021, specify R&M expenses as a percentage (as per the norm determined) of Gross Fixed Assets excluding land cost for the year.

The Commission had determined the R&M norm i.e. 'K' factor at 1.24% for NBPDC and 1.71% for SBPDCL for the MYT control period of FY 2022-23 to FY 2024-25 in the Tariff Order dated 25.03.2022.

The Commission has considered the opening GFA net of land value for FY 2023-24 in Table 6.44 and accordingly considers R&M expenses adopting 'K' factor for FY 2023-24 as detailed in the table below:

**Table 6.63:: R&M expenses considered for FY 2023-24**

(Rs. Crore)

Sl. No.	Particulars	Approved for NBPDC for FY 2023-24	Approved for SBPDCL for FY 2023-24	Total
1	Opening depreciable assets (excl. land)	21343.03	16035.42	37378.45
2	K Factor	1.24%	1.71%	
3	<b>R&amp;M Expense for the year (1*2)</b>	<b>264.65</b>	<b>274.21</b>	<b>538.86</b>

The Commission, accordingly considers R&M expenses for FY 2023-24 as given in the table above.

### 6.22.3 Holding Company Expenses

#### Petitioner's submission

Discoms have projected the Holding Company expenses with inflationary index increase @10% for FY 2023-24 as given in Table below:

**Table 6.64: Holding Company Expenses projected for FY 2023-24**

Particulars	Projected by NBPDC for FY 2023-24	Projected by SBPDCL for FY 2023-24	(Rs. Crore)
			Total
Previous year Holding company expenses	24.805	26.08	
Inflationary index %	10%	10%	
Inflationary increase	2.48	2.61	
Holding company expenses for the year	27.28	28.69	55.97

#### Commission's analysis:

The Commission has considered the holding company expenses considered in review for FY 2022-23 as base holding company expenses and further escalated with CPI inflationary increase of 5.89% (as adopted for Employee expenses since the holding company expenses majorly represent employee/Manpower expenses). The Commission, in terms of Bihar State Electricity Reforms Transfer Scheme, 2012, has considered the holding company expenses for FY 2023-24, as detailed in the table below:

**Table 6.65: Holding company expenses approved for FY 2023-24**

Particulars	Approved for NBPDC for FY 2023-24	Approved for SBPDCL for FY 2023-24	(Rs. Crore)
			Total
Holding company expenses considered in review (APR) for FY 2022-23	23.88	25.11	48.99
Inflationary increase @5.89%	1.40	1.48	2.88
<b>Holding company expenses</b>	<b>25.28</b>	<b>26.59</b>	<b>51.87</b>

The Commission, accordingly considers Holding company expenses for FY 2023-24 as given in the table above.

**6.22.4 Summary of Operation and Maintenance (O&M) Expenses**

The summary of the O&M expenses approved for FY 2023-24 as tabulated below:

**Table 6.66: Total O&M cost approved for FY 2023-24****(Rs. Crore)**

Sl. No.	Particulars	Approved for NBPDC for FY 2023-24	Approved for SBPDCL for FY 2023-24	Total
1	Employee cost	481.29	710.44	1191.73
2	R&M expenses	264.65	274.21	538.86
3	A&G Expenses	218.77	155.25	374.03
4	Holding company expenses	25.28	26.59	51.87
5	<b>Total O&amp; M cost</b>	<b>989.99</b>	<b>1166.48</b>	<b>2156.49</b>

**6.23. Interest on Security Deposit****Petitioner's submission:**

Discoms have submitted that interest on Security Deposit amount has been claimed as per the Regulation 26 of BERC (Multi Year Distribution Tariff) Regulations 2021. The interest on security deposit is calculated at the rate of 5.05%. The Discoms have projected interest on security deposit for FY 2023-24 as detailed in the Table below:

**Table 6.67: Interest on security deposit projected for FY 2023-24****(Rs. Crore)**

Sl. No.	Particulars	Projected by NBPDC for FY 2023-24	Projected by SBPDCL for FY 2023-24	Total
1	Opening balance of Security deposit	452.99	783.30	
2	Addition during the year	16.54	52.51	
3	Closing SD	469.53	835.81	
4	Average SD	461.26	809.55	
5	Rate of interest	5.05%	5.05%	
6	Interest on SD	23.29	40.88	64.17

**Commission's analysis:**

Regulation 26 of the BERC (Multi Year Distribution Tariff) Regulations 2021 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 opening SD from consumer for FY 2023-24 based on the closing SD approved in review for FY 2022-23. Addition to security deposit is considered at the same level of addition to SD considered in true up for FY 2021-22 based on the audited accounts. The rate of interest is provisionally considered as projected by the petitioners.

The Commission considers the interest on consumer's security deposit for the control period as given in the Table below:

**Table 6.68: Interest on security deposit approved for FY 2023-24****(Rs. Crore)**

Sl. No.	Particulars	Approved for NBPDCCL for FY 2023-24	Approved for SBPDCL for FY 2023-24	Total
1	Opening balance of Security deposit	452.99	783.29	
2	Addition during the year	16.54	52.51	
3	Closing SD	469.53	835.80	
4	Average SD	461.26	809.55	
5	Rate of interest	5.05%	5.05%	
6	Interest on SD	23.29	40.88	64.17

The Commission, accordingly considers interest on security deposit for FY 2023-24 as given in the table above.

#### 6.24. Non-Tariff Income

##### Petitioner's submission:

Discoms have projected the nontariff income taking the amount estimated in Annual performance review of FY 2022-23 and then escalating the same by around 10% except the rebate on power purchase and DPS.

It is further submitted that nontariff income has been projected at such higher rate due to the reasons that the Discoms while implementing Smart prepaid meters in the state in the coming years are expecting arrear and DPS recovery at a higher rate as compared to previous years which is further expected to increase the NTI at a higher rate in the coming years.

The nontariff income projected by the Discoms for FY 2023-24 is as detailed in the Table below:

**Table 6.69: Projected Non-tariff Income for FY 2023-24****(Rs. Crore)**

Sl. No.	Particulars	Projected by NBPDCCL for FY 2023-24	Projected by SBPDCL for FY 2023-24	Total
1	Base Non-tariff income	1100.88		
2	Escalation factor	49.07%		
3	Increase in Non-tariff income	540.17		
4	Total Non-tariff income	1641.05	1162.19	
5	Delayed payment surcharge from consumers	952.59	799.60	
6	Principal amount on which DPS is	5292.17	4442.22	

Sl. No.	Particulars	Projected by NBPDC for FY 2023-24	Projected by SBPDCL for FY 2023-24	Total
	charged			
7	Interest rate of funding DPS	8.80%	8.80%	
8	Interest on funding principal	465.51	390.92	
9	Net Non-tariff income	1175.54	771.27	1946.81

**Commission's analysis:**

The Commission has considered release of new connections of SBPDCL 126087 and NBPDC 262652 during FY 2022-23. The Commission has considered supervision charges, etc. per connection on the new connections at the applicable rates for all the new connections at the applicable rates keeping in view the mandate of the Electricity Act, 2003 that all the new connections have to be released with meter and accordingly, has considered Rs.14.21 crore (Rs.8.77 crore for NBPDC and Rs.5.44 crore for SBPDCL) towards non-tariff income for FY 2022-23 as given below:

Sl. No.	Category	Supervision, Labour, Est. charges per connection	No of connections for FY 2022-23		No of connections for FY 2023-24		No of new connections approved for FY 2023-24		Supervision charges per annum	
			SBPDCL	NBPDC	SBPDCL	NBPDC	SBPDCL	NBPDC	SBPDCL	NBPDC
1	Kutir Jyoti	0	4300806	1569629	4386822	1585325	86016	15696	0	0
2	Domestic-I	400	5029024	2840850	5129605	2897667	100581	56817	40232400	22726800
3	Domestic-II	400	1371570	1502217	1399001	1517240	27431	15023	10972400	6009200
4	DS-III	400	82	190	85	198	3	8	1200	3200
5	NDS-I	400	407884	221026	432357	243129	24473	22103	9789200	8841200
6	NDS-II	400	371056	368943	382187	376322	11131	7379	4452400	2951600
7	SS	400	2169	2336	2255	2417	86	81	34400	32400
8	IAS-I	900	144560	287631	158638	296555	14078	8924	12670200	8031600
9	IAS-II	900	6564	4682	6761	4775	197	93	177300	83700
10	Public Water Works	900	1988	3205	2048	3365	60	160	54000	144000
11	Har GharNal	40	52808	33778	59145	40533	6337	6755	253480	270200
12	LTIS -I	1500	73260	65030	79120	68282	5860	3252	8790000	4878000
13	LTIS -II	1500	1618	4622	1682	4760	64	138	96000	207000
14	LT EVCS		2	3	3	5	1	2	0	0
15	HTS - I	3000	1369	1976	1410	2035	41	59	123000	177000
16	HTS - II	3000	64	178	68	185	4	7	12000	21000
17	HTS - III	3000	3	5	3	5	0	0	0	0
18	HTSS	3000	3	13	3	13	0	0	0	0
19	HT (oxygen manufacturers)	0		33		34	0	1	0	0
20	Railway	0	5	4	5	4	0	0	0	0
21	HT EV CS	0	2	2	3	3	1	1	0	0
	<b>Total</b>		<b>11764837</b>	<b>6906353</b>	<b>12041201</b>	<b>7042852</b>	<b>276364</b>	<b>136499</b>	<b>87657980</b>	<b>54376900</b>

The Petitioners are estimating additional Non-tariff income due to implementation of

Smart prepaid meters and are expecting arrear and DPS recovery at a higher rate as compared to previous years.

The Commission provisionally considers the Non-tariff income (except the rebate on power purchase cost) as projected by the Discoms for FY 2023-24 subject to truing up. It is observed from the Format 27B of the petitions, NBPDCCL has projected Rs.119.50 crore and SBPDCL Rs.140.52 crore towards Rebate and Discount received for timely payment of power purchase bills for FY 2023-24.

The Commission, considers rebate @1% of the power purchase cost including PGCIL and transmission charges for FY 2023-24 based on the approved power purchase cost. The Commission, accordingly, has considered Non-tariff income for FY 2023-24 in review as detailed in the table below.

**Table 6.70: Non-tariff income approved for FY 2023-24**

(Rs. Crore)				
Sl. No.	Particulars	Approved for NBPDCCL for FY 2023-24	Approved for SBPDCL for FY 2023-24	Total
1	Base Non-tariff income	1175.54	771.27	1946.81
2	Less: Rebate included in the above	119.50	140.52	260.02
3	<b>Sub-total</b>	<b>1056.04</b>	<b>630.75</b>	<b>1686.79</b>
4	Add: Additional income on account of supervision charges due to release of new connections	8.77	5.44	14.21
5	Add: Rebate @1% on total power purchase (incl. transmission charges) for FY 2023-24	105.20	122.25	227.44
6	<b>Non-tariff income</b>	<b>1170.01</b>	<b>758.44</b>	<b>1928.44</b>

## 6.25. Interest on working capital

### Petitioner's submission:

Discoms have submitted that they have estimated the amount towards interest on Working capital for FY 2023-24 as per the Regulation 26 of the Bihar Electricity Regulatory Commission (Multi Year Distribution Tariff) Regulations, 2021, as extracted below:

*"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 for one month.*

*(ii) Depreciation, return on equity and contribution to contingency reserves equivalent to two months.*

*(iii) Amount of security deposits from consumers, if any, held during the year.*

*Provided that the interest on working capital shall be on normative basis and rate of interest shall be equal to the State Bank one-year Marginal Cost of Funds-based Lending Rate ('MCLR') as of the date on which petition for determination of tariff is filed plus 150 basis points. The rate of interest for the purpose of Truing-up shall be the weighted average MCLR of the concern Financial Year plus 150 basis points.*

*Provided further that interest shall be allowed on consumer security deposits and security deposits from Distribution System users held during the year at the Bank Rate as of the date on which petition for determination is filed. The interest allowed shall be subject to true up at weighted average Bank Rate of the concern Financial Year.*

*Provided also that if the State Government is providing resource gap grant and/or direct subsidy to consumers, the working capital shall be reduced by two months equivalent of that amount."*

Discoms has considered two months equivalent expected revenue and 40% of one month of R&M expense as specified in the above Regulation which was further deducted by Power Purchase cost along with transmission charges for one month, depreciation, ROE, contingency reserve for 2 months and consumer security deposit. It is further stated that the petitioners have determined the ARR for FY 2023-24 taking into consideration the revised AT&C loss trajectory as submitted to MoP, Gol. Therefore, there will be no state government fund allocated towards disallowance of power purchase cost and accordingly has not deducted any amount towards disallowed power purchase from working capital requirement.

The interest on working capital is calculated @ 9.45% (SBI one-year MCLR 7.95% plus 150 basis points) as per the Regulations as given in the table below:

Discoms have submitted that the rate of interest applied on the proposed working

capital is @9.25% as per the SBI MCLR (one year) of 7.17% plus 150 basis points as per the regulations. Discoms have computed the interest on working based on the norms as detailed in the Table below:

**Table 6.71: Interest on working capital projected for FY 2023-24**

(Rs. Crore)			
Sl. No.	Particulars	Projected by NBPDC for FY 2023-24	Projected by SBPDCL for FY 2023-24
1	Two months equivalent of expected revenue	2334.48	2722.42
2	Maintenance spares @ 40% of R&M expenses for one month	9.69	10.04
3	<b>sub-total (1+2)</b>	<b>2344.17</b>	<b>2732.46</b>
4	<b>Less:</b> Power purchase cost, transmission charges and load dispatch charges of one month	997.52	1171.00
5	<b>Less:</b> Depreciation, RoE, Contribution to Contingency Reserve	163.36	144.07
6	<b>Less:</b> Consumer security Deposits	457.30	773.78
7	<b>Less:</b> Resource Gap grant / subsidy for two months		
8	<b>Sub-total (4 to 7)</b>	<b>1618.18</b>	<b>2088.85</b>
9	<b>Net working capital requirement (3-8)</b>	<b>725.99</b>	<b>643.61</b>
10	Rate of interest	9.45%	9.45%
11	<b>Interest on working capital</b>	<b>68.61</b>	<b>60.82</b>

### Commission analysis

The Commission has computed the interest on working capital as per the norms prescribed in Regulation 26 of the BERC (Multi Year Distribution Tariff) Regulations 2021. The rate of interest applied on the working capital is @9.55%, as per the SBI MCLR (one year) of 8.05% plus 150 basis points as on the date of filing of the petition i.e.15.11.2022.

Regulation 26 (iii) specifies that ***“Provided also that if the State Government is providing resource gap grant and/or direct subsidy to consumers, the working capital shall be reduced by two months equivalent of that amount”***. The Government of Bihar has extended Rs.7800.96 crore towards tariff subsidy for consumers towards electricity charges. The Commission has provisionally considered the Government support for FY 2023-24 at the same level as sanctioned and as considered for FY 2022-23 for the purpose of computing working capital requirement.

The Commission, as specified in regulation 26 has considered two months equivalent of subsidy and reduced from the working capital requirement.

The Commission has considered closing Security Deposits from the Consumers as approved in Table 6.68 above.



The Commission based on the expenses/costs approved, has computed the working capital requirement and interest on working capital for the control period as detailed in the Table below:

**Table 6.72: Interest on working capital considered for FY 2023-24**

(Rs. Crore)			
Sl. No.	Particulars	Approved for NBPDCCL for FY 2023-24	Approved for SBPDCL for FY 2023-24
1	Maintenance spares @ 40% of R&M expenses for one month	8.82	9.14
2	Two months equivalent of expected revenue	1971.04	2338.54
3	<b>sub-total (1+2)</b>	<b>1979.86</b>	<b>2347.68</b>
4	<b>Less:</b> Power purchase cost, transmission charges and load dispatch charges of one month	883.75	1027.06
5	<b>Less:</b> Depreciation, RoE, Contribution to Contingency Reserve	129.15	123.94
6	<b>Less:</b> Consumer security Deposits	469.53	835.80
7	<b>Less:</b> Resource Gap grant / subsidy for two months	602.23	697.93
8	<b>Sub-total (4 to 7)</b>	<b>2084.66</b>	<b>2684.72</b>
9	<b>Net working capital requirement (3-8)</b>	<b>(104.80)</b>	<b>(337.05)</b>
10	Rate of interest	9.55%	9.55%
11	<b>Interest on working capital</b>	<b>--</b>	<b>--</b>

## 6.26. Annual Revenue Requirement for FY 2023-24

### Petitioner's submission:

The Discoms have submitted the ARR for the control period, as detailed in the Table below:

**Table 6.73: ARR projected for FY 2023-24**

(Rs. Crore)				
Sl. No.	Particulars	Projected by NBPDCCL for FY 2023-24	Projected by SBPDCL for FY 2023-24	Total
1	Purchase of power (excluding rebate for prompt payment)	10,044.95	11,791.90	21,836.85
2	Transmission charges	1,925.26	2,260.09	4,185.35
3	<b>O &amp; M Expenses (A+B+C+D)</b>	<b>1303.82</b>	<b>1372.17</b>	<b>2675.99</b>
A	Employee expenses	476.94	704.03	1,180.97
B	R&M expenses	290.76	301.17	591.93
C	A&G expenses	508.83	338.28	847.11
D	Holding company expenses	27.29	28.69	55.98
4	Depreciation	415.13	378.42	793.55
5	Interest on loan	740.63	587.32	1,327.95
6	Other finance charges	95.69	128.19	223.88
7	Return on equity	565.03	486.02	1,051.05
8	Interest on SD	23.29	40.88	64.17
9	Interest on working capital	68.61	60.82	129.43
10	Less: Non-tariff income	-1175.54	-771.27	-1,946.81
11	<b>ARR for the year</b>	<b>14,006.88</b>	<b>16,334.53</b>	<b>30,341.41</b>

**Commission analysis:**

The Commission has computed the annual revenue requirement (ARR) based on the costs approved in the preceding paragraphs for FY 2023-24 as detailed in the Table below:

**Table 6.74: ARR approved for FY 2023-24****(Rs. Crore)**

Sl. No.	Particulars	Approved for FY 2023-24 for NBPDC	Approved for FY 2023-24 for SBPDCL	Total
1	Purchase of power	8981.20	10418.54	19399.74
2	PGCIL & Other transmission charges	890.11	1044.91	1935.02
3	BSPTCL transmission charges	541.25	635.37	1176.62
4	BGCL transmission charges	100.91	118.47	219.38
5	SLDC charges	6.15	7.22	13.37
6	RECs Purchases			0.00
7	<b>O &amp; M Expenses (A+B+C+D)</b>	<b>990.00</b>	<b>1166.48</b>	<b>2156.49</b>
A	Employee expenses	481.29	710.44	1191.73
B	R&M expenses	264.65	274.21	538.86
C	A&G expenses	218.77	155.25	374.03
D	Holding company expenses	25.28	26.59	51.87
8	Depreciation	362.02	364.91	726.93
9	Interest on loan	546.77	444.17	990.94
10	Other finance charges	57.16	70.79	127.95
11	Return on equity	412.89	378.74	791.63
12	Interest on SD	23.29	40.88	64.18
13	Contingency Reserve			0.00
14	Interest on working capital	0.00	0.00	0.00
15	<b>Less: Non-tariff income</b>	<b>(1170.01)</b>	<b>(758.44)</b>	<b>(1928.44)</b>
16	<b>ARR for the year</b>	<b>11741.75</b>	<b>13932.05</b>	<b>25673.79</b>

**Impact of Order dated 07.11.2022 in case no.7/2022 for review of orders in Tariff order dated 25.03.2022 in Case no.16/2021 of NBPDC and case no.8/2022 for review of orders in Tariff order dated 25.03.2022 in Case no.17/2021 of SBPDCL**

The Commission in order dated 07.11.2022 in Case No.7/2022 of NBPDC and Case No.8/2022 of SBPDCL for review of orders in Tariff order dated 25.03.2022 has ordered that treatment of AT&C compensatory subsidy in the audited regulatory account required to be accounted as an adjustment to the main head i.e. head of accounts in which losses absorbed by the DISCOMs on account of their inefficiency in achieving AT&C Loss trajectory have been accounted. The Commission while truing up of FY 2020-21 had considered such subsidy as Income based on financial audited account of FY 2020-21 wherein such subsidy has been shown as Other Income. However, the subsidy of Rs.1266 Crore (combinedly for SBPDCL and NBPDC) provided by the State

Government to DISCOMs is to compensate their financial loss due to higher AT&C loss; and if it is treated as Income/Revenue in the ARR, it will get passed on to the Consumers and the subsidy amount does not remain available with the DISCOMs to pay the power purchase cost attributable to such higher AT&C losses. Accordingly, the claim of the DISCOMs not to reckon the amount of subsidy received towards excess AT&C loss is seems to be acceptable.

It is observed that financial loss to the DISCOMs due to higher AT&C loss beyond the trajectory fixed by the Commission is Rs.1264.38 Crore (i.e.Rs.452.28 Crore for NBPDCCL and Rs.812.10 Crore for SBPDCL) which is less than the subsidy of Rs.1266 crore made available by the State Govt. to compensate such financial loss. Accordingly, as claimed by the DISCOMs, not to consider the subsidy of Rs.1264.38 Crore (i.e. Rs.452.28 Crore for NBPDCCL and Rs.812.10 Crore for SBPDCL) as part of revenue for FY 2020-21 is considered and the revised revenue Gap/(Surplus) in true up for FY 2020-21 is arrived at as given in the Table below:

Sl. No.	Particulars	Approved in Order (review) dated 07.11.2022 in Case No.7/2022 for NBPDCCL	Approved in Order (review) dated 07.11.2022 in Case No.8/2022 for SBPDCL	Total
1	ARR approved in True up for FY 2020-21	9131.68	10858.40	19990.08
2	Add: Gains /(Loss) on account of power purchase cost to be absorbed by licensee	(452.28)	(812.10)	(1264.38)
3	Less: Gains /(Loss) on account of O&M expenses to be passed in to tariff	34.57	33.36	67.93
4	Less: Gains /(Loss) on account of interest on working capital to be passed in to tariff			0.00
5	<b>Total revenue requirement (1+2-3-4)</b>	<b>8644.83</b>	<b>10012.94</b>	<b>18657.77</b>
6	Carried forward trued up revenue gap/(Surplus) of FY 2018-19 along with carrying cost	30.95	112.49	143.44
7	Add: Adjustment as per review order dated 26.10.2021 relating clerical errors in truing up for FY 2018-19 incl. carrying cost	(1.39)	1.39	0.00
8	Subsidy Received		1.62	1.62
9	<b>Revised Revenue Requirement (5+6+7-8)</b>	<b>8674.39</b>	<b>10125.20</b>	<b>18799.59</b>
10	Less: Revenue from existing tariff	7881.40	9454.11	17335.51
11	<b>Revenue Gap / (Surplus) for FY 2020-21 (9-10)</b>	<b>792.99</b>	<b>671.09</b>	<b>1464.08</b>
12	Less: Approved in truing up for FY 2020-21	341.21	-141.51	199.70
13	<b>Additional ARR in the review for true up of FY 2020-21 on account of revision of treatment of AT&amp;C Loss subsidy, that will be considered as passed on to the ARR in the truing up of FY 2021-22 with applicable carrying cost (11- 12)</b>	<b>451.78</b>	<b>812.60</b>	<b>1264.38</b>

The Commission, accordingly has considered additional ARR of R.451.78 crore for NBPDC & Rs.812.60 crore for SBPDCL, as above, with applicable carrying cost.

The Commission, following the methodology adopted by the APTEL order dated 08.04.2015 in Appeal No.160 of 2012 (Reliance Infrastructure Ltd. Vs MERC & others), has considered the carrying cost

- a. @8.53% (SBI Base Rate 7.03%+150 basis points) for half year of FY 2020-21
- b. @8.50% (SBI Base Rate 7.00%+150 basis points) for 1 year of FY 2021-22
- c. @9.55% (SBI Base Rate 8.05%+150 basis points) for 1 year of FY 2022-23
- d. @9.55% (SBI Base Rate 8.05%+150 basis points) for 1 year of FY 2023-24

The Commission has accordingly carried forward the amounts along with carrying cost in the ARR of FY 2021-22 as detailed in the table below:

**Table 6.75: Impact of amount approved in review order dt.07.11.2022 with carrying cost (Rs. Crore)**

Particulars	NBPDC	SBPDCL	Total
Additional ARR in the review for true up of FY 2020-21 on account of revision of treatment of AT&C Loss subsidy, that will be considered as passed on to the ARR in the truing up of FY 2021-22 with applicable carrying cost considered in truing up for FY 2021-22as per Order dated 01.11.2022 in Case no.7/2022 of NBPDC & Case no.8/2022 of SBPDCL	451.78	812.60	1264.38
Interest for FY 2020-21 [(Wt. average SBI MCLR Rate 7.03%+1.5%) 8.53%] for half year	19.27	34.66	53.93
Interest for FY 2021-22 [(Wt. average SBI MCLR Rate 7.00%+1.50%) 8.50%] for 1 year	38.40	69.07	107.47
Interest for FY 2022-23 (SBI MCLR 8.05%+1.5%) @ 9.55% for 1 year	43.14	77.60	120.74
Interest for FY 2023-24 (SBI MCLR 8.05%+1.5%) @ 9.55% for 6 months	21.57	38.80	60.37
<b>Total</b>	<b>574.16</b>	<b>1032.73</b>	<b>1606.89</b>

**The Commission accordingly has carried forward the impact of review order dated 07.11.2022(Case no.7/2022 of NBPDC & Case no.8/2022 of SBPDCL) relating to true up of FY 2020-21.**

#### **6.27. Trued up net Revenue Gap / (Surplus) of FY 2021-22**

The Commission has approved the **consolidated net revenue gap** of Rs.2800.24 Crore (NBPDC revenue surplus of Rs.164.47 crore and SBPDCL revenue gap of Rs.2964.71 crore) for FY 2021.22 in true up for Discoms.

Regulation 14 (f) of the BERC (Multi Year Distribution Tariff) Regulations 2021 specify ***“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 exercise, the Commission may allow the carrying costs as determined by the Commission of such expenses/revenues”.***

The Commission, in terms of regulation 14 (f) has carried forward the trued up consolidated revenue gap along with carrying cost in the ARR of FY 2023-24.

The Commission has considered carrying cost @ 8.50% (SBI MCLR 7.00% plus 150 basis points) for half year of FY 2021-22, @9.55% (SBI MCLR 8.05% plus 150 basis points) for full year of FY 2022-23 and half year of FY 2023-24 on the trued up revenue Gap/(surplus) of FY 2021-22 assuming that the Gap/(surplus) has been created over FY 2021-22 and adjustment/recovery would have been made over the year 2023-24 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 6.76: Trued up Approved Revenue Gap/(surplus) of FY 2021-22 carried forward to ARR of FY 2023-24**

Sl. No.	Particulars	NBPDCCL	SBPDCL	Total
1	Revenue Gap/(Surplus) approved in true up for FY 2021-22 to be carried forward	(164.47)	2964.71	2800.24
2	Interest for FY 2021-22 [(Wt. average SBI MCLR Rate 7.00%+1.50%) 8.50%] for half year	(6.99)	126.00	119.01
3	Interest for FY 2022-23 (SBI MCLR 8.05%+1.50%) @9.55% for 1 year	(15.71)	283.13	267.42
4	Interest for FY 2023-24 (SBI MCLR 8.05%+1.50%) @9.55% for half year	(7.85)	141.57	133.72
5	<b>Sub-total (Interest) (2+3+4)</b>	<b>(30.55)</b>	<b>550.70</b>	<b>520.15</b>
6	<b>Total gap/(Surplus) with interest (1+5)</b>	<b>(195.02)</b>	<b>3515.41</b>	<b>3320.39</b>

The Commission, accordingly, carried forward and adjusted the revenue Gap/(surplus) of FY 2021-22 along with carrying cost in to the ARR for FY 2023-24

## **6.28. Revenue from sale of power at existing tariff**

### **Petitioner’s submission**

The Discoms have submitted the category wise revenue based on the existing tariff for FY 2023-24 as detailed in the Table below:

Table 6.77: Projected Revenue from sale of power at existing tariff for FY 2023-24

Category	NBPDC		SBPDCL		Total	
	Sales (MU)	Revenue (Rs. Crs)	Sales (MU)	Revenue (Rs. Crs)	Sales (MU)	Revenue (Rs. Crs)
<b>Domestic</b>						
<b>Kutir Jyoti</b>						
Metered (0-50)	2358.09	1491.08	945.35	595.69	3303.44	2086.77
<b>Total – KJ</b>	<b>2358.09</b>	<b>1491.08</b>	<b>945.35</b>	<b>595.69</b>	<b>3303.44</b>	<b>2086.77</b>
<b>DS-I (Rural)</b>						
<b>Metered</b>						
First 50 Units	2764.52	1761.56	1549.57	969.38	4314.09	2730.94
51 - 100 Units	1104.03	736.61	2159.79	1415.91	3263.82	2152.52
101 - 200 Units	999.65	696.96	1596.51	1094.53	2596.16	1791.49
Above 200 Units					0.00	0.00
<b>Total</b>	<b>4868.20</b>	<b>3195.13</b>	<b>5305.87</b>	<b>3479.82</b>	<b>10174.07</b>	<b>6674.95</b>
<b>DS-II (Urban- Demand Based)</b>						
1-100 U/Month	1594.84	1056.89	1789.33	1216.59	3384.17	2273.48
101 - 200 U/Month	465.73	348.22	1102.96	843.67	1568.69	1191.89
201 -300 U/Month	403.66	346.21	330.45	289.12	734.11	635.33
above 300 U/Month					0.00	0.00
<b>Total</b>	<b>2464.23</b>	<b>1751.32</b>	<b>3222.74</b>	<b>2349.38</b>	<b>5686.97</b>	<b>4100.70</b>
<b>DS-III</b>	<b>0.39</b>	<b>0.31</b>	<b>0.37</b>	<b>0.30</b>	<b>0.76</b>	<b>0.61</b>
<b>Total – Domestic</b>	<b>9690.91</b>	<b>6437.84</b>	<b>9474.33</b>	<b>6425.19</b>	<b>19165.24</b>	<b>12863.03</b>
<b>NDS-I (Rural)</b>						
<b>Metered</b>						
1-100 U/Month	321.63	218.93	209.25	139.50	530.88	358.43
101 - 200 U/Month	69.63	51.57	205.40	149.25	275.03	200.82
above 200 U/Month	148.70	118.32	166.78	130.36	315.48	248.68
<b>Total</b>	<b>539.96</b>	<b>388.82</b>	<b>581.43</b>	<b>419.11</b>	<b>1121.39</b>	<b>807.93</b>
<b>NDS-II (Demand Based)</b>						
<b>Contract Demand &lt; 0.5 kW</b>	1.93	1.29	6.17	5.00	8.10	6.29
<b>Contract Demand &gt; 0.5 kW</b>						
First 100 Units	475.44	394.93	528.46	471.04	1003.90	865.97
101 - 200 Units	105.37	92.79	150.80	141.95	256.17	234.74
Above 200 Units	764.92	715.71	566.54	564.47	1331.46	1280.18
<b>Total</b>	<b>1347.66</b>	<b>1204.72</b>	<b>1251.97</b>	<b>1182.46</b>	<b>2599.63</b>	<b>2387.18</b>
<b>Total – NDS</b>	<b>1887.62</b>	<b>1593.54</b>	<b>1833.40</b>	<b>1601.57</b>	<b>3721.02</b>	<b>3195.11</b>
<b>Street Light Services</b>						
SS (Metered)	11.21	8.62	57.74	44.17	68.95	52.79
SS (Unmetered)	63.23	94.76	103.62	104.69	166.85	199.45
<b>Total - Street Light</b>	<b>74.44</b>	<b>103.38</b>	<b>161.36</b>	<b>148.86</b>	<b>235.80</b>	<b>252.24</b>
<b>IAS-I (Pvt Tube wells)</b>						
Unmetered	3.27	23.93	453.28	435.26	456.55	459.19
Metered	401.66	239.50	939.01	537.63	1340.67	777.13
<b>Total</b>	<b>404.93</b>	<b>263.43</b>	<b>1392.29</b>	<b>972.89</b>	<b>1797.22</b>	<b>1236.32</b>
<b>IAS-II (State Tube wells)</b>						
Metered	103.66	93.68	140.34	110.54	244.00	204.22
<b>Total</b>	<b>103.66</b>	<b>93.68</b>	<b>140.34</b>	<b>110.54</b>	<b>244.00</b>	<b>204.22</b>
<b>Total – IAS</b>	<b>508.59</b>	<b>357.11</b>	<b>1532.63</b>	<b>1083.43</b>	<b>2041.22</b>	<b>1440.54</b>
<b>Public Service Connections</b>						
Public Water Works	54.86	61.76	152.92	157.89	207.78	219.65
Har Ghar Nal	356.00	247.62	370.90	257.73	726.90	505.35

Category	NBPDC		SBPDCL		Total	
	Sales (MU)	Revenue (Rs. Crs)	Sales (MU)	Revenue (Rs. Crs)	Sales (MU)	Revenue (Rs. Crs)
<b>Total PWW</b>	<b>410.86</b>	<b>309.38</b>	<b>523.82</b>	<b>415.62</b>	<b>934.68</b>	<b>725.00</b>
<b>LTIS</b>						
LTIS-I (Contract Demand < 19 kW)	511.66	500.12	281.61	324.98	793.27	825.10
LTIS-II (Contract Demand 19-74 kW)	121.08	110.25	195.75	209.20	316.83	319.45
<b>Total – LTIS</b>	<b>632.74</b>	<b>610.37</b>	<b>477.36</b>	<b>534.18</b>	<b>1110.10</b>	<b>1144.55</b>
<b>LT EVCS</b>	<b>0.09</b>	<b>0.07</b>	<b>0.12</b>	<b>0.09</b>	0.21	0.16
HTS-I (11 kV)	646.64	592.62	813.04	790.57	1459.68	1383.19
HTS-II (33 kV)	265.37	232.86	655.18	612.16	920.55	845.02
HTS-III (132 kV)	58.72	60.30	273.17	225.26	331.89	285.56
HTSS	35.92	26.05	788.43	494.30	824.35	520.35
HTIS (Oxygen manufacturers)			5.24	8.23	5.24	8.23
HT EVCS	0.38	0.27	0.34	0.24	0.72	0.51
<b>RTS (132 kV)</b>	<b>81.20</b>	<b>76.20</b>	<b>115.72</b>	<b>106.62</b>	196.92	182.82
<b>Nepal</b>	<b>458.95</b>	<b>352.98</b>			458.95	352.98
<b>Grand Total</b>	<b>14752.43</b>	<b>10752.97</b>	<b>16654.10</b>	<b>12446.32</b>	<b>31406.53</b>	<b>23199.30</b>

### Commission's analysis

The Commission has computed category wise revenue on existing tariffs for FY 2023-24 based on the projections of number of consumers, connected load and energy sales as approved by the Commission in this order for FY 2023-24. The expected revenue from sale of power for NBPDC and SBPDCL for FY 2023-24 considered by the Commission is shown in the Table below:

**Table 6.78: Revenue from Sale of Power FY 2023-24 as Considered by Commission**

(Rs. Crore)

Particulars	NBPDC	SBPCL	Total
Sales (MU)	14752.43	16654.10	31406.53
Revenue (Rs. Cr)	10752.92	12446.13	23199.05

Detailed computation of revenue from sale of power at existing tariff for the Discoms for FY 2023-24 are annexed as Annexures 6.1 and 6.2

## 6.29. Consolidated approved ARR of DISCOMs for FY 2023-24

### Petitioners' submission:

Discoms have projected the revenue gap/(Surplus) for FY 2023-24 as given in the Table below:

**Table 6.79: Revenue gap/(surplus) projected by Discoms for FY 2023-24****(Rs. Crore)**

Sl. No.	Particulars	Projected by NBPDCCL for FY 2023-24	Projected by SBPDCL for FY 2023-24	Total
1	ARR for FY 2023-24	14006.88	16334.53	30341.41
2	Carried forward trued up revenue gap/(Surplus) of FY 2021-22 along with carrying cost	-125.30	3876.98	3751.68
3	Impact of review order dated 07.11.2022	552.14	993.12	1545.26
4	<b>Total revenue requirement (1+2+3)</b>	<b>14433.72</b>	<b>21204.63</b>	<b>35638.35</b>
5	<b>Less:</b> Revenue from existing tariff	10753.00	12446.30	23199.30
6	<b>Revenue Gap / (Surplus) for FY 2023-24 (4-5)</b>	<b>3680.72</b>	<b>8758.33</b>	<b>12439.05</b>

**Commission's analysis:**

The Commission, based on the Annual Revenue Requirement (ARR) approved for FY 2023-24 and estimated revenue from sale of power with existing tariff has arrived the revenue gap/(surplus) for FY 2023-24 as given in the Table below:

**Table 6.80: Approved revenue gap/(surplus) for FY 2023-24****(Rs. Crore)**

Sl. No.	Particulars	NBPDCCL	SBPDCL	Total
1	ARR approved for FY 2023-24	11741.75	13932.05	25673.79
2	<b>Less:</b> Revenue from Existing tariff	10752.92	12446.13	23199.05
3	<b>Stand-alone Revenue Gap/(Surplus) for FY 2023-24</b>	<b>988.83</b>	<b>1485.92</b>	<b>2474.74</b>
4	Add: Impact of Order (review) dated 07.11.2022 in Case no.7/2022 (NBPDCCL) and 8/2022 (SBPDCL) relating to truing up for FY 2020-21 along with carrying cost	574.16	1032.73	1606.89
5	Carried forward trued up revenue gap/(Surplus) of FY 2021-22 along with carrying cost	(195.02)	3515.41	3320.39
6	<b>Revenue requirement for FY 2023-24 (3+4)</b>	<b>1367.96</b>	<b>6034.06</b>	<b>7402.02</b>

The Commission approves the **consolidated revenue Gap of Rs.7402.02 Crore** for DISCOMs for FY 2023-24.

**6.30. Revenue with revised tariff**

The Commission, based on the approved revenue gap in Discoms, has decided to increase the tariff by 24.10%/Unit across all categories of consumers uniformly. The Commission has also considered increase in fixed charge.

The Commission has revised the retail electricity supply tariffs in this order as detailed



in the Chapter 9 Tariff Principles, Design and Tariff Schedule. The Commission, accordingly, had computed the expected revenue from sale of power for FY 2023-24 considering the fixed charge per consumer and energy charges per unit as given below:

**Table 6.81: Revenue with revised tariff and approved revenue Gap/(Surplus) for FY 2023-24**

(Rs. Crore)				
Sl. No.	Particulars	NBPDC	SBPDCL	Total
1	ARR for FY 2023-24	11741.75	13932.05	25673.79
2	Add: Impact of Order (review) dated 07.11.2022 in Case no.7/2022 (NBPDC) and 8/2022 (SBPDCL) relating truing up for FY 2020-21 along with carrying cost	574.16	1032.73	1606.89
3	Carried forward trued up revenue gap/(Surplus) of FY 2021-22 along with carrying cost	(195.02)	3515.41	3320.39
4	<b>sub-total (1+2+3)</b>	<b>12120.88</b>	<b>18480.19</b>	<b>30601.07</b>
5	Revenue with revised tariff	13995.63	16610.36	30605.99
6	<b>Net Gap / (Surplus) (4-5)</b>	<b>(1874.74)</b>	<b>1869.83</b>	<b>(4.91)</b>

The additional revenue due to revision of tariff for FY 2023-24 as detailed below:

Particulars	NBPDC	SBPDCL	Total
Revenue with existing tariff	10752.92	12446.13	23199.05
Revenue with revised tariff	13995.63	16610.36	30605.99
<b>Additional Revenue due to tariff revision (2-1)</b>	<b>3242.71</b>	<b>4164.23</b>	<b>7406.94</b>

### 6.31. 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. The average tariff as a percentage of average cost of service approved in Tariff Order for FY 2022-23 and that approved for FY 2023-24 (present tariff order) is as shown in the Table below:

**Table 6.82: Average billing rate as a percentage of average Cost of supply**

Sl. No.	Category	FY 2022-23 (with existing tariff)			FY 2023-24 (revised tariff)		
		Average realisation (Rs./kWh) (ABR)	Average cost of supply (Rs./kWh)	% of cost of supply	Average realisation (Rs./kWh) (ABR)	Average cost of supply (Rs./kWh)	% of cost of supply
1	Kutir Jyoti	6.32	7.22	0.88	8.00	8.30	0.96
2	Domestic-I	6.48	7.22	0.90	8.30	8.30	1.00
3	Domestic-II	7.22	7.22	1.00	9.44	8.30	1.14
4	DS-III	7.33	7.22	1.02	10.34	8.30	1.25
5	NDS-I	7.15	7.22	0.99	8.83	8.30	1.06

Sl. No.	Category	FY 2022-23 (with existing tariff)			FY 2023-24 (revised tariff)		
		Average realisation (Rs./kWh) (ABR)	Average cost of supply (Rs./kWh)	% of cost of supply	Average realisation (Rs./kWh) (ABR)	Average cost of supply (Rs./kWh)	% of cost of supply
6	NDS-II	9.44	7.22	1.31	12.36	8.30	1.49
7	SS (Metered)	7.76	7.22	1.07	9.69	8.30	1.17
8	SS (Unmetered)	16.31	7.22	2.26	23.91	8.30	2.88
9	IAS-I (Metered)	5.98	7.22	0.83	7.71	8.30	0.93
10	IAS-I (Unmetered)	8.01	7.22	1.11	16.97	8.30	2.04
11	IAS-II	8.98	7.22	1.24	11.91	8.30	1.44
12	Public Water Works	10.83	7.22	1.50	14.44	8.30	1.74
13	Har Ghar Nal	7.35	7.22	1.02	8.94	8.30	1.08
14	LTIS -I	10.33	7.22	1.43	15.41	8.30	1.86
15	LTIS -II	11.50	7.22	1.59	14.77	8.30	1.78
16	LT EVCS	7.94	7.22	1.10	9.86	8.30	1.19
17	HTS – I	9.82	7.22	1.36	13.06	8.30	1.57
18	HTS – II	9.32	7.22	1.29	12.55	8.30	1.51
19	HTS – III	9.05	7.22	1.25	11.53	8.30	1.39
20	HTS-IV		7.22	0.00	0.00	8.30	0.00
21	HTSS	6.77	7.22	0.94	8.16	8.30	0.98
22	HTIS (Oxygen manufrs)	7.77	7.22	1.08	24.09	8.30	2.90
23	Railway	10.89	7.22	1.51	12.79	8.30	1.54
24	HT EV CS	7.17	7.22	0.99	9.77	8.30	1.18

\* average cost of supply is combinedly for SBPDCL and NBPDCCL.

The Commission has noted that the average billing rate vis-a-vis average cost of supply in certain categories is higher than 120% limit. The average cost supply for FY 2023-24 is estimated at Rs.8.30/kWh. The average cost of supply (ACoS) in FY 2023-24 is on higher side mainly due to inclusion of the revenue gap with carrying cost of earlier years in truing up of FY 2021-22 and due to higher tie-up generating capacity than the actual requirement, resulting in to more availability than the required, however, the power purchase quantum is restricted to the actual requirement allowing full capacity charges as per the power purchase Agreement. However, the Commission endeavors to reduce the cross subsidy and to bring the cross subsidy within the limit of +/- 20% of ACoS.

**6.32. 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 detailed in Chapter-7. The average tariff as a percentage of voltage wise cost of supply approved for FY 2022-23 and the average tariff as a percentage of voltage-wise cost of supply determined in Chapter-7 for FY 2023-24 of this tariff order is as shown in the Table below:

**Table 6.83: Average billing rate as a percentage of voltage-wise Cost of Supply**

Sl. No.	Category	FY 2022-23			FY 2023-24		
		(approved in Tariff Order dated 25.03.2022)			(approved by Commission)		
		Average billing rate (Rs./kWh)	Voltage wise cost of supply (Rs./kWh)	% of cost of supply	Average billing rate (Rs./kWh)	Voltage wise cost of supply (Rs./kWh)	% of cost of supply
A	Domestic	6.66	7.93	84%	8.59	8.89	97%
B	Non-Domestic	8.71	7.93	110%	11.29	8.89	127%
C	Irrigation and Agriculture	6.64	7.93	84%	10.28	8.89	116%
D	LTIS	10.59	7.93	134%	15.22	8.89	171%
E	Public services	10.23	7.93	129%	10.17	8.89	114%
F	HTS	8.89	7.25	123%	11.64	8.1	144%

\* average cost of supply is combinedly for SBPDCL and NBPDC.

## 7. Voltage-wise cost of supply

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### 7.1. Introduction

The Commission has been computing the voltage-wise cost of supply keeping in view the guidelines indicated by the Hon'ble APTEL its order dated 10.05.2012 in Appeal No.14 of 2011, appeal no.26 of 2011 and appeal no.27 of 2011.

The Commission, in Regulation 36 (b) to (e) of BERC (Multi Year Distribution Tariff) Regulations, 2021 has explained the methodology for computation of voltage-wise cost of supply.

### 7.2. Methodology adopted for Computation of Voltage-wise cost of supply

#### **Petitioners' submission:**

The Petitioners have submitted that the Hon'ble APTEL has proposed a simple methodology to functionalize use of Cost of Supply model. The APTEL notes that identical consumers connected at different nodes of distribution system need not to be differentiated. In addition, it is adequate to determine voltage-wise cost of supply considering the major cost elements which would be applicable to all the categories of the consumers connected at the same voltage level at different locations in the distribution system.

In the method suggested by the Hon'ble APTEL, there are five major components to arrive at the voltage wise cost of supply. These elements are:

- **Technical losses at each voltage level of the network:** This value of the technical losses is found by the field studies. Sampling of the feeders which are representative of the consumers in the system will help in identifying the technical losses at each voltage levels. The APTEL recognizes the difficulty in collecting data for technical loss at 11 kV and LT level, hence the suggestion to compute losses using maximum possible representative feeders for various consumer categories at respective voltage levels.
- **Commercial losses at each voltage level of the network:** The commercial loss of the system is the difference between approved loss in the ARR and the total

technical loss computed from system study. This difference is to be apportioned according to the sales in each voltage level to arrive at the commercial loss at each voltage level.

- **Voltage wise sales:** The energy sale at a particular voltage level is the sum of energy sold for all the categories of consumers connected at the said voltage level. Due to its share of sales in total sales, the consumers of the 132/220 kV network will be apportioned a share of the commercial losses. The Hon'ble APTEL recognizes that in reality, there may be minimal technical losses at that level and very low probability of commercial losses. However, the APTEL is of the opinion that the consumers at 132/220 kV, being a part of the distribution system will bear these apportioned losses.
- **Power Purchase Cost:** The power purchase cost is the cost of energy purchased for sustaining the energy sales at each voltage level. This power purchase units for each voltage level is arrived by finding the energy input at each voltage level and adding the losses (technical and commercial) for the same voltage level and upstream. The energy input at each voltage level is the sum of the sales at the voltage level and the losses for the corresponding voltage level.
- **Network Cost:** The network costs are the costs like O&M, interest and finance charges, depreciation, return on equity etc. These costs are a part of the ARR which in turn provides the average cost of supply. Thus, the network cost is essentially the difference between the ARR value and the power purchase cost. The APTEL has suggested apportioning these costs according to the sales volume in each of the voltage level.

Further, the Petitioners have submitted that due to the methodology applied to apportion losses in the various voltage levels, all the consumer categories at a particular voltage level will have same cost of supply.

**Commission's analysis:**

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 include 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.

The Commission has stipulated the methodology to compute the consumer category-wise cost of supply in Regulation 36 (b) to (e) of BERC (Multi Year Distribution Tariff) Regulations, 2021. The Petitioners have not computed the voltage wise cost of supply as per the methodology suggested in the above Regulations. However, the Petitioners have considered the methodology suggested by Hon'ble APTEL in the judgement dated 10.05.2012 in Appeal No.14 of 2011, Appeal No.26 of 2011 and Appeal No.27 of 2011 for computation of Voltage wise Cost of Supply for FY 2023-24.

#### **7.2.1 APTEL's guidelines on alignment of tariff to cost of supply**

The Appellate Tribunal for Electricity (APTEL) in its Judgement dated 10.05.2012 on the Appeal No.14 of 2011 of Bihar Industries Association and Appeal No.27 of 2011 M/s.Kalyanpur Cements Limited has commented as below:

*"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"*

### **7.2.2 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.*

*(iv) 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”.*

### **7.2.3 Pre-requisite for arriving at the voltage wise Cost of Supply (CoS):**

As per the APTEL Judgment, an assessment of the technical and commercial 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 as well as segregation of network costs is a pre-requisite for arriving at the voltage-wise cost of supply.

The Commission has thus computed the voltage wise cost of supply following the methodology suggested by the APTEL.

### **7.3. Determination of Voltage-wise Technical losses**

#### **Petitioners' submission**

The Petitioners have submitted that the Transmission and Distribution losses in a system comprises of two separate components – Technical Losses and Commercial Losses.

- a). Technical losses occur naturally and consist mainly of power dissipation in electricity system components such as transmission and distribution lines, and transformers.
- b). Commercial losses are caused by actions external to the power system and consist primarily of electricity theft, non-payment by customers, and errors in accounting and record-keeping. Since the rationale behind these two components is quite distinct, quantifying them separately is imperative for arriving at meaningful conclusions.

At each voltage level, the Technical losses consist of two major components: Transmission losses which refer to the losses in the current carrying wires; and Transformation losses which refer the losses incurred during the voltage transformation in the system. Aggregating the losses in these two elements at each voltage level would give the technical loss at that level. The losses which remain would be the commercial losses.

It is further submitted that the Petitioners have computed the voltage wise losses based on certain assumptions after observing the available sample feeder data available with the Discoms. SBPDCL has submitted that the voltage wise cost of supply has been computed keeping in view of distribution loss percentage approved by the Commission for FY 2023-24 and NBPDCCL has submitted that voltage wise cost of supply is computed considering the projected roadmap for reduction of AT&C loss submitted to Ministry of Power, Government of India for FY 2023-24, as shown in the Tables below.



**Table 7.1: Voltage-wise Technical Losses Considered by SBPDCL for FY 2023-24**

Sl. No	Voltage Level (kV)	Technical Loss (%)	Cumulative Loss (%)
1.	220/132	3.00%	3.00%
2.	33	4.00%	6.88%
3.	11	5.00%	11.54%
4.	0.4	11.78%	21.96%

**Table 7.2: Voltage-wise Technical Losses Considered by NBPDC for FY 2023-24**

Sl. No	Voltage Level (kV)	Technical Loss (%)	Cumulative Loss (%)
1.	220/132	3.00%	3.00%
2.	33	4.00%	6.88%
3.	11	5.00%	11.54%
4.	0.4	8.12%	18.72%

**Commission's analysis:****Fixation of Voltage-wise Technical Loss:**

The voltage-wise technical losses indicated by the Petitioners were based on the limited field study / sample data only.

No detailed study has been made to estimate the technical losses based on the feeder wise load data, conductor size and length etc. 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 2023-24. 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 3.00% as approved for BSPTCL and Distribution Loss of 15% as approved to the DISCOMs by the Commission for FY 2023-24.

The Commission has considered the following voltage-wise technical loss for FY 2023-24 for computing voltage wise cost of supply:

**Table 7.3: Voltage-wise Technical Losses Considered for SBPDCL & NBPDC for FY 2023-24**

Sl. No	Voltage Level (kV)	Technical Loss (%)	Cumulative Loss (%)
1.	State Transmission Losses 220/132	3.00%	3.00%
2.	33 KV	4.00%	6.88%
3.	11 KV	5.00%	11.54%
4.	0.4 KV	6.80%	17.55%

#### 7.4. Computation of Voltage-wise Cost of Supply

##### Petitioners' submission:

The Petitioners have submitted that the voltage wise sales have been arrived considering the projected energy sales for FY 2023-24, across various categories at the respective voltages as mentioned in the Table below:

**Table 7.4: Classification of Categories based on Voltage of power supply**

Sl. No	Voltage Level (kV)	Sales Categories (%)
1.	220/132	HTS-III, Railways, Nepal
2.	33 kV	HTS-II, HTSS
3.	11 kV	HTS-I, HT EV, HT (Oxygen manufacturers)
4.	0.4 kV	Domestic, Non-Domestic, Agriculture and Others

NBPDC & SBPDCL have computed the voltage wise cost of supply for FY 2023-24 considering the energy sales projected by them and the T&D losses assumed at various voltages. Further, the projected costs, i.e., power purchase costs and network costs have been apportioned to each of the voltage categories of energy sale and based on the same the voltage wise cost of supply is computed.

The voltage wise cost of supply computed for FY 2023-24 are as given in the Tables below:

**Table 7.5: Cost of Supply at different Voltage Levels projected by SBPDCL for FY 2023-24**

Sl. No	Voltage Level (kV)	Cost of power purchase (Rs./kWh)	Network cost (Rs./kWh)	Cost of supply (Rs./kWh)
1.	220/132	6.36	2.13	8.49
2.	33 kV	6.62	2.22	8.83
3.	11 kV	6.96	2.33	9.28
4.	0.4 kV	7.85	2.63	10.48

**Table 7.6: Cost of Supply at different Voltage Levels projected by NBPDC for FY 2023-24**

Sl. No	Voltage Level (kV)	Cost of power purchase (Rs./kWh)	Network cost (Rs./kWh)	Cost of supply (Rs./kWh)
1.	220/132	6.36	2.46	8.82
2.	33 kV	6.61	2.56	9.17
3.	11 kV	6.95	2.69	9.64
4.	0.4 kV	7.55	2.92	10.46

### Commission's analysis

The Commission has computed the voltage wise cost of supply based on the energy sales and T&D losses approved for FY 2023-24 combinedly for both the Discoms, as the common tariff rates have been approved for both Discoms for FY 2023- 24.

#### 7.4.1 Energy Sales approved for FY 2023-24

The Commission has considered the approved energy sales for FY 2023-24 for Discoms and segregated as per voltage-wise as given in the Table below:

**Table 7.7: Voltage wise Energy Sales (MUs) approved for FY 2023-24**

Sl. No	Voltage and Category	Sales approved for NBPDC (MUs)	Sales approved for SBPDCL (MUs)	Total (MUs)
<b>A</b>	<b>220/132</b>			
	HT Industry (HTS-III) and RTS	139.92	388.88	528.80
	Nepal	458.95	0	458.95
	<b>Sub – Total</b>	<b>598.87</b>	<b>388.88</b>	<b>987.75</b>
<b>B</b>	<b>33 kV</b>			
	HTS-II	265.37	655.18	920.55
	HTSS	35.92	788.43	824.35
	<b>Sub – Total</b>	<b>301.29</b>	<b>1443.61</b>	<b>1744.9</b>
<b>C</b>	<b>11 kV</b>			
	HTS-I	646.64	813.04	1459.68
	HT EV	0.38	0.34	0.72
	HTIS (Oxygen Manufacturers)	0	5.23	5.23
	<b>Sub – Total</b>	<b>647.02</b>	<b>818.61</b>	<b>1465.63</b>
<b>D</b>	<b>0.4 kV</b>			
	Domestic, Non- Domestic, Agriculture and Others	13205.25	14003.00	27208.25
	<b>Total (A+B+C+D)</b>	<b>14752.43</b>	<b>16654.10</b>	<b>31406.53</b>

#### 7.4.2 Voltage-wise Technical Loss considered for FY 2023-24:

As per guidelines enumerated in APTEL Judgement, 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 based on approved losses as shown in the Table above.

As stated in para 33 of APTEL Judgement 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 Judgement 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, the losses (technical) at 11 kV shall be the losses at that voltage and also of upstream 33 kV voltage and 132 kV voltage level and similarly for LT voltage.

The technical Losses have been arrived on the basis of the formulae given in the following table:

**Table 7.8: Formulae for arriving at the technical losses at various voltage levels**

Voltage Level (kV)	Sales (MU)	Volt. Wise Tech. Loss (%)	Energy Input (MU)	Tech. Losses (MU)
1	2	3	4	5
220/132	A	w	$=A/(1-w\%)$	$=(4)-(2)$
33 kV	B	x	$=B/(1-x\%)(1-w\%)$	$=(4)-(2)$
11 kV	C	y	$=C/(1-y\%)(1-x\%)(1-w\%)$	$=(4)-(2)$
0.4 kV	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:

**Table 7.9: Computation of Technical losses at various voltage levels**

Sl. No	Voltage Level (kV)	Voltage-wise Technical losses (%)	Cumulative loss (%)	Energy sale (MUs)	Energy input (MUs)	Technical loss (MUs)
1	2	3	4	5	6	7= (6-5)
1	220/132	3.00%	3.00%	987.76	1018.31	30.55
2	33 kV	4.00%	6.88%	1744.9	1873.82	128.92
3	11 kV	5.00%	11.54%	1465.64	1656.84	191.20
4	0.4 kV	6.80%	17.55%	27208.28	32999.73	5791.45
	<b>Total</b>			<b>31406.58</b>	<b>37548.70</b>	<b>6142.12</b>

**Table 7.10: Computation of Commercial losses at various voltage levels**

Sl. No.	Voltage Level (kV)	Energy sale (MUs)	Technical loss (MUs)	Sales + Tech. Loss (MUs) (3+4)	Commercial loss (MUs)	Energy sales + tech + commercial loss (MUs)
1	2	3	4	5	6	7= (5+6)
1	220/132	987.76	30.55	1018.31	12.46	1030.77
2	33 kV	1744.9	128.92	1873.82	22.93	1896.74
3	11 kV	1465.64	191.20	1656.84	20.27	1677.11
4	0.4 kV	27208.28	5791.45	32999.73	403.75	33403.49
	<b>Total</b>	<b>31406.58</b>	<b>6142.12</b>	<b>37548.70</b>	<b>459.41</b>	<b>38008.11</b>

Note: 1. Commercial losses are obtained by reducing the sales + technical losses from the energy input at state periphery (38008.11-37548.70=459.41). The commercial losses so arrived are allocated in proportion to the sales and the technical losses to each voltage level.

Energy required at state transmission periphery is at 38008.11 MUs as worked out in Table 6.24 and 6.25

#### 7.4.3 Allocation of Power Purchase Cost for FY 2023-24

The power purchase cost (excluding PGCIL Losses) has been allocated for different voltage levels taking into account the State Transmission loss and Distribution loss, (both commercial and technical) for the relevant voltage level and upstream as per the methodology indicated in APTEL Judgement.

Out of the total power purchase of 39045.06 MU approved for both the Discoms, the CTU loss works out to 1036.95 MUs as shown in the Energy Balance Table 6.21 for FY 2023-24.

The Commission, after deducting the regional transmission losses from the total power purchase computed the average power purchase cost per unit as detailed below:

**Table 7.11: Average Power Purchase Cost**

Sl. No.	Particulars	NBPDCCL	SBPDCL	Total
1	Gross Power Purchase (MU)	18297.32	20747.74	39045.06
2	PGCIL Loss (MU)	488.24	548.71	1036.95
3	<b>Net Power availability at transmission periphery (MU) (1-2+3)</b>	<b>17809.08</b>	<b>20199.03</b>	<b>38008.11</b>
4	Total Power Purchase Cost (Rs. Crore) (including PGCIL Charges)	9871.31	11463.45	21334.76
5	<b>Average Power Purchase Rate (Rs /kwh)(7/4)*10</b>	<b>5.54</b>	<b>5.68</b>	<b>5.61</b>

**Table 7.12: Allocation of power purchase cost**

Sl. No.	Voltage Level (kV)	Energy Sale (MUs)	Energy Sales+ Technical loss + Comml. loss (MUs)	Voltage-wise Power Purchase Cost (Rs. Crore)	Cost of Power per unit sale of Energy (Rs./kWh)
1	2	3	4	5	6 = (5÷3)
1	220/132	987.75	1030.76	578.59	5.86
2	33 kV	1744.90	1896.75	1064.68	6.10
3	11 kV	1465.63	1677.10	941.39	6.42
4	0.4 kV	27208.25	33403.50	18750.09	6.89
	<b>Total</b>	<b>31406.53</b>	<b>38008.11</b>	<b>21334.76</b>	<b>6.79</b>

**7.4.4 Allocation of Network Cost for FY 2023-24**

The APTEL in its Judgement has indicated 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 2023-24 are as given in table below:

**Table 7.13: Network cost approved for FY 2023-24****(Rs Crore)**

Sl. No	Particulars	NBPDC	SBPDCL	Total
1	Employee expenses	481.29	710.44	1191.73
2	R&M expenses	264.65	274.21	538.86
3	A&G expenses	218.77	155.25	374.02
4	Holding company expenses	25.28	26.59	51.87
5	Depreciation	362.02	364.91	726.93
6	Interest on loan	546.77	444.17	990.94
7	Other finance charges	57.16	70.79	127.95
8	Return on equity	412.89	378.74	791.63
9	Interest on SD	23.29	40.88	64.17
10	Contingency Reserve			0
11	Interest on working capital	0	0	0
<b>12</b>	<b>Total (1 to 11)</b>	<b>2392.12</b>	<b>2465.98</b>	<b>4858.10</b>
13	BSPTCL Transmission cost	541.25	635.37	1176.62
14	SLDC Charges	6.15	7.22	13.37
15	BGCL Transmission Cost	100.91	118.47	219.38
<b>16</b>	<b>Total cost (12 to 15)</b>	<b>3040.43</b>	<b>3227.04</b>	<b>6267.47</b>
<b>17</b>	<b>Energy Sales (MU)</b>	<b>14752.43</b>	<b>16654.10</b>	<b>31406.53</b>
18	Net Work Cost per unit sale of energy	2.06	1.94	2.00

#### 7.4.5 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 table below:

**Table 7.14: Cost of supply at different voltage levels approved for FY 2023-24 for both Discoms combinedly**

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	5.86	2.00	7.86
2	33 kV	6.10	2.00	8.10
3	11 kV	6.42	2.00	8.42
4	0.4 kV	6.89	2.00	8.89
	<b>Total</b>	<b>6.79</b>	<b>2.00</b>	<b>8.79</b>

#### 7.5. Detailed Study to assess voltage Wise Technical Losses

The Commission is of the view that in the absence of actual data of voltage-wise technical losses as well as voltage-wise network costs, the voltage-wise cost of supply worked out based on above methodology as suggested by the 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 of voltage-wise technical loss levels derived from field studies and in accordance with the methodology suggested by the Commission in the BERC (Multi Year Distribution Tariff) Regulations, 2021.

The Commission reiterates its earlier directive to the DISCOMs to undertake a detailed study to estimate the technical loss levels at each voltage level and compute the voltage-wise cost of supply and include the same in next tariff petition for FY 2024-25, keeping in view the methodology suggested in BERC (Multi Year Distribution Tariff) Regulations, 2021.

## 8. Wheeling Charges and Open Access Charges

### 8.1. Introduction

The Commission has determined the wheeling and open access charges for both the Discoms combinedly for FY 2023-24 in accordance with the BERC (Terms and Conditions of Intra-State Open Access) Regulations 2018, since the Retail Tariffs are common/uniform to all the consumers across the State of Bihar.

### 8.2. Wheeling Charges

#### Petitioners' submission:

Discoms have submitted that till date complete segregation of accounts between Wheeling and Retail Supply function has not yet taken place. Thus, ARR proposals for Wheeling and Retail Supply function is submitted based on allocation statement in line with the approach followed by the Commission in its previous Tariff Orders. It is stated that they have considered the following allocation for calculating/segregating its wire and retail supply business and the total costs (net ARR) of both the Discoms are segregated into wire business and retail supply business.

**Table 8.1: Segregation of wires and Retail Supply Costs Projected for FY 2023-24**

Sl. No.	BIHAR	Total Fixed Cost	Assumption		33kV Wire cost		11kV	
			Wire Business	Retail Supply	Wire Business	Retail Supply	Wire Business	Retail Supply
1	Power purchase cost	21836.85	0%	100%	-	10,918.42	-	10,918.42
2	PGCIL & other Transmission charges	4185.36	0%	100%	-	2,092.68	-	2,092.68
3	State Transmission charges	0	0%	100%	-	-	-	-
4	O&M Expenses	0			-	-	-	-
i)	Employee Cost	1180.98	60%	40%	354.29	236.20	354.29	236.20
ii)	R&M expenses	591.92	90%	10%	266.36	29.60	266.36	29.60
iii)	A&G expenses	847.11	50%	50%	211.78	211.78	211.78	211.78
5	Share of Holding Company expenses	55.98	60%	40%	16.79	11.20	16.79	11.20
6	Depreciation	793.55	90%	10%	357.10	39.68	357.10	39.68
7	Interest and Finance charges	1551.83	90%	10%	698.32	77.59	698.32	77.59
8	Interest on working capital	129.43	10%	90%	6.47	58.24	6.47	58.24
9	Return on equity	1051.05	90%	10%	472.97	52.55	472.97	52.55
10	Income Tax	0	0%	100%	0.00	0.00	-	0.00
11	Interest on security deposit	64.18	0%	100%	0.00	32.09	-	32.09
12	Bad debts (if any)	0	0%	100%	0.00	0.00	-	-
13	Contingency reserves (if any)	0	0%	100%	0.00	0.00	-	-
14	Deposit for RPO Obligation	0			0.00	0.00	-	-
15	Total Revenue Requirement	32288.24			2384.09	13760.02	2384.09	13760.02



Sl. No.	BIHAR	Total Fixed Cost	Assumption		33kV Wire cost		11kV	
			Wire Business	Retail Supply	Wire Business	Retail Supply	Wire Business	Retail Supply
16	Less: Non-tariff income	1946.81	10%	90%	97.34	876.06	97.34	876.06
17	<b>Aggregate Revenue Requirement</b>	30341.43			2286.754	12883.956	2286.754	12883.96

It is further submitted that the wheeling charges have been computed on the basis of projected costs of their distribution wire business and the total energy expected to be wheeled through their distribution network. The average per unit wheeling charge for 33 KV level is calculated as shown in the Table below:

**Table 8.2: Wheeling charges for 33 kV voltage level proposed for FY 2023-24**

Sl. No	Particulars	Unit	FY 2023-24
1	Energy Input into 33 kV System	MUs	38278.51
2	Total Distribution Cost	Rs Crores	4573.5
3	Distribution cost for 33 kV voltage levels (assuming 50% of item 2)	Rs Crores	2286.75
4	Wheeling charges for 33 kV voltage level (item 3÷1)	Rs/kWh	0.60

The wheeling charges calculated by the Petitioners for 11 kV level is as shown in the Table as below:

**Table 8.3: Wheeling charges for 11 kV voltage level proposed for FY 2023-24**

Sl. No	Particulars	Unit	FY 2023-24
1	Energy Input into 33 kV System	MUs	38278.51
2	Losses in 33 kV (5%)	%	1913.93
3	Energy sales in 33 kV system as approved by the Commission	MU	91.84
4	Energy input into 11 kV system [1-(2+3)]	MU	36272.74
5	Total Distribution Cost	Rs Crores	4573.50
6	Distribution cost for 11 kV voltage levels (assuming 50% of item 5)	Rs Crores	2286.75
7	Wheeling charges for 11 kV voltage level (item 6÷4)	Rs/kWh	0.63

#### Commission's analysis:

Discoms have submitted the segregation matrix of wires and Retail Supply Costs for 33kV and 11kV FY 2023-24, however, the costs are not allocated between the 33kV and 11kV.

The ARR for FY 2023-24 for both the Distribution licensees approved is Rs.25673.80 crore (Rs.11741.75 crore for NBPDC & Rs.13932.05 Crore for SBPDCL).

Regulation 33 of BERC (Multi Year Distribution Tariff) Regulations 2021 specify that “provided that in case complete accounting segregation has not been done between the Wheeling Business and Retail Supply Business of the Distribution Licensee, the Commission shall stipulate the ratio of allocation of the Aggregate Revenue Requirement of the Distribution Licensee based on data obtained from the Distribution Licensees. The following broad principles shall be followed for allocation of costs towards wheeling business and supply business, out of the total annual Aggregate Revenue Requirements determined:

Power purchase cost shall be allocated to the Retail Supply business. Operation and Maintenance expenses shall be segregated between wheeling and retail supply businesses in such manner as may be determined by the Commission; Majority of the capital expenditure related expenses, viz., depreciation, interest and return on equity, shall be included under the wheeling business. The Retail Supply Business would require only a small component of the capital expenditure towards billing and collection activity”.

In view of the regulation, the Commission has considered the allocation matrix approved in previous Tariff Order dated 25.03.2022 and segregated the cost components of ARR into Wire and Retail Supply Businesses as shown in Table below:

**Table 8.4: Segregation of cost components into wire and retail supply businesses approved for FY 2023-24**

(Rs. Crore)

Sl. No.	Particulars	Wire business %	Retail supply business %	Total Cost (SB+NB)	Wire cost	Retail supply
1	Total Purchase of power (incl. transmission and SLDC)		100%	22744.13	--	22744.13
2	Employee cost	60%	40%	1191.73	715.04	476.69
3	R&M Expenses	90%	10%	538.86	484.97	53.89
4	A&G Expenses	50%	50%	374.03	187.01	187.01
5	Holding Company expenses	60%	40%	51.87	31.12	20.75
6	Depreciation	90%	10%	726.93	654.24	72.69
7	Interest on loans	90%	10%	990.94	891.84	99.09
8	Other finance charges	10%	90%	127.95	12.79	115.15
9	Return on Equity	90%	10%	791.63	712.46	79.16

Sl. No.	Particulars	Wire business %	Retail supply business %	Total Cost (SB+NB)	Wire cost	Retail supply
10	Interest on SD		100%	64.18	--	64.18
11	Interest on working capital	10%	90%	0.00	--	--
12	<b>Less: Non-tariff income</b>	10%	90%	(1928.44)	(192.84)	(1735.60)
13	<b>ARR for FY 2023-24</b>			<b>25673.80</b>	<b>3496.64</b>	<b>22177.16</b>

The wheeling charges have been computed on the basis of total approved costs for 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 33kV and 11kV network, it has been assumed that the two costs are equal. This methodology is being adopted as approved by the Commission in previous tariff Orders. The wheeling charges worked out for 33 kV voltage level are as given in the table below:

**Table 8.5: Wheeling charges for 33 kV voltage level approved for FY 2023-24**

Sl. No	Particulars	Unit	FY 2023-24
1	Energy Input into 33 kV System	MUs	36867.89
2	Total Distribution Cost	Rs Crores	3496.64
3	Distribution cost for 33 kV voltage levels (assuming 50% of item 2)	Rs Crores	1748.32
4	Wheeling charges for 33 kV voltage level (item 3÷1)	Paisa/kWh	47.42
			or say 48

The wheeling charges worked out for 11 kV voltage level are as given in Table below:

**Table 8.6: Wheeling charges for 11 kV voltage level approved for FY 2023-24**

Sl. No	Particulars	Unit	FY 2023-24
1	Energy Input into 33 kV System	MUs	36867.89
2	Losses in 33 kV (4%)	%	1474.72
3	Energy sales in 33 kV system as approved by the Commission	MU	1744.90
4	Energy input into 11 kV system [1- 2-3]	MU	33648.26
5	Total Distribution Cost	Rs Crores	3496.64
6	Distribution cost for 11 kV voltage levels (assuming 50% of item 2)	Rs Crores	1748.32
7	Wheeling charges for 11 kV voltage level (item 6÷4)	Paisa/kWh	51.96
			or say 52

The Commission approves wheeling charges at 48 paisa/kWh for 33 kV voltage level

and at 52 paisa/kWh for 11 kV voltage level for the FY 2023-24.

### 8.3. 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.

The Commission, pursuant to Section 39, 40 and 42 and all other enabling provisions of the Electricity Act 2003, has notified new regulations namely BERC (Terms and Conditions of Intra-State Open Access) Regulations 2018. The consumer who seeks open access in accordance with the regulations will have to pay transmission charges, wheeling charges, cross subsidy surcharge, additional surcharge, reactive energy charges, standby charge and SLDC charges. 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.

### 8.4. Transmission Charges

The Commission has approved Rs.1396.00 Crore (Rs.1176.62 Crore for BSPTCL excluding SLDC and Rs.219.38 Crore for BGCL) towards transmission charges for FY 2023-24 in respective Tariff Order dated 21<sup>st</sup> March, 2023.

#### a). Transmission Charges for Long/Medium Term Open Access

Monthly transmission charges leviable for Long/Medium Term open access customer as per BERC (Terms and conditions of intra state open access) Regulations 2018 shall be computed as per the following formula:

$$\text{Monthly Transmission charges} = \text{ATC} / \text{SAC} \times 12$$

Where,

ATC = Annual Transmission Charges determined by the Commission for the State Transmission Systems in Rs. Crore

SAC = Sum of Contracted Capacities of Power to the State in MW

Regulation 19 (2) (a) of BERC (Terms and conditions of intra state open access) Regulations 2018 specify that open access customer using transmission system shall

pay transmission charges on the basis of contracted capacity.

BSPTCL in its petition has submitted that total maximum projected load of NBPDC & SBPDCL is 7421 MW and maximum load of Railways is considered at 100 MW based on their contracted capacity totaling to 7521 MW. Accordingly, the Commission has considered the same for determination of transmission charges applicable to Long/Medium term Open Access consumers as below:

**Table 8.7: Monthly Transmission Charges applicable to Long/Medium term Open Access consumers as approved for FY 2023-24**

SI No	Particulars	Unit	FY 2023-24
1	Total maximum load of the Transmission system users for FY 2023-24	MW	7521.00
2	Annual Transmission charges of BSPTCL	Rs Crore	1176.62
3	Annual Transmission charges of BGCL	Rs Crore	219.38
4	Total Transmission charges (2+3)	Rs Crore	1396.00
5	Monthly Transmission Charges applicable to Long / Medium term Open Access consumers	Rs/MW/Month	154678.01

Thus, the Transmission Charges shall be Rs.154678.01/MW/Month for long/medium term open access consumers. In addition to above transmission charges, transmission losses of 3.00% shall be reduced in kind from the energy input into the state transmission system.

#### **b). Transmission Charges for Short Term Open Access**

According to the BERC (Terms and Conditions of Intra-State Open Access) Regulations 2018, the transmission charges payable for short term open access customers are determined in terms of Rs/MWh and the formula specified for computing this charge is provided as follows:

Transmission charges payable by Short Term open access customer shall be computed as per the following formula:

$$\text{Transmission charges} = \text{ATC} / (\text{PLST} \times 8784) \text{ (in Rs./MWh)}$$

Where,

ATC = Annual Transmission charges determined by the Commission for the State Transmission system for the year in Rs. Crore.

PLST = Peak load projected to be served by the State Transmission system

BSPTCL in its tariff petition for FY 2023-24 submitted that the projected maximum peak load for FY 2023-24 is 7521 MW which is considered for computation of transmission charges. Maximum load of NBPDC & SBPDCL is considered at 7421 MW and maximum load of Railways is considered at 100 MW based on contracted capacity.

Therefore, the Commission considers the peak load at 7521 MW for FY 2023-24 for computation of short-term open access charges as below:

**Table 8.8: Transmission Charges applicable to short term Open Access consumers as approved for FY 2023-24**

SI No	Particulars	Unit	FY 2023-24
1	Total maximum load of the Transmission system users for FY 2023-24	MW	7521.00
2	Annual Transmission charges of BSPTCL	Rs Crore	1176.62
3	Annual Transmission charges of BGCL	Rs Crore	219.38
4	Total Transmission charges (2+3)	Rs Crore	1396.00
5	Transmission Charges applicable to short term Open Access consumers	Rs/MWh	211.31

The Transmission charges for Short Term Open Access shall be Rs.211.31/MWh payable on the basis of the energy actually scheduled for short term transactions.

#### 8.5. Transmission and Wheeling Charges for Open Access Customers.

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 8.9: Transmission Charges applicable to open access customer are at different voltage levels for FY 2023-24**

Drawl/ Injection	Transmission (220/132 kV)	33kV	11kV
<b>Transmission (220/132 kV)</b>	Transmission Charges plus transmission losses 3.00% shall be payable	Transmission charges plus wheeling charges of 33 kV shall be payable. Losses of both transmission and 33 kV network shall be payable (Cumulative loss @ 6.88%)	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 @ 11.54%)

Drawl/ Injection	Transmission (220/132 kV)	33kV	11kV
<b>33kV</b>	Transmission charges plus wheeling charges of 33 kV shall be payable. Losses of both transmission and 33 kV network shall be payable (Cumulative loss @ 6.88%)	Wheeling charges of 33 kV plus losses of 33 kV network (Loss @ 4.0%) shall be payable.	Wheeling Charges of 33 and 11 kV network shall be payable. Losses for 33 and 11 kV shall also be payable (Cumulative loss @8.80%)
<b>11kV</b>	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 @11.54%)	Wheeling Charges of 33 and 11 kV network shall be payable. Losses for 33 and 11 kV shall also be payable (Cumulative loss @8.80%)	Wheeling Charges of 11 kV plus losses of 11 kV network (Loss @ 5.00%) shall be payable

#### 8.6. SLDC Charges

Open access consumer shall pay all charges payable to the State Load Despatch Centre (SLDC), as determined by the Commission under section 32 of the Act and as per the Regulation 19 (1) of BERC (Terms and Conditions for Open Access) Regulations, 2018.

The Annual SLDC Operating charges for FY 2023-24 are determined as Rs.13.37 Crore in the SLDC Tariff Order dated 21<sup>st</sup> March, 2023. Considering the energy delivered into transmission system as 38008.11 MUs, the SLDC charges works out to 35 Paise/kWh.

#### 8.7. Cross Subsidy Charges

##### Petitioners' submission

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 3rd Control Period is calculated as per the following recommended formula in the BERC (MYT Distribution Tariff Regulations), 2018.

$$S = T - [C / (1 - L/100) + D + R]$$

Where,

*S is the surcharge*

*T is the tariff payable by the relevant category of consumers, including reflecting the Renewable Purchase Obligation*

*C is the per unit weighted average cost of power purchase by the Licensee, including meeting the Renewable Purchase Obligation*

*L is the aggregate of transmission, distribution and commercial losses, expressed as a percentage applicable to the relevant voltage level*

*D is the aggregate of transmission, distribution and wheeling charge applicable to the relevant voltage level*

*R is the per unit cost of carrying regulatory assets.”*

The Petitioners have stated that 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 FY 2022-23 computed by Discoms is as shown below:

**Table 8.10: Cross-subsidy Charges proposed for FY 2023-24**

Cross Subsidy Surcharge (Rs.)										
Sl No	Voltage level	Proposed Tariff	wt. Avg. cost of PP	Intra-state transmission loss	Transmission charge	33 kv	11 kv	Value	20% of applicable Tariff	CSS
1	132kv	13.05	5.95	3.00%	0.57	0	0	6.35	2.61	2.61
2	33kv	14.17	5.95	3.00%	0.57	0.60	0	4.25	2.83	2.83
3	11kv	14.73	5.95	3.00%	0.57	0.60	0.63	3.92	2.95	2.95
4	HTSS(33kv)	9.98	5.95	3.00%	0.57	0.60	0	2.68	2.00	2.00

#### Commission's analysis:

The cross-subsidy surcharge as per the formula specified in revised Tariff Policy issued on 28.01.2016 is worked out as follows. Weighted average cost of power purchase for both Discoms is determined as shown in Table below:

**Table 8.11: Weighted average cost of power purchase for both Discoms for FY 2023-24**

Sl. No	Particulars	Unit	FY 2023-24
1	Gross Power Purchase of both DISCOMs	Mus	39045.06
2	Less: PGCIL Losses	Mus	1036.95
3	Net Power Purchase	Mus	38008.11
4	Power Purchase Cost including PGCIL charges	Rs. Crore	21334.76
5	Average Power Purchase rate(4÷3)	Rs./ kWh	5.61



Cross Subsidy surcharge is Computed by the Commission as per following formula:

$$S = T - [C / (1 - L / 100) + D + R]$$

Where,

*S is the Surcharge*

*T is the Tariff payable by the relevant category of consumers, including reflecting the Renewable Purchase Obligation.*

*C is the per unit Weighted average cost of power purchase by the Licensee, including meeting the Renewable Purchase Obligation.*

*D is the Aggregate of transmission, distribution and wheeling charge applicable to the relevant voltage level.*

*L is the Aggregate of transmission, distribution and commercial losses, expressed as a percentage applicable to the relevant voltage level.*

*R is the Per unit cost of carrying regulatory asset.*

Cross-subsidy charges for different voltages computed in Table below:

**Table 8.12: Workout of Cross-subsidy Charges at different voltage for FY 2023-24**

Sl. No.	(kV)	ABR (Rs./ kWh)	APPC (Rs./ kWh)	losses (%)	Trans- mission charges (Rs./ kWh)	33kv (Rs./ kWh)	11kV (Rs./ kWh)	CSS (Rs./ kWh)	20% of Tariff (Rs./ kWh)	CSS (Rs./ kWh)
		a	b	c	d	e	f	g= a-(b/(1-c))+d+e+f	h= 20% of a	i= Min of g or h
1	220/132	10.00	5.61	3.00%	0.37	0	0	3.84	2.00	2.00
2	33	12.55	5.61	6.88%		0.48		6.05	2.51	2.51
3	11	13.10	5.61	11.54%			0.52	6.24	2.62	2.62
4	HTSS	8.16	5.61	6.88%		0.48		1.66	1.63	0.00

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 2023-24.

**Table 8.13: Cross-subsidy Charges applicable to open access consumer at different voltage for FY 2023-24**

Sl. No.	Consumer Category	Cross Subsidy Surcharge (Rs. /kWh)
1	For 132 kV Consumers	2.00
2	For 33 kV Consumers (other than HTSS)	2.51
3	For 11 kV Consumers (other than HTSS)	2.62
4	For HTSS Consumers (11kV & 33kV)	0.00

**8.8. Additional surcharge****Petitioners' submission**

The Petitioners have submitted that, in order to supply seamless power to the consumers as per the demand projection under the Power for All scheme, the Bihar DISCOMs tied up huge quantum of PPAs. However, the demand has not increased as per the projection as well as due to the movement of consumers from being a consumer to the DISCOM to shifting to Open Access, the DISCOMs are currently in a power surplus situation. This has led to unnecessary fixed cost burden on the DISCOMs which are ultimately being passed on the consumer. In regard to recovering a part of the stranded costs, the DISCOMs have proposed the Additional surcharge to be recovered by Open Access consumers for FY 2023-24. It is further submitted that the Additional Surcharge has been computed as per the guidelines issued by the Commission in previous Tariff Order dated 25<sup>th</sup> March, 2022 and requested to approve additional surcharge of Rs. 2.97 / kWh for FY 2023-24.

**Commission's analysis**

Regulation 23 of BERC (Term and Conditions of Intra-State Open Access) Regulations 2018 has outline the principle regarding determination and Levy of Additional surcharge as below:

*"23. Additional Surcharge*

- (1) *An open access consumer, receiving supply of electricity from a person other than the distribution licensee of his area of supply, shall pay to the distribution licensee an additional surcharge, in addition to wheeling charges and cross- subsidy surcharge, to meet the fixed cost of such distribution licensee arising out of his obligation to supply as provided under sub-section (4) of section 42 of the Act. Such additional charge payable by open access*

*consumer to the distribution licensee shall be as determined by the Commission in the distribution tariff order from time to time.*

*Provided that Additional surcharge shall be payable on monthly basis, by the open access consumers based on the actual energy drawn during the month through open access.*

*Provided also that such additional surcharges shall not be levied in case distribution access is provided to a person who has established a captive generation plant for carrying the electricity to the destination of his own use.*

- (2) The additional surcharge shall become applicable only if the obligation of the licensee in terms of power purchase commitments has been and continues to be stranded or there is an unavoidable obligation and incidence to bear fixed costs consequent to such a contract.*

*(Note: The fixed cost related to network assets is recovered through wheeling charges.)*

- (3) The distribution licensee shall submit to the Commission along with its ARR, a detailed calculation statement of fixed cost which the licensee is incurring towards his obligation to supply, mentioning the hourly stranded data with its merit order dispatch.”*

As stipulated in the above regulation the additional surcharge shall be recovered from open access consumer only, in case of the obligation of the licensee in terms of power purchase commitments constitutes to remain stranded due to shift in consumers to open access. However, unrecovered power cost obligation due to lower demand growth of DISCOMs compared to the projected demand growth, cannot be the ground for levying additional surcharge to open access consumers.

Thus, to signify above mentioned terms for additional surcharge, DISCOMs have to produce satisfactory justification for the stranded cost due to shift in open access consumers. As the Commission has to envisage the power surplus scenario of DISCOMs, it must indicate the quantum of such stranded cost and the period over

which it would be stranded for determination of additional surcharge. Further, DISCOMs must demonstrate that the demand charges payable by open access consumers to DISCOMs does not compensate fully the fixed cost payable by DISCOMs to Generators.

**The Commission is of the view that the additional charges shall be leviable only if it is conclusively demonstrated by Discoms that open access will lead to stranding of its fixed cost.**

Accordingly, the Commission has provided the following methodology for computation of additional surcharges in the Tariff Order dated 25<sup>th</sup> March, 2022:

Contracted Capacity of DISCOM	= A (MW)
Availability of the Contracted Capacity during period	= B (MW)
Scheduled Capacity during period	= C (MW)
Open Access Allowed during period	= D (MW)
Capacity Stranded due to Open Access	= E (MW)
Total Fixed Charge paid for period	= F (Rs. Crore)
Transmission charge paid during period	= G (Rs. Crore)
Energy Scheduled during period	= H (MUs)
Energy Consumed by OA consumer from DISCOM	= N (MUs)
Demand Charge Recovered by DISCOM from OA consumer	= P (Rs. Crore)
OA scheduled energy during the Period	= S (MUs)
<i>(DISCOM shall provide above requested data and substantiate its submission with Justification and Documentary Evidence)</i>	
Fixed Charge per MW of Available Capacity	= $I = F/B$ (Rs. Crore)
Fixed Charge for the Stranded Capacity	= $J = I * E$ (Rs. Crore)
Transmission Charge per kWh	= $K = G/H * 10$ (Rs. /kWh)
Distribution Charges (as approved in Tariff Order)	= L (Rs. /kWh)
Total T&D Charges per kWh	= $M = K + L$ (Rs. /kWh)
T&D charges payable by OA to DISCOMS	= $O = M * N / 10$ (Rs. Crore)
Demand Charge to be adjusted	= $Q = O - P$ (Rs. Crore)
Net Stranded Charges recovered	= $R = J - Q$
Additional Surcharge	= $S / R * 10$

In addition to above DISCOM shall provide the following additional information for computation of additional surcharge:

- Relevant details of amounts incurred towards obligations to pay capacity charges under power purchase agreements, cost of transmission charges payable to

transmission licensees, other costs of distribution business apart from power purchase costs for the year.

- b). Establishing contribution of Open Access to backing down /stranded capacity.
- c). Quantum and Capacity availed by the Open access consumers during period.
- d). DISCOMs shall provide historical shift in open access consumer and also project the shift in Open Access consumers for future period.

The Commission has analysed the data submitted by the Discoms in Annexure-5 (Additional surcharge) along with the tariff petition. It seems that only Railway open access data considered in computation sheet submitted by the Discoms and the other open access consumers data is not considered in the computations submitted in Annexure-5 .

Further it is also noticed that some data like OA scheduled energy during the period is replication of the data furnished for FY 2020-21 submitted along with the tariff petition for FY 2022-23.

The data submitted by Discoms for computing the additional surcharge for open access by the Discoms requires further verification and validation by the RLDC/SLDC and Transmission utilities.

In view of the data constraints, it is difficult to determine the additional surcharge for open access consumers in this juncture.

The Discoms have stated that “Bihar Discoms tied up huge quantum of PPAs to supply seamless power to the consumers as per the demand projection under the scheme of Power for All. However, the demand has not increased as per the projection as well as due to movement of consumers to Open Access and the Discoms are currently in a power surplus situation”.

Discoms shall also provide the details of additional capacity for which PPAs are tied-up and action being taken to reduce the capacity not required to avoid payment of capacity charges without of energy as per allocation.

In view of the above, The Commission directs the DISCOMs to file separate petition for the determination of additional charges within 3 months of the notification of this Order. Else, the DISCOMs shall propose for additional surcharge with the full details in next tariff petition.

## 8.9. Reactive Energy Charge

### Petitioners' submission

Petitioners have submitted that the open access consumers should pay a reactive energy charge to Transmission and Distribution companies as the case may be for drawl/ injection of reactive energy. Accordingly, NBPDC & SBPDCL have proposed the reactive charges of 16 paise / kVAR for the FY 2023-24.

It is also submitted that the rate proposed is based on actual rate of Reactive Energy charge billed by ERPC and its escalating trend.

### Commission's analysis:

The Reactive energy charges levied by ERLDC over years is as shown in Table below:

**Table 8.14: Reactive energy charges levied by ERLDC over years**

Year	Reactive Energy Charges
2020-21	14 Paisa/ Unit
2019-20	14Paisa/ Unit
2018-19	14 Paisa/ Unit
2017-18	13.5 Paisa/ Unit

The Commission in the Tariff Order for FY 2022-23 dated 25.03.2022 has considered the reactive energy charges at 4 paise/unit and the same is continued for FY 2023-24.

## 8.10. Standby Charge

### Petitioners' submission

As per BERC (Term and Conditions of Intra-State Open Access) Regulations 2018:

*"20 A. Standby Power 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."*

Petitioners submitted that the Commission has approved the stand-by charges for drawal of power by open access customer from distribution licensees in accordance with BERC (Term and Conditions of Intra-State Open Access) Regulations 2018. Petitioner further requested Commission to approve the same in line with the regulations

**Commission's analysis:**

The stand-by charges are applicable for drawal of power by open access customer from distribution licensees in accordance with Regulation 24 of BERC (Term and Conditions of Intra-State Open Access) Regulations 2018.

**8.11. Parallel Operating Charges****Petitioners' submission**

Petitioners have submitted that the connectivity of CPP (Captive Power Plants) to Grid or State transmission system shall be governed by the connection conditions stipulated under the State Grid Code and Connectivity Regulations of Central Electricity Authority notified in accordance with sub-section (b) of Section 73 of the Act.

The Petitioners have proposed Parallel Operation Charges as a part of other charges for Open access consumers to be applicable for parallel operation of the CPP with the grid separately as shown in the Table below and requested to approved the PoC charges Rs. 215.46/ kW/month.

**Table 8.15: Parallel operation charge computation as submitted by the Petitioners for FY 2023-24**

Parameter	FY 2023-24
Total Connected demand (KW)	26715911
Overall Demand Charges (Rs. Crore)	6907.59
POC charge (Rs Crore /month)	575.63
POC charge (Rs. /KW/month)	215.46

**Commission's analysis:**

The Commission has observed that the detailed reasoning and the quantification of the benefits accruing to CPPs in financial terms is not provided by the DISCOMS in the present petition. The Commission further observed that the Parallel Operation Charges (POC) is recovered from the CPPs to provide parallel operation to the Grid under various mode as listed below:

- CPPs having surplus capacity over and above their own requirement, connected in parallel with the grid in order to sell power to the grid or bank such surplus energy, which is a general phenomenon in seasonal industries.
- CPPs having load of such nature that results in large momentary peaks, starting currents and runs the plant in parallel to avail the support of grid beyond the

contract demand. Process industries with CPP's runs in parallel in order to avail continuous power supply, in the event of failure of CPP generating units.

- (c). Black start of CPP, where the start-up power is required to restart the units.
- (d). In addition to above, Grid also provide the support through parallel operation like absorbing harmonics, absorbing negative phase current, reactive power support, etc.

The Commission is of the view that, if CPPs opt for parallel operation to seek safety, security and comfort of a larger system, the POC charges needs to be levied to CPPs for availing support from the Grid. However, for the determination of Parallel operation charges DISCOMs need to carryout techno economic study for CPPs for the assessment of benefits and services extended to CPP in financial terms for suggesting levy of parallel operation / grid support charges payable by CPPs.

Accordingly, as already instructed in the Tariff Order dated 25.03.2022, the Commission directs DISCOMs to carryout above mentioned studies and approach the Commission for determination of Parallel Operation Charges (POC) with full details.

#### **8.12. Congestion Charge**

##### **Petitioners' submission**

As per regulation 25 of the BERC open access regulations, 2018

*"25. Other Charges*

*In addition to the above charges, the regulatory charges, congestion charges and any other charges imposed by Central Commission and/or State Commission shall be payable by the open access customers."*

In view of the above Petitioners have requested the Commission to determine and approve congestion charges for Open Access Consumers in order to mitigate the issues related to transmission and distribution of power.

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

Congestion occurs when transmission network fails to transfer power based on the



load demand. The Commission is of the view that the Congestion charge as proposed by the petitioner is not relevant to Distribution network. Further, the Petitioner has not submitted any justification and rationale for proposal of Congestion charge.

Accordingly, the Commission has not approved any congestion charges for FY 2023-24.

#### **8.13. 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 BERC Open Access Regulations, 2018.

#### **8.14. Other Charges**

In addition to the charges mentioned in above paras, the regulatory charges and any other charges imposed by CERC and/or BERC shall be payable by the open access customers.

#### **8.15. Information to be put on the website**

The Commission directs the Discoms to place 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.

## 9. Tariff Principles, Design and Tariff Schedule

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### 9.1. Introduction

The Commission, in determining the retail supply tariff for FY 2023-24, is guided by the provisions of the Electricity Act, 2003 (Act), National Electricity Policy 2005, revised Tariff Policy 2016, BERC (Multi Year Distribution Tariff) Regulations, 2021 and Regulations on Terms and Conditions for Determination of Tariff issued by the Central Electricity Regulatory Commission (CERC).

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 reduce cross subsidies. The Act 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 aims at increased access to electricity, supply of reliable and quality power at reasonable rates, minimum lifeline consumption, financial turnaround and commercial viability of electricity sector and protection of consumers' interest.

The revised Tariff Policy 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 Tariff Policy mandates that tariff should be within  $\pm 20\%$  of the average cost of supply. The Commission endeavors to follow the guidelines as far as possible.

The Commission has computed the average cost of supply on the basis of the annual revenue requirement and the energy sales approved by the Commission for FY 2023-24. The voltage-wise cost of supply is determined in accordance with the guidelines provided by the APTEL. The Commission has also considered the

suggestions during State Advisory Committee (SAC) meeting and comments of stakeholders at large while determining the tariffs.

## **9.2. Simplification of tariff structures for electricity consumers in Bihar**

### **Petitioners' submission**

The power distribution companies of Bihar have kept the following objectives in mind while proposing the tariff structure for FY 2023-24.

- a) Ensuring that an adequate balance is maintained between the interest of consumers and the distribution utility;
- b) Enabling consumers to efficiently and effectively plan their expenditure on electricity;
- c) Ensuring that tariffs progressively reflect the prudent cost of electricity supply to the consumers, and
- d) Incentivizing the consumer for efficient utilization of electricity.

The Distribution Licensee have followed the given below key guiding principles for proposing the tariff structure and tariffs which would be applicable for the FY 2023-24.

- (a) Merging or elimination of category / sub-category has been done based on relevance, and whether the categorization is still valid in the current scenario;
- (b) Ensure that each major tariff category has a maximum of 3 energy slabs, to maintain simplicity of structure;
- (c) Two-part tariff for all metered consumer categories;
- (d) Undertaking an action plan with target timelines for phasing out of unmetered consumers and therefore of the unmetered tariff sub-categories, through large targeted metering drives over the next twelve to eighteen months;
- (e) Preserving kVAh based billing for all consumer categories wherever feasible.

Based on the above principles, the following key changes have been proposed in the tariff structure and schedule for the ensuing year.

- (a) Simplification of Domestic and Non-domestic tariff structure

- (b) Incentivizing increased consumption through improving of load factor
- (c) Incentivising consumers through consistent payment rebate
- (d) Incentivising HT consumers through High Voltage rebate
- (e) Rationalization of Tariff Structure

#### Commission's View

The Commission has taken note of the proposals of the Discoms and the issues have been dealt in the subsequent sections and in the Tariff Schedule.

### 9.3. Simplification of Tariff structure for Domestic consumers

#### Petitioners' submission

In order to simplify the tariff structure of Domestic category consumers and to rationalize tariff for consumers with higher consumption, the Petitioner has proposed to keep only two tariff slabs in the DS-I and DS-II category consumers. The intent is to simplify the tariff slabs and encourage increased electricity consumption gradually further.

For DS-I category consumers, the first slab (0-50 units) in the current tariff structure is proposed to remain as it is while the second slab (51-100 units) and third slab (above 100 units) are proposed to be merged into a single slab (above 50 units).

Category / Slab	Existing tariff structure		Revised tariff structure (without tariff hike)		Proposed tariff structure for FY 2023-24	
	Fixed Rs/kW/month	Energy Rs/unit	Fixed Rs/kW/month	Energy Rs/unit	Fixed Rs/kW/month	Energy Rs/unit
<b>DS-I</b>						
0-50 units	20	6.10	20	6.10	40	8.66
51-100 units	20	6.40	20	6.53	40	9.28
Above 100 units	20	6.70				

For DS-II category consumers, the first slab (0-100 units) in the current tariff structure is proposed to remain as it is while the second slab (101 – 200 units) and third slab (above 200 units) are proposed to be merged into a single slab (above 100 units).

Category / Slab	Existing tariff structure		Revised tariff structure (without tariff hike)		Proposed tariff structure for FY 2023-24	
	Fixed Rs/kW/ Month	Energy Rs/unit	Fixed Rs/kW/ month	Energy Rs/unit	Fixed Rs/kW/ month	Energy Rs/unit
<b>DS-II</b>						
0-100 units	40	6.10	40	6.10	100	8.66
101-200 units	40	6.95	40	7.29	100	10.35
Above 200 units	40	8.05				

#### 9.4. Simplification of Tariff structure for Non-domestic consumers

##### Petitioner's submission

The Petitioner proposes to keep only two tariff slabs in the NDS-I. The first slab (0-100 units) in the current tariff structure is proposed to remain as it is while the second slab (101 – 200 units) and third slab (above 200 units) are proposed to be merged into a single slab (above 100 units).

Category / Slab	Existing tariff structure		Revised tariff structure (without tariff hike)		Proposed tariff structure for FY 2023-24	
	Fixed Rs/kVA/ Month	Energy Rs/unit	Fixed Rs/kVA/ month	Energy Rs/unit	Fixed Rs/kVA/ month	Energy Rs/unit
<b>NDS-I</b>						
0-100 units	30	6.40	30	6.40	100	9.09
101-200 units	30	7.00	30	7.28	100	10.34
Above 200 units	30	7.55				

The Petitioner proposes to keep only two tariff slabs in NDS-II category having contract demand greater than 0.5KW. The first slab (0-100 units) in the current tariff structure is proposed to remain as it is while the second slab (101 – 200 units) and third slab (above 200 units) are proposed to be merged into a single slab (above 100 units).

Category / Slab	Existing tariff structure		Revised tariff structure (without tariff hike)		Proposed tariff structure for FY 2023-24	
	Fixed Rs/kVA/ Month	Energy Rs/unit	Fixed Rs/kVA/ month	Energy Rs/unit	Fixed Rs/kVA/ month	Energy Rs/unit
<b>NDS-II</b>						
0-100 units	180	6.35	180	6.35	400	9.02
101-200 units	180	6.85	180	7.31	400	10.38
Above 200 units	180	7.40				

**Commission's view**

The Commission takes note of the Discoms proposal to merge the highest slab of Domestic and Non-domestic consumer categories with the preceding slab and with energy rate between existing tariff 51 to 100 units slab and above 100 units slab for DS-I and between existing tariff 101 to 200 units slab and above 200 units slab for DS-II, NDS-I and NDS-II.

The Commission has accepted the proposal and accordingly merged the 2<sup>nd</sup> and 3<sup>rd</sup> slabs in to single slab. Now there are only two slabs under DS-I, DS-II, NDS-I and NDS-II categories of consumers. The tariffs are notified in the tariff schedule.

**9.5. Shift to kVAh based Tariff****Petitioner's submission**

Understanding that the kVAh based tariff has an inbuilt mechanism for incentivizing the consumers who maintain better power factor, the Petitioner proposes the Commission to introduce kVAh based tariff in the state of Bihar for NDS (Commercial) consumers. This is bound to encourage commercial consumers to save on their electricity bills.

**Commission's view**

The Commission has examined the proposal of the Discoms to introduce the kVAh based tariff for NDS-I and NDS-II categories.

The Commission observes that the Discoms have not submitted the report on compatibility of the meters for recording the kVAh reading along with the petition. Hence, the proposal is not accepted in the instant order, however endeavors to take action appropriate. The Discoms shall submit the report on compatibility of the meters along with next tariff petition.

**9.6. Incentivizing increased consumption through improving of load factor for HT consumers****Petitioners' submission**

The Commission vide Tariff Order dated 25.03.2022 had allowed Load Factor incentive for all HT industrial category consumers for Load Factor in the range of 30% to 50% along with HTSS with Load Factor above 60%.

The Load Factor incentive in the three slabs i.e. 30%-50%, 50%-70% and above 70% for HT industrial service categories, which is on the basis of incremental consumption is proposed to be continued.

The Petitioner proposes to withdraw the Load Factor incentive for HTSS consumers. It has been observed that in 1<sup>st</sup> six month of FY 2022-23 (April – September 2022) there has been no increase in the consumption with respect to the consumption in 1<sup>st</sup> six months of FY 2021-22 (April 2021 to September 2021) but the amount of incentive required to pay by the Discoms is significantly high. As a result, there has been decrease in the net revenue collection of the Discoms through considerable disbursement of incentive to this category of consumers. Further, the HTSS industries already operate at higher Load Factor levels (around 90%) by the nature of operations of their business. Therefore, including the HTSS industry in the bracket of beneficiaries of Load Factor rebate will further reduce their tariff which are already getting the benefit of lower energy charges compared to other HT categories

Providing Load Factor incentive to Oxygen gas manufacturers category is proposed to be in line with the HT categories on incremental consumption basis as follows:

Load Factor Range	Proposed Incentive
65%-75%	<i>15 paise per unit on energy charges for energy consumption over 65% and up to 75% load factor during the billing month</i>
Above 75%	<i>25 paise per unit on energy charges for energy consumption over and above 75% load factor during the billing month</i>

**Commission's view:**

The Commission has taken note of the proposal of the Discoms. The Commission decides to continue the existing load factor rebate/incentive as under:

**A. Load factor incentive for all HT Industrial category consumers (excluding HTSS and Oxygen Manufacturers)**

Load Factor Range	Incentive
30%-50%	<i>10 paise per unit on energy charges for energy consumption over 30% and up to 50% load factor during the billing month</i>

Load Factor Range	Incentive
50%-70%	<i>20 paise per unit on energy charges for energy consumption over 50% and up to 70% load factor during the billing month</i>
Above 70%	<i>30 paise per unit on energy charges for energy consumption over and above 70% and up to 100% load factor during billing month</i>

**B. Load factor incentive for all HTSS Category Industries:**

Load Factor range	Incentive
Above 60%	30 paise per unit on energy charges for entire energy consumption during the billing month for load factor above 60%.

**C. Load Factor Incentive for Oxygen Manufacturing Industries**

Load Factor range	Incentive
65% to 75%	15 paise per unit on energy charges for entire energy consumption during the billing month for load factor above 65% and upto 75%.
Above 75%	25 paise per unit on energy charges for entire energy consumption during the billing month for load factor above 75%.

**9.7. Incentivizing consumers through consistent payment Rebate**

**Petitioner's submission**

For encouraging the postpaid Rural consumers, a rebate of 1% of the total monthly Bill of last Quarter in the coming next month. However, rebate for consistent payment may be applicable only for the consumers making offline payment.

For example: If a postpaid Rural consumer makes regular offline payment of their monthly bill within the due date during the previous quarter, then, such consumer may be entitled to a rebate of 1% of total amount of monthly bills of last Quarter in its next monthly bill amount

**Commission's view**

The Commission has accepted the proposal of the Discoms for all mode of payments.



**9.8. Incentivizing HT consumers Higher voltage Rebate****Petitioner's submission**

15 Paise/kVAh of rebate on energy charges at each voltage level is proposed to be provided to HTS/HTSS for availing supply at voltages higher than 11 kV.

**Proposed HT Category Structure**

HT General	Existing tariff structure		Revised tariff structure (without higher voltage rebate)		Proposed tariff structure for FY 2023-24 (With higher voltage rebate)	
	Fixed Rs/KVA/month	Energy Rs/unit	Fixed Rs/kW/Month	Energy Rs/unit	Fixed Rs/kW/Month	Energy Rs/unit
HTS I or HTIS-I- 11 kV	300.00	6.55	600	9.30	600	9.30
HTS II or HTIS-II - 33 kV	300.00	6.50	600	9.23	600	9.08
HTS III or HTIS-III -132 kV	300.00	6.45	600	9.16	600	9.01
HTS IV or HTIS-IV - 220 kV	300.00	6.40	600	9.09	600	8.94

**Commission's view**

The Commission has been considering this aspect while determining the Energy charge/rate for High Tension 11 kV, 33 kV, 132 kV and 220 kV voltage level categories by providing lesser energy rate per unit as the voltage level of the consumer increases.

**9.9. Continuing the incentives for uptake of smart metering by consumers****Petitioners' submission**

The Commission had approved a rebate of 2% on every amount recharged by the consumer opting for pre-paid smart meter. Further, the rebate for online payment of 1% is applicable to these consumers over and above the rebate on prepayment. The DISCOMs propose to continue this rebate of 3% (2% prompt payment rebate and 1% rebate on online recharge) for FY 2023-24 as well.

**Commission's analysis**

The Commission accepts to continue the rebate of 2% on every amount recharged by the consumer opting for pre-paid smart meter. Further, the rebate for online or digital payment of 1% would be applicable to these consumers over and above the rebate on prepayment. This rebate shall be displayed and accounted.

**9.10. Other changes proposed to the existing tariff structure****9.10.1 Rationalization of Tariff structure****Petitioner's submission**

The fixed charges across almost all the consumer categories have not been revised since long time despite the irregular increase in the energy charges.

While there is growing thrust by the Ministry of Power to ensure that the DISCOMs segregate their wire and supply business, the sole objective to serve is that the cost incurred on the wire business of DISCOM should be recovered through the fixed charges components of the tariff.

The Petitioner is tied up with adequate PPAs with the Generating units in order to cater reliable and uninterrupted power supply to its consumers. With the growing trend of increase in open access consumers, the DISCOMs ends up in the state of Power surplus which leads to increase in fixed cost liability in the power purchase expense. Therefore, the fixed charge in the tariff should be increased appropriately to compensate aforesaid increased expenses of the Petitioner.

In the backdrop of the above, the Petitioner has proposed that increase in Fixed Charges may be considered as proposed in the respective category. The increase in energy charges be increased by 42% as compared to the existing rate. It is to be noted that even with this substantial increase in fixed charges, it is far below than the ratio of fixed cost being actually paid to the generators for the power procurement.

**Commission's view**

The tariff rates are determined for FY 2023-24 in accordance with BERC (Fixation of charges for supply of Electricity by Distribution Licensee) Regulations 2018. The Category-wise tariff rates are notified in the Tariff schedule of this Order

**9.10.2 Revision in definition of billing demand as a percentage of contract demand****Petitioner's submission**

- Billing Demand will be 85% of the Contract Demand or actual Demand whichever is higher.
- The reason is the petitioner needs to develop and maintain infrastructure in line with the contracted load of the consumer

- Many states/utilities billing demand as a percentage of contract demand is higher than Bihar (currently -75%). BRPL- Delhi (100%), Madhya Pradesh State DISCOMs (90%), BESCOM State DISCOM Karnataka (85%) and TANGEDCO Tamilnadu (90%) and Haryana State DISCOMs (100%) are some of the utilities which has higher billing demand than the contract demand.

#### **Commission's view**

The Commission has not acceded to the proposal of the Discoms and decides to continue the Billing Demand at 75% of the contract demand or actual demand whichever is higher for FY 2023-24.

### **9.10.3 Penalty on violation of contract demand / load**

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

- Railways will also be applicable for the Penalty on violation of Contracted Demand/ load.
- In the present situation, there is no provision of automatic enhancement of load by the DISCOM. The DISCOMs can only issue notice for enhancement of load and may disconnect the line for non-abeyance of notice issued to the consumer. Hence, it is proposed to Suo-moto enhance the load based on average load of last three months if it exceeds 105% of the contract demand.

#### **Commission's view**

The proposal of the Discoms has been examined and not accepted. The existing procedure is to be continued.

### **9.11. Revenue gap/(Surplus) for FY 2023-24**

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

NBPDCCL and SBPDCL, in their tariff petitions for FY 2023-24, have projected the total revenue gap of Rs.3680.72 Crore and Rs.8758.33 Crore respectively totalling Rs.12439.05 Crore which also includes the trued up revenue gap claimed for FY 2021-22 along with carrying cost. NBPDCCL has proposed to recover Rs.5484.24 Crore and SBPDCL has proposed to recover Rs.6954.67 Crore through tariff hike. The Discoms have proposed uniform tariff rates across whole State of Bihar. They have proposed additional cost to be allowed through changes both in fixed charges and energy charges as given in the table below:

## Tariff schedule considering 'Zero' GoB Subsidy

Category	Proposed Tariff - FY 2023-24			
	Fixed charge	Units	Energy Charge	Units
<b>Domestic</b>				
<b>Kutir Jyoti</b>				
Metered 0-50	20	Rs./Connection/Month	8.66	Rs./kWh
<b>DS I Rural</b>				
Metered (Demand Based)				
First 50 Units	40	Rs./kW/Month	8.66	Rs./kWh
Above 50 Units	40	Rs./kW/Month	9.28	Rs./kWh
<b>DS II Demand Based</b>				
First 100 Units	100	Rs./kW/Month	8.66	Rs./kWh
Above 100 Units	100	Rs./kW/Month	10.35	Rs./kWh
<b>DS III</b>	80	Rs./kW/Month	10.51	Rs./kWh
<b>Non-Domestic Service</b>				
<b>NDS I - Metered (Demand Based)</b>				
First 100 Units	100	Rs./kVA/Month	9.09	Rs./kVAh
Above 100 Units	100	Rs./kVA/Month	10.34	Rs./kVAh
<b>NDS II - Demand Based</b>				
Contract Demand <0.5 kW	200	Rs./Connection/Month	9.02	Rs./kVAh
Contract Demand >0.5 kW				
First 100 Units	400	Rs./kVA/Month	9.02	Rs./kVAh
Above 100 Units	400	Rs./kVA/Month	10.38	Rs./kVAh
<b>Street Light Services</b>				
SS Metered	100	Rs./kW/Month	10.51	Rs./kWh
SS Unmetered	7500	Rs./kW/Month	-	Rs./kWh
<b>Irrigation &amp; Allied Services</b>				
<b>IAS I</b>				
Unmetered	1600	Rs./HP/Month	-	Rs./kWh
Metered	100	Rs./HP/Month	7.88	Rs./kWh
<b>IAS II</b>				
Metered (Demand Based)	500	Rs./kVA/Month	8.38	Rs./kVAh
<b>Public Service Connections</b>				
Public Water Works	630	Rs./kVA/Month	11.29	Rs./kVAh
Har Ghar Nal	100	Rs./HP/Month	9.51	Rs./kWh
<b>Low Tension Industrial Services</b>				
LTIS I (0-19 kW)	300	Rs./kVA/Month	9.09	Rs./kVAh
LTIS II (>19 kW - 74 kW)	400	Rs./kVA/Month	9.09	Rs./kVAh
<b>LT Electric Vehicle Charging Station</b>			10.15	Rs./kVAh
<b>High Tension (General)</b>				
HTS I - 11 kV	600	Rs./kVA/Month	9.30	Rs./kVAh
HTS II - 33 kV	600	Rs./kVA/Month	9.23	Rs./kVAh

Category	Proposed Tariff - FY 2023-24			
	Fixed charge	Units	Energy Charge	Units
HTS III -132 kV	600	Rs./kVA/Month	9.16	Rs./kVAh
HTS IV - 220 kV	600	Rs./kVA/Month	9.09	Rs./kVAh
<b>High Tension (Industrial)</b>				
HTIS- I - 11 kV	600	Rs./kVA/Month	9.30	Rs./kVAh
HTIS -II - 33 kV	600	Rs./kVA/Month	9.23	Rs./kVAh
HTIS - III -132 kV	600	Rs./kVA/Month	9.16	Rs./kVAh
HTIS- IV - 220 kV	600	Rs./kVA/Month	9.09	Rs./kVAh
HTSS	1400	Rs./kVA/Month	5.82	Rs./kVAh
HTIS (Oxygen Manufacturers)	1200	Rs./kVA/Month	6.39	Rs./kVAh
<b>Railway Traction Services – RTS</b>	600	Rs./kVA/Month	9.51	Rs./kVAh
<b>HT Electric Vehicle Charging Stations.</b>	-		9.16	Rs./kVAh

### Commission's analysis

The Commission, on detailed scrutiny and prudence check of the annual revenue requirement filed by the Discoms, has arrived at a net revenue gap of Rs.7402.02 Crore (Rs.1367.96 Crore revenue gap for NBPDCCL and Rs.6034.06 Crore revenue gap for SBPDCL) for FY 2023-24 including trued up revenue gap of FY 2021-22 and impact of review order dated 07.11.2022 as detailed hereunder.

Sl. No	Particulars	NBPDCCL	SBPDCL	Total
1	ARR approved for FY 2023-24	11741.75	13932.05	25673.79
2	<b>Less:</b> Revenue from Existing tariff	10752.92	12446.13	23199.05
3	<b>Revenue Gap/(Surplus) (1-2)</b>	<b>988.83</b>	<b>1485.92</b>	<b>2474.74</b>
4	Add: Impact of Order (review) dated 07.11.2022 in Case no.7/2022 (NBPDCCL) and 8/2022 (SBPDCL) relating to truing up for FY 2020-21 along with carrying cost	574.16	1032.73	1606.89
5	Carried forward trued up revenue gap/(Surplus) of FY 2021-22 along with carrying cost	(195.02)	3515.41	3320.39
6	<b>Revenue Gap for FY 2023-24 (3+4+5)</b>	<b>1367.96</b>	<b>6034.06</b>	<b>7402.02</b>

The Commission has been approving same retail supply tariff for Discoms (NBPDCCL and SBPDCL) in order to have uniform tariff for same category of consumers in the State of Bihar. **Keeping in view the revenue gap, the Commission decides to increase the energy charge rate by 24.10%/unit of kWh or kVAh across all the consumer categories for FY 2023-24. The Commission has also increased the fixed charges for FY 2023-24.**

**A table showing approved tariff retail rates of electricity for FY 2023-24 is placed at the end of this paragraph.**

After the tariff revision the consolidated revenue surplus of Rs.4.91 Crore (Rs.1874.74 Crore revenue surplus for NBPDCCL and Rs.1869.83 crore Revenue Gap in SBPDCL) is arrived at based on estimates/projections of the Discoms. It has been the experience of the Commission that the financial performance of the Discoms may vary with the actuals reported in the audited accounts.

Section 65 of the Electricity Act 2003 stipulates that if the State Govt. decides to give subsidy to any consumer or class of consumers, it shall pay such subsidy amount in advance.

Regulation 35 of the BERC (Multi Year Distribution Tariff) Regulations, 2021 has the following provisions for 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 Discoms have not projected any Tariff subsidy for FY 2023-24. The Commission, accordingly, has determined the ARR without taking into consideration the Tariff subsidy to consumers.

**Approved Retail Tariff for NBPDC & SBPDCL for FY 2023-24**

SI No.	Category/Subcategory of Consumers	Approved Tariff for NBPDC & SBPDCL area for FY 2023-24		
		Fixed charge	Energy Charge	Unit slabs
<b>A</b>	<b>LOW TENSION SUPPLY</b>			
<b>1</b>	<b>Domestic</b>			
1.1	Kutir Jyoti	Rs.20/Month/Connection	Rs.7.57/unit	0-50 units
			As per DS-I or DS-II	Above 50 units
1.2	DS-I Rural	Rs. 40/kW or part/month	Rs.7.57/Unit	0-50
			Rs.8.11/Unit	Above 50
1.3	DS-II (Demand based)	Rs.80/kW or part/month	Rs.7.57/Unit	1-100
			Rs.9.10/Unit	Above 100
1.4	DS-III (Demand based) (optional)	Rs.80/kW or part/month	Rs.9.18/Unit	All Units
<b>2</b>	<b>Non-Domestic</b>			
2.1	NDS-I Rural (Metered)	Rs. 60/kW or part/month	Rs.7.94/Unit	1-100
			Rs.8.36/Unit	Above 100
	<b>NDS-II (Demand based)</b>			
2.2	NDS-II Contract load upto 0.5 kW	Rs. 200/month/connection	Rs.7.88/Unit	All Units
2.3	NDS-II Contract demand above 0.5 kW and upto 70kW	Rs. 300/kW or part/month	Rs.7.88/Unit	1-100
			Rs.9.08/Unit	Above 100
<b>3</b>	<b>Irrigation and Agriculture Services (Connected load based)</b>			
3.1	IAS-I (Unmetered)	Rs.1350/HP or part/month	--	
3.2	IAS-I (Metered)	Rs. 100/HP or part/month	Rs.6.89/Unit	All Units
3.3	IAS-II (Metered) (Demand based)	Rs. 500/kVA or part/month	Rs.7.32/Unit	All Units
<b>4</b>	<b>Low Tension Industrial (Demand based kVAh)</b>			
4.1	LTIS-I	Rs.288/kVA or part/month	Rs.7.94/kVAh	All Units
4.2	LTIS-II	Rs 360/kVA or part/month	Rs.7.94/kVAh	All Units
<b>5</b>	<b>Public Water Works</b>			
5.1	PWW (Demand based, kVAh)	Rs 630/kVA or part/month	Rs.9.87/kVAh	All Units
5.2	Har Ghar Nal (Connected load based)	Rs 100/HP or part/month	Rs.8.31/Unit	All Units
<b>6</b>	<b>Street Light Services</b>			
6.1	SS-Metered (Connected load based)	Rs 100/kW or part/month	Rs.9.18/Unit	All Units
6.2	SS-Unmetered	Rs 750/100W or part/month	--	
<b>7</b>	<b>LT Electrical vehicle charging stations</b>		Rs.8.87/kVAh	All Units
<b>B</b>	<b>HIGH TENSION SUPPLY – GENERAL</b>			
1	HTS-I	Rs.550/kVA/Month	Rs.8.13/kVAh	All Units
2	HTS-II	Rs.550/kVA/Month	Rs.8.07/kVAh	All Units
3	HTS-III	Rs.550/kVA/Month	Rs.8.00/kVAh	All Units
4	HTS-IV	Rs.550/kVA/Month	Rs.7.94/kVAh	All Units
	<b>HIGH TENSION SUPPLY – INDUSTRIAL</b>			
1	HTS-I	Rs.550/kVA/Month	Rs.8.13/kVAh	All Units

Sl No.	Category/Subcategory of Consumers	Approved Tariff for NBPDC & SBPDCL area for FY 2023-24		
		Fixed charge	Energy Charge	Unit slabs
2	HTS-II	Rs.550/kVA/Month	Rs.8.07/kVAh	All Units
3	HTS-III	Rs.550/kVA/Month	Rs.8.00/kVAh	All Units
4	HTS-IV	Rs.550/kVA/Month	Rs.7.94/kVAh	All Units
5	HTSS (33kV)	Rs.1000/kVA/Month	Rs.5.09/kVAh	All Units
6	HTS-I (Oxygen manufacturers) 11kV	Rs.1000/kVA/Month	Rs.5.58/kVAh	All units
7	HTS-I (Oxygen manufacturers) 33kV	Rs.1000/kVA/Month	Rs.5.52/kVAh	All units
8	Railway Traction (RTS)	Rs.540/kVA/Month	Rs.8.31/kVAh	All Units
9	HT Electrical vehicle charging stations		Rs.8.00/kVAh	All Units

### 9.12. Tariff Schedule

The approved Tariff Schedule which shall be effective from 1st April, 2023 is given in Appendix – 1.

Part A: Tariff Schedule for Low Tension Supply

Part B: Tariff Schedule for High Tension Supply

Part C: Miscellaneous and General Charges



**Appendix-1**

**TARIFF SCHEDULE**  
**FOR**  
**RETAIL TARIFF RATES AND TERMS AND CONDITIONS OF SUPPLY FOR FY 2023-24**  
**(Effective from 1st April, 2023)**

**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 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 all dwelling houses of rural and urban families below the poverty line (BPL) as per the list/notification published by Rural Development Department, Government of Bihar from time to time.

- i). 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.
- ii). Use of LED / CFL both in rural areas and urban areas should be encouraged.
- iii). In case it is detected that the connected load exceeds the norms prescribed in para (i) above, the excess units consumed shall be billed at the tariff rates applicable to DS - I and DS- II category as the case may be.

**1.2. Domestic Service – I (DS – I Rural)**

This is applicable to domestic premises in rural areas (i.e. areas not covered by areas indicated under DS-II). If any portion of the premises is used for other than domestic purpose, a separate connection shall be taken for that portion and NDS-I tariff schedule shall be applicable for that service.

**1.3. Domestic Service – II (DS – II Urban)**

This is applicable for domestic premises in urban areas notified by Department of Urban Development, Government of Bihar from time to time. If any portion of the premises is used for other than domestic purposes, a separate connection shall be taken for that portion and NDS-II tariff schedule shall be applicable for that service.

**1.4. Domestic Service – III (DS-III Group Connection) (Optional)**

This is applicable for group residential consumers willing to avail supply at single point for the purpose of use of electricity in residential townships, registered societies, multi-storied residential complex (including lifts, water pumps and common lighting within the premises). The maximum allowable contract demand shall be 74KW. If any portion of the premises is used for other than domestic purposes, a separate connection shall be taken for that portion and NDS-II tariff schedule shall be applicable for that service.

**TARIFF RATES****2.0. DOMESTIC****2.1. Kutir Jyoti - BPL Consumers (Connected load based)**

Sl. No	Category of consumer	Fixed charge (Rs.)	Energy charge (Paissa/ Unit.)
(i)	K.J. - (Consumption up to 50 units per month)		
1	Metered	Rs.20 / connection / per month	First 50 units at 757 Paissa/ unit Remaining units, rate as per DS-I DS-II as applicable.
The fixed charges shall be recovered in full only if supply of power duly recorded by the consumer meter is maintained for at least 21 hours/day during the billing month. In any month if the supply of power is less than 21 hours/day, then the fixed charge for that month shall be levied on pro-rata basis.			

**2.2. DS – I: (Demand based)**

Sl. No	Category of consumer	Fixed charge (Rs.)	Energy charges	
			Consumption in a month (Units)	Rate (Paisa/unit)
1	Metered	Rs.40 / kW or part thereof per month	First 50 units	757
			Above 50	811
<p>The billing demand shall be the maximum demand recorded during the month or 75% of the contract demand whichever is higher.</p> <p>If in any month the recorded maximum demand exceeds 105% of contract demand, that portion of the demand in excess of the contract demand shall be billed at twice the normal charges.</p> <p>The demand charges shall be recovered in full only if supply of power duly recorded by the consumer meter is maintained for at least 21 hours/day during the billing month. In any month if the supply of power is less than 21 hours/day, then the demand charge for that month shall be levied on pro-rata basis.</p>				

**2.3. DS – II: (Demand based)**

Sl. No	Category of consumer	Fixed charge (Rs.)	Energy charges	
			Consumption in a month (Units)	Rate (Paisa/unit)
1	Metered (Contract demand up to 70 kW)	Rs.80 / kW or part thereof per month	1-100 units	757
			Above 100 units	910
<p>The billing demand shall be the maximum demand recorded during the month or 75% of the contract demand whichever is higher.</p> <p>If in any month the recorded maximum demand exceeds 105% of contract demand, that portion of the demand in excess of the contract demand shall be billed at twice the normal charges.</p> <p>The demand charges shall be recovered in full only if supply of power duly recorded by the consumer meter is maintained for at least 21 hours/day during the billing month. In any month if the supply of power is less than 21 hours/day, then the demand charge for that month shall be levied on pro-rata basis.</p>				

**2.4. DS – III: (Demand based) (Optional)**

Sl. No	Category of consumer	Fixed charge (Rs.)	Energy charges	
			Consumption in a month (Units)	Rate (Paisa/unit)
1	Metered (Contract demand up to 74 kW)	Rs.80 / kW or part thereof per month	All units	918
<p>The billing demand shall be the maximum demand recorded during the month or 75% of the contract demand whichever is higher.</p> <p>If in any month the recorded maximum demand exceeds 105% of contract demand, that portion of the demand in excess of the contract demand shall be billed at twice the normal charges.</p> <p>The demand charges shall be recovered in full only if supply of power duly recorded by the consumer meter is maintained for at least 21 hours/day during the billing month. In any month if the supply of power is less than 21 hours/day, then the demand charge for that month shall be levied on pro-rata basis.</p>				

**3.0. NON-DOMESTIC SERVICE (NDS)**

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, 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.

**3.1. Non-Domestic Service (NDS – I) Rural (Demand based)**

Applicable to non-domestic premises in rural areas i.e. areas not covered by areas indicated under NDS-II

Sl. No	Category of consumer	Fixed charge (Rs.)	Energy charge	
			Consumption in a month (Units)	(Paisa/ Unit.)
1	Metered	Rs.60 /kW or part thereof per month	1-100 units	794
			Above 100 units	836
<p>The billing demand shall be the maximum demand recorded during the month or 75% of the contract demand whichever is higher.</p> <p>If in any month the recorded maximum demand exceeds 105% of contract demand, that portion of the demand in excess of the contract demand shall be billed at twice the normal charges.</p> <p>The demand charges shall be recovered in full only if supply of power duly recorded by the consumer meter is maintained for at least 21 hours/day during the billing month. In any month if the supply of power is less than 21 hours/day, then the demand charge for that month shall be levied on pro-rata basis.</p>				

**3.2. Non - Domestic Service – NDS – II (Demand based)**

Applicable to contracted load up to 70 kW in urban areas notified by Department of Urban Development, Government of Bihar from time to time. 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.

Sl. No.	Category of Consumer	Fixed charge (Rs.)	Energy charges	
			Consumption in a month (Units)	(Paisa/Unit)
1.	<b>Metered</b> Contract load up to 0.5 kW	Rs.200/ month/connection	All Units	788
2	<b>Metered</b> Contract demand above 0.5 kW and up to 70 Kw	Rs. 300/kW or part thereof per month	1-100 Units	788
			Above 100 Units	908
<p>The billing demand shall be the maximum demand recorded during the month or 75% of the contract demand whichever is higher.</p> <p>If in any month the recorded maximum demand exceeds 105% of contract demand, that portion of the demand in excess of the contract demand shall be billed at twice the normal charges.</p> <p>The demand charges shall be recovered in full only if supply of power duly recorded by the consumer meter is maintained for at least 21 hours/day during the billing month. In any month if the supply of power is less than 21 hours/day, then the demand charge for that month shall be levied on pro-rata basis.</p>				

**4.0. 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).

**4.1. IAS – I (Connected load based)**

This is applicable for all purposes indicated above including private tube wells of load up to 100 HP.

Sl. No	Category of consumer	Fixed charge (Rs.)	Energy charge (Paissa/ Unit.)	
1	Unmetered	Rs.1350 / HP or part thereof / month	X	
2	Metered	Rs.100 / HP or part thereof / month	All units	689

**Note: There will be no un-metered connections for Hatcheries, poultries and fisheries. They will necessarily have to be metered connections.**

**4.2. IAS – II (Demand based)**

This is applicable to state tube wells/ state lift irrigation pumps / state irrigation pumps up to 74 kW 100 HP.

Sl. No	Category of consumer	Fixed charge (Rs./kVA)	Energy charge (Paissa/ kVAh)	
1	Metered	Rs.500 / kVA or part thereof / month	All units (kVAh)	732

The billing demand shall be the maximum demand recorded during the month or 75% of the contract demand whichever is higher.

If in any month the recorded maximum demand exceeds 105% of contract demand, that portion of the demand in excess of the contract demand shall be billed at twice the normal charges.

The demand charges shall be recovered in full only if supply of power duly recorded by the consumer meter is maintained for at least 21 hours/day during the billing month. In any month if the supply of power is less than 21 hours/day, then the demand charge for that month shall be levied on pro-rata basis.

**5.0. 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.

### 5.1. LTIS – I (Demand based)

All those consumers opting for LTIS-I category with contract demand up to 19 KW shall be required to pay at the rates indicated below:

Sl. No	Category of consumer	Demand charge (Rs./kVA)	Energy charges Paise / kVAh	
1	<b>Metered</b> Contract demand up to 19 KW	Rs. 288/kVA or part thereof per month.	All units (kVAh)	794
<p>The billing demand shall be the maximum demand recorded during the month or 75% of the contract demand whichever is higher.</p> <p>If in any month the recorded maximum demand exceeds 105% of contract demand, that portion of the demand in excess of the contract demand shall be billed at twice the normal charges.</p> <p>The demand charges shall be recovered in full only if supply of power duly recorded by the consumer meter is maintained for at least 21 hours/day during the billing month. In any month if the supply of power is less than 21 hours/day, then the demand charge for that month shall be levied on pro-rata basis.</p>				

### 5.2. 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./kVA)	Energy charges Paise / kVAh	
1	<b>Metered</b> Contract demand above 19 kW and up to 74KW	Rs.360/kVA or part thereof per month.	All units (kVAh)	794
<p>The billing demand shall be the maximum demand recorded during the month or 75% of the contract demand whichever is higher.</p> <p>If in any month the recorded maximum demand exceeds 105% of contract demand, that portion of the demand in excess of the contract demand shall be billed at twice the normal charges.</p> <p>The demand charges shall be recovered in full only if supply of power duly recorded by the consumer meter is maintained for at least 21 hours/day during the billing month. In any month if the supply of power is less than 21 hours/day, then the demand charge for that month shall be levied on pro-rata basis.</p>				

**6.0. PUBLIC WATER WORKS**

This is applicable to public water works, sewerage treatment plant and sewerage pumping stations functioning under state government and state government undertakings and local bodies.

**6.1. PWW (Demand Based)**

Sl. No	Category of consumer	Demand charge (Rs./kVA)	Energy charges Paise / kVAh	
1	Metered Contract demand up to 74 kW	Rs. 630/kVA or part thereof per month.	All units (kVAh)	987
<p>The billing demand shall be the maximum demand recorded during the month or 75% of the contract demand whichever is higher.</p> <p>If in any month the recorded maximum demand exceeds 105% of contract demand, that portion of the demand in excess of the contract demand shall be billed at twice the normal charges.</p> <p>The demand charges shall be recovered in full only if supply of power duly recorded by the consumer meter is maintained for at least 21 hours/day during the billing month. In any month if the supply of power is less than 21 hours/day, then the demand charge for that month shall be levied on pro-rata basis.</p>				

**6.2. Har Ghar Nal (Connected Load based)**

Sl. No	Category of consumer	Fixed charge (Rs.)	Energy charge (Paise/ Unit.)	
1	Metered	Rs.100 / HP or part thereof / month	All units	831
<p>The fixed charges shall be recovered in full only if supply of power duly recorded by the consumer meter is maintained for at least 21 hours/day during the billing month.</p> <p>In any month if the supply of power is less than 21 hours/day, then the fixed charge for that month shall be levied on pro-rata basis.</p>				

**7.0. STREET LIGHT SERVICES (SS).**

This is applicable for supply of electricity for street light system including signal system.

Also applicable for Traffic Lights, Mast lights/Blinkers etc.



**7.1. SS Metered Supply (Connected load based)**

Sl. No	Category of consumer	Fixed charge (Rs.)	Energy charge (Paissa/ Unit.)	
1	Metered	Rs. 100/kW or part thereof / month	All units	918

**7.2. SS Unmetered Supply**

Sl. No	Category of consumer	Fixed charge (Rs.)	Energy charge (Paissa/ Unit.)	
1	Unmetered	Rs.750 /100W or part thereof / month	X	

**8.0. LT Electric Vehicle Charging Stations.**

This Tariff category is applicable for Electric Vehicle Charging Station including battery swapping station for electric vehicle. In case the consumer uses the electricity supply for charging his own electric vehicle at his premises, the tariff applicable shall be as per the category of such premises. Electricity consumption for other facilities and purposes at Charging Station such as office, restaurant, rest rooms, convenience stores, public amenities, etc., shall be charged at tariff applicable to Non-Domestic Category.

Sl. No	Category of consumer	Energy charge (Paissa/ Unit.)
1	Metered	887

## **TERMS AND CONDITIONS OF LOW TENSION SUPPLY (LT) 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 75% of the contract demand whichever is higher.

If in any month the recorded maximum demand exceeds 105% of contract demand, that portion of the demand in excess of the contract demand shall be billed at twice the normal charges.

### **(2). Recovery of full Fixed / Demand Charge**

The demand charges shall be recovered in full only if supply of power duly recorded by the consumer meter is maintained for at least 21 hours/day during the billing month. In any month if the supply of power is less than 21 hours/day, then the demand charge for that month shall be levied on pro-rata basis

Supply of power hours may be reckoned as recorded at 33/11 KV substation, in case where installed consumer meters does not have features of recording hours of supply.

This shall not be applicable to Street light, Agriculture as well as un-metered tariff categories of consumers.

### **(3). 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.

### **(4). Rebate for prompt payment.**

The due date for making payment of energy bills or other charges shall be 15 days from the date of issue of the bill. Rebate of 1.5% on the billed amount for timely payment of 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.

**(5). Rebate for online payment**

For encouraging 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.

**(6). Rebate for pre-paid smart meter**

For encouraging the consumers to avail pre-paid smart meter connection, a rebate of 2% on the recharged amount in addition to rebate for online or digital payment of 1% shall be allowed. However, rebate for online or digital payment shall not be applicable if the consumer purchases recharge coupons.

**(7). Rebate for Rural Consumers for Consistent Payment**

For encouraging rural consumers to make continuous prompt payment of bills, a rebate of 1% of the total monthly bill of last quarter in the coming next month.

**For example:** If a postpaid Rural consumer makes regular payment of their monthly bill within the due date during the previous quarter, then, such consumer may be entitled to a rebate of 1% of total amount of monthly bills of last Quarter in its next monthly bill amount

**(8). Accounting for 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

**(9). 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.

**(10). 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.

**(11). 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.

**(a). Power factor surcharge**

(i) For each fall of 0.01 in power factor up to 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)

**(b). Power factor Rebate**

(i) For each increase of 0.01 in power factor above 0.90 up to 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)

**(12). Advance Payment**

If a consumer makes advance payment against his future bills, he shall be allowed for interest equivalent to the Bank Rate of RBI. 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/- (Rupees Two thousand).

**(13). Time of Day tariff (ToD) (Optional)**

Consumers under LTIS-I, LTIS-II and PWW shall have the option to take TOD tariff instead of the normal tariff given in the Schedule.

Under the Time of Day (ToD) Tariff, electricity consumption and demand in respect of LTIS-I, LTIS-II and PWW 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 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 (9:00 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	105% of normal rate of energy charges
(iii) off peak load period (11.00 p.m. to 9.00 a.m.)	Normal Rate	85% normal rate of energy charges

**PART – B: HIGH TENSION SUPPLY****Tariff Rates****9.0. HT - General****9.1. HTS (General) – I (11 kV)**

This is 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.

<b>Demand charge Rs./ kVA / Month of billing demand</b>	<b>Energy charges (Paise / kVAh)</b>
550	All units – 813
<p>The billing demand shall be the maximum demand recorded during the month or 75% of the contract demand whichever is higher.</p> <p>If in any month the recorded maximum demand exceeds 105% of contract demand, that portion of the demand in excess of the contract demand shall be billed at twice the normal charges.</p> <p>The demand charges shall be recovered in full only if supply of power duly recorded by the consumer meter is maintained for at least 21 hours/day during the billing month. In any month if the supply of power is less than 21 hours/day, then the demand charge for that month shall be levied on pro-rata basis.</p>	

**9.2. HTS (General) – II (33 kV)**

This is applicable for use in installations with a minimum contract demand of 500 kVA and maximum contract demand of 15,000 kVA.

Character of service: AC, 50 cycles, 3 phase at 33 kV

<b>Demand charge Rs./ kVA / Month of billing demand</b>	<b>Energy charges (Paise / kVAh)</b>
550	All units – 807
<p>The billing demand shall be the maximum demand recorded during the month or 75% of the contract demand whichever is higher.</p> <p>If in any month the recorded maximum demand exceeds 105% of contract demand, that portion of the demand in excess of the contract demand shall be billed at twice the normal charges.</p> <p>The demand charges shall be recovered in full only if supply of power duly recorded by the consumer meter is maintained for at least 21 hours/day during the billing month. In any month if the supply of power is less than 21 hours/day, then the demand charge for that month shall be levied on pro-rata basis.</p>	

**9.3. HTS (General) – 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.

<b>Demand charge Rs./ kVA / Month of billing demand</b>	<b>Energy charges (Paise / kVAh)</b>
550	All units – 800
<p>The billing demand shall be the maximum demand recorded during the month or 75% of the contract demand whichever is higher.</p> <p>If in any month the recorded maximum demand exceeds 105% of contract demand, that portion of the demand in excess of the contract demand shall be billed at twice the normal charges.</p> <p>The demand charges shall be recovered in full only if supply of power duly recorded by the consumer meter is maintained for at least 21 hours/day during the billing month. In any month if the supply of power is less than 21 hours/day, then the demand charge for that month shall be levied on pro-rata basis.</p>	

**9.4. HTS (General) -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

<b>Demand charge Rs./ kVA / Month of billing demand</b>	<b>Energy charges (Paise / kVAh)</b>
550	All units – 794
<p>The billing demand shall be the maximum demand recorded during the month or 75% of the contract demand whichever is higher.</p> <p>If in any month the recorded maximum demand exceeds 105% of contract demand, that portion of the demand in excess of the contract demand shall be billed at twice the normal charges.</p> <p>The demand charges shall be recovered in full only if supply of power duly recorded by the consumer meter is maintained for at least 21 hours/day during the billing month. In any month if the supply of power is less than 21 hours/day, then the demand charge for that month shall be levied on pro-rata basis.</p>	

**10.0. HT – Industrial Services****10.1. HTIS (Industrial) – I (11 kV)**

This is Applicable for supply of electricity for industries with installations of 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.

<b>Demand charge Rs./ kVA / Month of billing demand</b>	<b>Energy charges (Paise / kVAh)</b>
550	All units – 813
<p>The billing demand shall be the maximum demand recorded during the month or 75% of the contract demand whichever is higher.</p> <p>If in any month the recorded maximum demand exceeds 105% of contract demand, that portion of the demand in excess of the contract demand shall be billed at twice the normal charges.</p> <p>The demand charges shall be recovered in full only if supply of power duly recorded by the consumer meter is maintained for at least 21 hours/day during the billing month. In any month if the supply of power is less than 21 hours/day, then the demand charge for that month shall be levied on pro-rata basis.</p>	

**10.2. HTIS (Industrial)– II (33 kV)**

This is applicable for supply of electricity for industries with a minimum contract demand of 500 kVA and maximum contract demand of 15,000 kVA. Character of service: AC, 50 cycles, 3 phase at 33 kV

<b>Demand charge Rs./ kVA / Month of billing demand</b>	<b>Energy charges (Paise / kVAh)</b>
550	All units – 807
<p>The billing demand shall be the maximum demand recorded during the month or 75% of the contract demand whichever is higher.</p> <p>If in any month the recorded maximum demand exceeds 105% of contract demand, that portion of the demand in excess of the contract demand shall be billed at twice the normal charges.</p> <p>The demand charges shall be recovered in full only if supply of power duly recorded by the consumer meter is maintained for at least 21 hours/day during the billing month. In any month if the supply of power is less than 21 hours/day, then the demand charge for that month shall be levied on pro-rata basis.</p>	

**10.3. HTIS (Industrial) – III (132 kV)**

This is applicable for supply of electricity for industries with a minimum contract demand of 7.5MVA. Character of service: AC, 50 cycles, 3-phase at 132 kV.

<b>Demand charge Rs./ kVA / Month of billing demand</b>	<b>Energy charges (Paise / kVAh)</b>
550	All units – 800
<p>The billing demand shall be the maximum demand recorded during the month or 75% of the contract demand whichever is higher.</p> <p>If in any month the recorded maximum demand exceeds 105% of contract demand, that portion of the demand in excess of the contract demand shall be billed at twice the normal charges.</p> <p>The demand charges shall be recovered in full only if supply of power duly recorded by the consumer meter is maintained for at least 21 hours/day during the billing month. In any month if the supply of power is less than 21 hours/day, then the demand charge for that month shall be levied on pro-rata basis.</p>	



**10.4. HTIS (Industrial)-IV (220 kV)**

This is applicable for supply of electricity for industries with a minimum contract demand of 10MVA. Character of service: AC, 50 cycles, 3 phase at 220 kV

<b>Demand charge Rs./ kVA / Month of billing demand</b>	<b>Energy charges (Paise / kVAh)</b>
550	All units – 794
<p>The billing demand shall be the maximum demand recorded during the month or 75% of the contract demand whichever is higher.</p> <p>If in any month the recorded maximum demand exceeds 105% of contract demand, that portion of the demand in excess of the contract demand shall be billed at twice the normal charges.</p> <p>The demand charges shall be recovered in full only if supply of power duly recorded by the consumer meter is maintained for at least 21 hours/day during the billing month. In any month if the supply of power is less than 21 hours/day, then the demand charge for that month shall be levied on pro-rata basis.</p>	

**10.5. HTIS (Industrial) - Oxygen Manufacturers (11 kV)**

This Tariff category is applicable for supply of electricity for Oxygen Manufacturing industries with installations of with minimum contract demand of 50 kVA to 1500 kVA

<b>Demand charge Rs./ kVA / Month of billing demand</b>	<b>Energy charges (Paise / kVAh)</b>
1000	All units – 558
<p>The billing demand shall be the maximum demand recorded during the month or 75% of the contract demand whichever is higher.</p> <p>If in any month the recorded maximum demand exceeds 105% of contract demand, that portion of the demand in excess of the contract demand shall be billed at twice the normal charges.</p> <p>The demand charges shall be recovered in full only if supply of power duly recorded by the consumer meter is maintained for at least 21 hours/day during the billing month. In any month if the supply of power is less than 21 hours/day, then the demand charge for that month shall be levied on pro-rata basis.</p>	

**10.6. HTIS (Industrial) - Oxygen Manufacturers (33 kV)**

This Tariff category is applicable for supply of electricity for Oxygen Manufacturing industries with installations of with minimum contract demand of 500 kVA to 15000 kVA as defined in the Bihar Electricity Supply Code (6<sup>th</sup> amendment) 2020.

<b>Demand charge Rs./ kVA / Month of billing demand</b>	<b>Energy charges (Paise / kVAh)</b>
1000	All units – 552
<p>The billing demand shall be the maximum demand recorded during the month or 75% of the contract demand whichever is higher.</p> <p>If in any month the recorded maximum demand exceeds 105% of contract demand, that portion of the demand in excess of the contract demand shall be billed at twice the normal charges.</p> <p>The demand charges shall be recovered in full only if supply of power duly recorded by the consumer meter is maintained for at least 21 hours/day during the billing month. In any month if the supply of power is less than 21 hours/day, then the demand charge for that month shall be levied on pro-rata basis.</p>	

#### **10.7. 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.

<b>Demand charge Rs./ kVA / Month of billing demand</b>	<b>Energy charges (Paise / kVAh)</b>
1000	All units – 509
<p>The billing demand shall be the maximum demand recorded during the month or 75% of the contract demand whichever is higher.</p> <p>If in any month the recorded maximum demand exceeds 105% of contract demand, that portion of the demand in excess of the contract demand shall be billed at twice the normal charges.</p> <p>The demand charges shall be recovered in full only if supply of power duly recorded by the consumer meter is maintained for at least 21 hours/day during the billing month. In any month if the supply of power is less than 21 hours/day, then the demand charge for that month shall be levied on pro-rata basis.</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>	

**11.0. RTS (Railway Traction)**

Applicable to Railway Traction loads only

<b>Demand charge Rs. / kVA / Month of billing demand</b>	<b>Energy charges (Paise / kVAh)</b>
540	All units – 831
<p>1). 13 Ps/kVAh of rebate shall be provided for availing supply at voltages higher than 132 kV.</p> <p>2). 13 Ps/kVAh of surcharge shall be billed for availing supply at lower voltages than 132 kV.</p> <p>3). The billing demand shall be the maximum demand recorded during the month or 75% of the contract demand whichever is higher.</p>	

**12.0. HT Electric Vehicle Charging Stations**

This Tariff category is applicable for Electric Vehicle Charging Station including battery swapping station for electric vehicle. In case the consumer uses the electricity supply for charging his own electric vehicle at his premises, the tariff applicable shall be as per the category of such premises. Electricity consumption for other facilities and purposes at Charging Station such as office, restaurant, rest rooms, convenience stores, public amenities, etc., shall be charged at tariff applicable to Non-Domestic Category.

<b>Sl. No</b>	<b>Category of consumer</b>	<b>Energy charge (Paissa/ kVAh.)</b>
1	<b>Metered</b>	800

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## TERMS AND CONDITIONS OF HIGH TENSION SUPPLY (HT) 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 75% of the contract demand whichever is higher.

If in any month the recorded maximum demand exceeds 105% of contract demand, that portion of the demand in excess of the contract demand shall be billed at twice the normal charges.

**2). Recovery of full Fixed/Demand Charge**

The demand charges shall be recovered in full only if supply of power duly recorded by the consumer meter is maintained for at least 21 hours/day during the billing month. In any month if the supply of power is less than 21 hours/day, then the demand charge for that month shall be levied on pro-rata basis.

Supply of power may be reckoned as recorded at 33/11 kV substation, in case where installed consumers meters does not have features of recording hours of supply.

**3). 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.

**4). Rebate for prompt payment**

The due date for making payment of energy bills or other charges shall be 15 days from the date of issue of the bill. Rebate of 1.5% on the billed amount for timely payment of the bills for all the consumers served in HT category shall be allowed.

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.

**5). Rebate for online payment**

To motivate the consumers to make online payment of the bills through online web portal a rebate of 1% of the billed amount in addition to 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.

**6). Rebate for prepaid meter**

For encouraging the consumers to avail pre-paid smart meter connection, a rebate of 2% on the recharged amount in addition to rebate for online or digital payment of 1% shall be allowed. However, rebate for online or digital payment shall not be applicable if the consumer purchases recharge coupons.

**7). Load Factor Incentive**

To promote efficiency in the system and incentivize electricity consumption, Load factor incentive is as under:

**A. Load factor incentive for all HT Industrial category consumers (excluding HTSS and Oxygen Manufacturers)**

Load Factor Range	Incentive
30%-50%	10 paise per unit on energy charges for energy consumption over 30% and up to 50% load factor during the billing month
50%-70%	20 paise per unit on energy charges for energy consumption over 50% and up to 70% load factor during the billing month
Above 70%	30 paise per unit on energy charges for energy consumption over and above 70% and up to 100% load factor during billing month

**B. Load factor incentive for all HTSS Category Industries:**

Load Factor range	Incentive
Above 60%	30 paise per unit on energy charges for entire energy consumption during the billing month for load factor above 60%.

**C. Load Factor Incentive for Oxygen Manufacturing Industries**

Load Factor range	Incentive
65% to 75%	15 paise per unit on energy charges for entire energy consumption during the billing month for load factor above 65% and upto 75%.
Above 75%	25 paise per unit on energy charges for entire energy consumption during the billing month for load factor above 75%.

**8). 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

**9). 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) percent 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. The bill shall indicate the energy charges for the month, arrears of energy charges and DPS separately.

**10). Duties and Taxes**

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.

**11). 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.

**12). Advance Payment:**

If a consumer makes advance payment against his future bills, the consumer shall be allowed for interest equivalent to the Bank Rate of RBI. 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/- (Rupees Two thousand).

**13). Time of Day tariff (ToD) (for all HT consumers including HTSS and Oxygen Gas Manufacturers (33kV and 11kV))**

ToD tariff shall be mandatory for all HT consumers. Under the Time of Day (ToD) Tariff, electricity consumption and 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 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 (9:00 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	105% of normal rate of energy charges
(iii) off peak load period (11.00 p.m. to 9.00 a.m.)	Normal Rate	85% normal rate of energy charges

**TERMS AND CONDITIONS OF TEMPORARY SUPPLY (LT and HT)****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.

**2). Tariff**

Fixed charge and energy charge shall be chargeable at one and one-fourth ( $1\frac{1}{4}$ ) times the normal tariff as applicable to the corresponding appropriate tariff category.

**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). Miscellaneous and General Charges as per appropriate tariff schedule.
  - 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.

### TERMS AND CONDITIONS OF 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
Upton 3 consecutive months in a year	Appropriate tariff plus 30 percent
More than 3 consecutive months and up to 6 consecutive months in a year	Appropriate tariff plus 20 percent
More than 6 consecutive months and up to 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). Miscellaneous and General 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.

## PART – C: MISCELLANEOUS AND GENERAL CHARGES

### 1.0. Miscellaneous and General Charges

The Miscellaneous and General charges approved by the Commission are as below:

#### 1.1. 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

#### 1.2. 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.800.00 for HT connection.

#### 1.3. 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.

**1.4. Meter Testing Fees for Bi-directional Meters**

The meter testing fees for bi-directional meters at the following rates shall be charged from the consumers opting to provide their own meters

Sl. No.	Category / class	Rate
1	Single Phase bi-directional meter	Rs. 200.00
2	Three phase LT CT Operated Bidirectional meter	Rs. 800.00
3	Three Phase meter (L.T.) Bidirectional meter	Rs. 400.00
4	Three Phase meter with CT Bidirectional meter	Rs. 600.00
5	Tri-vector and special type Bidirectional meter	Rs. 2000.00
6	Three phase HT TOD Bidirectional	Rs. 1,100.00

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.

**1.5. Removing / Re-fixing / Changing of Meter / Meter Licensee at consumer's request:**

Sl. No.	Category / class	Rate	Cost of material, as required, will be borne by the consumer
(i)	Single Phase meter	Rs. 200.00	
(ii)	Three Phase meter	Rs. 400.00	
(iii)	Three Phase meter with CT	Rs. 500.00	
(iv)	Tri-vector and special type meter	Rs. 600.00	
(v)	High tension metering equipment	Rs. 1200.00	

**1.6. 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

Note: In case pre-paid smart meter reconnection, the reconnection charges would be applicable only if the consumer would have been permanently disconnected prior to the reconnection request.

**1.7. 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

**1.8. Duties and Taxes**

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.

**1.9. Security Deposit**

- i). All Consumers except BPL (Kutir Jyoti) and Central / State Government departments shall pay security deposit in accordance with provisions under Bihar Electricity supply Code, 2007 as amended from time.
- ii). In case of smart prepaid connection, security deposit is not applicable.

**1.10. 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, 2007 as amended time to time.

## 10. Directives

### 10.1 Introduction

The sub-clause (c) of Section 61 of Electricity Act 2003 stipulates that the Commission shall be guided by the factors which would encourage competition, efficiency, economical use of the resources, good performance and optimum investments. Therefore, under Section 23 of the Electricity Act, 2003, the Commission has been giving certain directions to the Discoms in the Tariff Orders for improvement of their operational and financial performance, reduction in distribution losses, improvement in service to the consumers etc. Commission has also been monitoring the compliance of the given directives.

The Commission had issued certain directives in the Discoms tariff order dated 25th March, 2022. The Discoms have submitted their status of compliance for 1st and 2nd quarters of FY 2022-23. On review of the compliance status of the directives submitted by Discoms, it is noted that many directives are either fully or partially complied and some are yet to be complied.

The Commission has decided to drop those directives which have been fully or partially complied and give fresh directives clubbing the earlier partially or un-complied directives to the Discoms in this tariff order and critically monitor the compliance status of each directive at the end of every quarter for the year FY 2023-24.

The Discoms are directed for submit compliance reports on quarterly basis starting from 1st quarter of FY 2023-24.

### 10.2 Directives

#### Directive 1: Billing Efficiency and Collection Efficiency

The Commission has noted that the Billing Efficiency and Collection Efficiency of Discoms as on 03.06.2022 are as shown below:

Discoms	Billing Efficiency%	Distribution Loss(%)	Collection Efficiency (%)
NBPDCCL	75.07	24.93	93.96
SBPDCL	75.34	24.66	85.92

\* The collection efficiency of SBPDCL is observed to be very less.

The target of achieving 85% Billing Efficiency (Distribution loss of 15%) and 100% collection efficiency (including arrears collection) is still far off for the Discoms. Unless targets are given and responsibility is fixed to the employees and officers, the stipulated targets cannot be achieved.

The Commission directs the Discoms to submit the following month-wise details in the quarterly report to be submitted.

Particulars	Unit	Value
Revenue Billed	Rs. Crore	
Revenue Collected	Rs. Crore	
Collection Efficiency	%	
Energy Input to the Discoms	MU	
Energy Sales	MU	
Billing Efficiency	%	

#### Directive 2: Cent percent Consumer Metering

The Commission has noted that providing of meters to IAS-I and Street Light (Unmetered) categories as on 30.06.2022 are as shown below:

Discoms	IAS-I			SS (Street Light)		
	No. of Connections	No. of Meters fixed	%	No. of Connections	No. of Meters fixed	%
NBPDC	141725	1370.97	96.73	2126	521	24.51
SBPDCL*	-	-	-	-	-	-

\* Details are not provided by SBPDCL

Providing of meters to IAS-I and Street Light (Unmetered) categories is not yet completed. The Commission desires to remove unmetered tariff categorization.

The Commission directs the Discoms to put forth more efforts to achieve 100% metering to IAS-I and Street light (unmetered) categories before 31.03.2024 positively. The monthly progress of metering of IAS-I and Street Light categories to be submitted in the quarterly report in the following format.

Category	Number of Connections existing	Number of Connections provided with meters	Balance connections to be provided with meters
IAS –I			
Street Light (Unmetered)			

**Directive 3: Energy Accounting / Audit**

The Status of providing of meters for 33 KV and 11 KV feeders on 30.06.2022 is as below:

Discoms	33 KV Feeder			11 KV Feeder		
	No. of Feeders	Meters Provided	Balance No. of feeders to be provided with meters	No. of Feeders	Meters Provided	Balance No. of feeders to be provided with meters
NBPDC	721	696	25	2276	2248	28
SBPDCL	973	883	90	2808	2614	194

Discoms have not yet installed 100% metering to all 33 KV and 11 KV feeders to conduct proper energy auditing. Metering of 33 KV and 11 KV feeders at EHT substations of BSPTCL shall be completed immediately and the meters should always be kept in perfect working condition so that the energy sent out to Discoms can be accurately assessed for energy audit.

The Commission directs the Discoms to install 100% metering to all 33 KV and 11 KV feeders and conduct energy accounting / audit at the end of every month. Monthly progress of providing feeder meters to be submitted in the quarterly report in the format given below:

**(A).33 KV Feeders Metering**

Number of 33 KV feeders existing	Number of feeders provided with Meters	Balance number of feeders to be provided with meters

**(B).11 KV Feeders Metering**

Number of 11 KV feeders existing	Number of feeders provided with Meters	Balance number of feeders to be provided with meters

**Directive 4: Reduction of AT&C Loss**

The Commission has noted the status of AT&C loss as on 30.06.2022 is as below:

Discoms	Distribution Loss (%)	AT&C Loss (%)
NBPDC	24.93	29.47
SBPDCL	24.66	35.26



Discoms are far away from achieving their target of both Distribution loss (15%) and AT&C loss (15%).

The Commission directs the Discoms to monitor reduction of distribution loss and AT&C loss, Division-wise and Circle-wise every month, duly fixing the targets for each Division and Circle.

Discoms are directed to submit the month-wise details of AT&C loss in the quarterly report in the following format.

Circle	Name of the Division	Energy Input (MU)	Units Sold (MU)	Units Loss		Revenue Billed (Rs. Cr)	Revenue Collected (Rs. Cr)	% of Revenue Collected	AT&C loss (%)
				(MU)	(%)				

#### **Directive 5: Interest on Security Deposit of Consumers**

The Commission has noted that inspite of repeated instructions, Discoms are still not passing on the accumulated interest on security deposit to LT consumers.

The Commission directs the Discoms to expedite the process and arrange payment of interest on the deposited Security Deposit amount for the LT consumers without further delay. The status of compliance to be reported in the quarterly reports.

#### **Directive 6: Asset Register**

The Commission has noted that the Discoms have not yet started preparation of Asset Register inspite of repeated directives. Discoms have submitted that they are endeavoring to implement ERP as soon as possible by floating fresh tenders to create and maintain component wise fixed asset register.

The Commission directs the Discoms to expedite the action to prepare the Fixed Asset Register without further delay and submit the status on preparation of Assets Register in the quarterly progress report to be submitted. The Discoms are once again warned that if the Fixed Asset Register is not prepared by end of FY 2023-24, the Commission shall be constrained to impose penalty or restricts on fixed assets capitalization dependent costs, such as Depreciation, Interest on Loan, Return on Equity, R&M expenses etc in the next Tariff Order onwards.

#### **Directive 7: Voltage-wise Cost of Supply**

The Commission has noted that the Discoms have not made any study to assess technical losses of all 33 KV feeders, all 11 KV feeders and some selected LT lines under

Distribution Transformers. Discoms are submitting voltage-wise cost of supply based on assumed technical losses.

The Commission directs the Discoms to submit voltage-wise cost of supply in next tariff petition based on technical losses of various voltage levels arrived at by conducting a detailed study as directed above.

The status of progress on the study shall be reported in the quarterly report.

#### **Directive 8: Regulatory Accounts**

The Commission has noted that the Discoms have not yet started preparation of Regulatory Accounts in accordance with BERC (Power Regulatory Accounting) Regulations, 2018.

The Commission directs the Discoms to commence preparation of Regulatory Accounts forth with and submit Audited Regulatory Accounts along with true-up petition for FY 2022-23. Discoms should know that once Regulatory Accounts are maintained, the process of Truing up of ARR for the relevant year becomes simpler.

#### **Directive 9: Outstanding Arrears**

The Commission has noted that there are huge amounts of outstanding arrears to be collected. The outstanding arrears include amounts to be recovered from the Govt. Departments, Semi-Govt., Departments and Local Bodies.

The Commission directs the Discoms to bestow personnel supervision to pursue with defaulting departments and realize the outstanding dues. A quarterly report on the progress to submitted in the following format.

(Rs. In Lakhs)

Outstanding arrears at the beginning of the quarter	Revenue Billed during the quarter	Revenue Collected during the quarter	Balance outstanding arrears at the end of quarter

#### **Directive 10: Consumers Grievance Redressal**

The Commission has noted the status resolving of consumer grievances as below:

Discom	No. of Complaints at beginning of Quarter	No. of Complaints received during the quarter	No. of complaints resolved during the quarter	No. of complaints pending at the end of quarter
NBPDCCL	6326	131431	130317	7440
SBPDCL	104	62695	62783	16

NBPDCCL shall review Division-wise number of complaints being received every month and to take appropriate action to reduce the complaints being received.

The Commission directs the Discoms to submit the report on consumers grievance redressal in the quarterly reports as given below:

- 1). Number of complaints pending at the beginning of the quarter
- 2). Number of complaints received during the quarter
- 3). Number of complaints resolved in the quarter
- 4). Number of complaints pending at the end of the quarter

#### **Directive 11: Release of New Connections**

The Commission has noted the status of releasing of new service connection as on 30.06.2022 as given below:

Discom	No. of Complaints Pending at the beginning of Quarter	No. of applications received during the quarter	No. of Connections released during the quarter	No. of applications pending at the end of quarter
NBPDCCL	450862	244207	111376	583693
SBPDCL	90516	140903	119796	111623

Pending applications are increasing at the end of the quarter. Discoms should put forth more efforts to speed up releasing of new service connections and to reduce pending applications.

The Commission directs, the Discoms to submit the report on release of new connections in the quarterly report as given below:

- Number of applications pending at the beginning of the quarter
- Number of application received during the quarter
- Number of connections released during the quarter
- Number of applications pending the end of quarter.

#### **Directive 12: Power Procurement**

The Commission directs the Discoms to submit the following details of power purchase from each source, month-wise in the quarterly report.

- 1). Source of Purchase
- 2). Available Capacity (MW)

- 3). Energy Purchased (MU)
- 4). Fixed Charges Paid (Rs. Crore)
- 5). Energy Rate (Rs / kWh)
- 6). Energy Charges Paid (Rs. Crore)
- 7). Any other Charges Paid (Rs. Crore)
  - i). Open Access Charges
  - ii). Other Charges
- 8). Total Cost Paid (Rs. Crore)

**Directive 13: Prior Approval of Capex**

The Commission had directed the Discoms to formulate plans of capex and capitalization such that the Consumer is not subjected to any excess burden owing to cost and time over run of capital project undertaken by the Discom.

Further, the Discoms were directed to strictly adhere to Regulation 6.6 of the BERC (procedure for filing Capital investment and capitalization plan), 2018 and obtain approval for capital investment. The Commission also directs Discoms to get post facto approval from the Commission under Regulation 6.6 of BERC (procedure for filing Capital investment and capitalization plan), 2018 for the capital investment undertaken without Commission's approval during previous years. Discoms shall ensure that the Petition is filed for post fact aforementioned approval with full details in accordance to the relevant Regulations of the Commission so that aforementioned approval is obtained prior to the Tariff proceeding in the subsequent year. Further, the impact of such capital investment may be included in the prospective years with due prudence check.

**Directive 14: Refund of Security Deposit to Smart Pre-paid Metered Consumers**

The Commission has noted that the Discoms have not yet refunded the security deposit with interest to those consumers who have opted for installation of smart pre-paid meters.

The Commission directs the Discoms to expedite refund of security deposit with interest to the pre-paid meter consumer and submit compliance in the quarterly report.

**Directive 15: Category wise Tariff Subsidy Provided:**

The Commission directs the Discoms to submit details of category-wise tariff subsidy

claimed and provided by Govt. of Bihar, month-wise in the quarterly report to be submitted.

**Directive 16: State Transmission Loss**

BSPTCL and Discoms are providing different figures of energy sent into Distribution System from State Transmission System as a result the State Transmission losses computed by BSPTCL and DISCOMs are in variance. Therefore, the DISCOMs are directed to record the meter readings in accordance with CEA (Installation and Operation of Meters) Regulations 2006 and its subsequent amendments jointly with BSPTCL officials at all interface points from where power is sent into Distribution system, so that at the end of every month the number of units sent out by BSPTCL to Discoms furnished by BSPTCL and DISCOMs are one and same. Without metered data commission may not consider the claim of DISCOMs for the energy received at DISCOMs periphery.

The DISCOMs are also directed that the metering arrangement at the interface points of BSPTCL and DISCOMs shall be made as per the CEA installation and operation of meters regulations 2006 and its amendments thereof.

**Directive 17: Surplus Power**

The Commission has observed that the Discoms have tied-up huge quantum of PPAs as per the demand projection under power for all scheme. It is reported that Bihar has an allocation of around 11930 MW of Power during FY 2023-24 from Central Generating Station, Independent Power Producers and Renewable Energy Power Stations from Intra / Inter-state generating stations. However, the demand has not increased as per the estimated projections as well as due to the movement of consumers to Open Access. As a result the Discoms are currently in power surplus situation. It is also reported by the Discoms that this surplus power situation has led to unnecessary fixed cost burden even though energy is not drawn as per allocation. The power purchase cost is unnecessarily increasing.

Discoms are directed to submit the following month-wise particulars along with their respective costs.

- Contracted capacity of Discom (MW & MU)
- Available capacity during the month (MW & MU)
- Scheduled capacity during the month (MW & MU)

- Open Access allowed during the month (MW & MU)
- Capacity stranded during the month (MW & MU)

The Commission directs the Discoms to take urgent action to review the power purchase allocation / arrangement from various sources and reduce allocation to of costly power wherever possible at the earliest. The action taken on this issue to be reported to the Commission in quarterly review.

**Directive 18: Sale of Surplus Power**

The Commission has noted that the sale of surplus power per unit is lesser than the average rate at which the power is being procured.

The Commission directs the Discoms to explore opportunity of bidding / trading of the surplus power in consonance with the parent company BSP(H)CL such that the revenue accrued from sale of surplus power are optimized and in line with Commission's previous directives.

**Directive 19: ToD Tariff for LT Industries**

At present ToD tariff is optional for LT Industries and Public Water Works. Discoms have reported that the existing meters for LTIS-II category of consumers are ToD compatible.

The Commission directs the Discoms to provide ToD compatible meters to all LT Industrial consumers on or before 31.03.2024, so that ToD tariff can be made mandatory to all LT industries with effect from 01.04.2024 to control the peak hours demand.

**10.3 General**

The Commission shall review and monitor progress of the compliance of the aforesaid directives on quarterly basis. Therefore, the Discoms are directed to send quarterly progress report on each directive at the beginning of July, 2023 (for quarter ending June 2023), October 2023 (for quarter ending September 2023) and January 2024 (for quarter ending December, 2023) and April 2024 (for quarter ending March, 2024).

**Sd/-**  
**(Shri S C Chaurasia)**  
**Member**

**Sd/-**  
**(Shri Shishir Sinha)**  
**Chairman**

**Annexure-I**

**Bihar Electricity Regulatory Commission (BERC)**

Vidyut Bhawan-II, J. L. Nehru Marg, Patna 800 021

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**Time: 11:30 A.M. Dated: 16<sup>th</sup> February 2023**

**Minutes of the meeting of the State Advisory Committee (SAC) held on 16.02.2023 in the Commission's office, at Patna to discuss the Tariff petitions of NBPDCL, SBPDCL, BSPTCL, SLDC and BGCL for the FY 2023-24.**

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1. The meeting of the State Advisory Committee (SAC) was held on 16.02.2023 under the Chairmanship of Shri Shishir Sinha, IAS (Retd.), Chairman, BERC. The list of participants of the meeting is enclosed with the minutes.
2. The Chairman has welcomed all the members and other participants of the meeting and impress upon the contribution of the members towards the holistic development of the electricity industry in the State. The Chairman underlined the objectives of the committee which include to advise the Commission on matter of policy relating to electricity supply, quality, continuity and extent of services provided by the licensees, protection of consumers interest, overall standards of performance by utilities, etc. The Commission has scheduled to conduct the SAC meeting with annual tariff determination exercise every year. The Chairman requested the members to participate in the meeting for meaningful discussion on the listed agenda items.
3. It was explained that although the agenda of this meeting as circulated earlier is related to the discussion on tariff petitions for FY 2023-24 submitted by BSPTCL, SLDC, BGCL, NBPDCL and SBPDCL, yet, the members may put up any policy matters for discussion which comes under the purview of the State Advisory Committee.
4. The Chairman briefed the SAC members that the Commission has conducted public hearings on 24.01.2023 at Arwal (SBPDCL) and shall conduct public hearing at Purnea (NBPDCL) on 21.02.2023 and at Patna for BSPTCL, BGCL and SLDC on 27.02.2023 and for Discoms on 28.02.2023 and 01.03.2023. Objections/suggestions on the petitions shall be considered before finalizing the tariff. It was further stated that the suggestions of SAC shall also be taken into consideration in finalizing of the tariff for FY 2023-24.

After introductory session, agenda items as circulated earlier were taken up for discussion.

**5. Presentation on Tariff Petitions by NBPDCCL and SBPDCL:**

The Discoms jointly made PowerPoint presentation on the tariff petitions for true up for 2021-22, APR of 2022-23 and ARR for FY 2023-24. The Discoms while highlighting the gist of petitions disclosed before the Commission and the Committee that although they have proposed overall gap in the ARR of FY 2023-24 including gap in the true up of FY 2021-22 which shall be bridged by tariff increase of around 53.62% in FY 2023-24.

The members of SAC suggested that the controllable expenditure should be considered as per norms and regulations.

Shri Sanjay Bhartiya, Bihar Industries Association (BIA) and Shri Amit Mukherji, Secretary General, Bihar Chamber of Commerce & Industries (BCCI) has suggested:-

- (i) SAC meeting should be conducted for every three months, so that every issue can be discussed clearly
- (ii) Subsidy to be provided for Industrial and Commercial consumers
- (iii) Improvement in Installation of pre-paid meters is not progressing as per schedule/ targets, may be expedited.
- (iv) Honest paying consumers should not be burden by the revision of Tariff
- (v) Burden of fixed charges should not be levied on consumers.
- (vi) Load factor rebate for Industrial consumers to be increased further than approved previously
- (vii) Demand charges shall be reduced proportionately for the duration/ period of interruptions in power supply.
- (viii) Continue with kWh tariff instead of kVAh tariff for industrial consumers as load factor is maintained above the threshold limit.
- (ix) Measure to be taken to increase in Industrial consumers
- (x) BGCL instead of a separate licensee, shall be merged with BSPTCL for cost benefits.

After the general discussion on the tariff proposals, following listed agenda items pertaining to Discoms tariff petitions were taken up.

**Capital Expenditure:**

The Chairman asked the Members to present their views on Capital Expenditure.



Shri Sanjay Bhartiya, Bihar Industries Association has asked for the number of pre-paid smart meters installed and complete details of capital expenditure.

**Revamped Distribution Sector Scheme (RDSS):**

The Discoms have informed the SAC about the RDSS launched by the GoI and presented the salient features and objectives of the scheme.

- RDSS scheme was launched by GoI
- GoI has issued the guidelines of the scheme
- DPRs shall be prepared by Discoms as per the guidelines and submitted to the Nodal Agency.
- Monitoring Committee constituted under Nodal Agency shall approve the schemes to achieve the objectives of the RDSS.

**Objectives of the RDSS Scheme**

- Improve quality and uninterrupted affordable 24x7 power supply to consumers through a financially sustainable and operationally efficient distribution sector.
- Creation / Strengthening of distribution network
- Reduce the AT&C losses to Pan-India levels of 12-15% by FY 2024-25
- Reduce ACS-ARR gap to zero by FY 2024-25
- Smart prepaid meters number of 1.48 crore to be installed across the State under capex and opex model.
- Distribution Infrastructure works
- Improving Reliability

Discoms have informed the SAC that the DPRs of schemes were submitted to the Commission giving details of phasing of capital expenditure year on year, source of funding, expected starting date of the schemes and completion date, etc. The benefits to the licensees (AT & C loss reduction, Cost of consumer servicing) and to the consumers shall be assessed upon implementation of the scheme.

SAC noted the submissions of the Discoms. However, the Committee has opined that the benefits of implementation of RDSS should have been assessed and factored in to the project. Further, the present status/progress of the project could have been presented to the committee.

**New Initiatives proposed in Tariff Structure:****a) Simplification of Tariff structure for DS-I, DS-II, NDS-I and NDS-II**

Discoms clearly stated that by simplification of Tariff structure, the consumers falling in higher tariff slabs will be charged a lesser tariff.

Discoms have also proposed rebate of 1% of the total monthly bill of last quarter for postpaid Rural consumers.

If contract demand exceeds 105% of its contract demand continuously for 3 months, then the contract demand of such consumers will increase suo-motu based on average of last three months.

**b) Revision in the definition of Billing demand**

Discoms have stated that Billing demand should be 85% of the contract demand or actual demand whichever is higher in order to precise on contracted load.

**c) Incentivizing HT Consumers with higher Voltage Rebate:**

Discoms have stated that additional rebate of 15 paise/kVAh of rebate on energy charges at each voltage level to be provided to HTS/ HTSS for availing supply at voltages higher than 11kV

**d) Incentivizing increased consumption through improving of load factor for HTIS consumers (excluding HTSS Category) and Oxygen Gas Manufacturers**

Rebate to HT Industrial category consumers (excluding HTSS Category) on incremental basis with load factor above 30% in FY 2023-24 for improvement in LF utilization to be continued

30% -50%- 10 paise/unit

50%-70% -20 paise/ unit

Above 70%-30 paise/ unit

Rebate to oxygen manufacturers for improvement in LF utilization on incremental basis

65%-70%-15 paise/unit

Above 75%-25 paise/unit

Withdrawal of load factor incentive for HTSS consumers as they are already benefitted in the form of lower tariff

**Initiatives taken/proposed to tackle incremental cost of financing of existing accumulated cash losses**

Discoms have stated that their cash loss has decrease by 27% in last 5 years.

DISOCMs are also taking following measure:

- a) Optimizing Power Procurement cost
- b) Installation of Smart Pre-paid meters
- c) DISCOMs to explore options to restructure project loans availed for capital expenditure by swapping and other methods resulting in net benefit to the consumers and the licensees.
- d) Discoms to raise funds through issue of bonds for capital projects
- e) Explore infrastructure Investment Trust (InVit) funding by issue of Bonds through private participation/placement

**AT&C loss Distribution loss Target**

Discoms have stated that they are continuously making efforts to reduce AT&C loss as below:

- a) Proposed installation of 100% Smart Prepaid metering
- b) Arrear Realization
- c) Unauthorized use & Theft of Electricity and realization of assessed amount
- d) Segregation of Agricultural feeders
- e) Feeder Bifurcation
- f) Strengthening of IT wing for data analytics and artificial intelligence
- g) Transfer policy is being aligned with Performance of the employee
- h) Periodical training program/capacity building, etc.

**Road map for reduction of Cross subsidy surcharge**

Discoms have stated that Domestic consumer base in the State and highly skewed and sales mix is the limiting factor for the DISCOMs to formularize a road map for reduction of Cross subsidy, However, the DISCOMs are striving for gradually reducing the same. Further DISOCMs are requesting appropriate guidance from the Commission and SAC members for the same.

**Implementation of Tariff based on Voltage wise Cost of Supply (VCoS)**

Discoms have stated that the existing cross -subsidization level is already very high for commercial and industrial consumers which would further worsen in case tariff base done in VCoS.

Further, under the RDSS, metering till DTs has been envisaged which would also help in future post improvement in cross subsidization

**Trading of Green Energy on Power Exchange:**

Shri Saurabh Srivastav, Director, IEX stated that green energy is being traded through exchange and suggested that Discoms to procure Renewable Energy (RE) through exchange for RPO compliance. It is also suggested to implement additional surcharge for Open Access (OA) consumers based upon verification & analysis of data submitted by the DISOCMs

**Presentation by BSPTCL (on tariff petitions of BSPTCL and SLDC) and BGCL:**

At first, BSPTCL has made Power Point presentation on the Tariff Petitions of BSPTCL and SLDC. Thereafter, BGCL also has made Power Point Presentation on their tariff petition.

Members have stated that TRANSCOs' are passing on the entire cost to Discoms irrespective of their utilization of all commissioned assets. Allocation of cost should be based on actual utilization (put to use) of assets instead of passing on the entire cost to Discoms.

BSPTCL has informed the committee that the transmission charges are levied and collected from the users in accordance with the regulations.

The Chairman thanked all the Members and officials present in the meeting for attending and giving valuable suggestions. The Chairman assured the members that the Commission would consider the suggestions while passing the tariff orders of the Transmission, SLDC and Distribution companies.

The meeting ended with vote of thanks to the Chair.

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**List of Participants in SAC Meeting**

<b>Sl. No</b>	<b>Name</b>	<b>Designation</b>	<b>Organization</b>
1	Shri. Shishir Sinha	Chairman	BERC
2	Shri. S.C.Chaurasia	Member	BERC
3	Shri. Raamish Tauseef	Secretary	BERC
4	Shri. Prabhakar	Managing Director	BSPTCL & NBPDCCL
5	Shri. Mahendra Kumar	Managing Director	SBPDCL& BSPGCL
6	Shri. Mahendra Kumar	Director	BREDA
7	Shri. S.K.P. Singh	Director (Projects)	NBPDCCL
8	Shri. Ashok Kumar	Director (Operations)	SBPDCL
9	Shri. H.R.Pandey	Director (Projects)	BSPTCL
10	Shri.R.N. Singh	Director	Jeevika
11	Shri. S.K. Singh	Chief General Manager	BGCL
12	Shri. Ravi.S. Prasad	ESE (STU)	BSPTCL
13	Shri. Rajesh	Sr. General Manager	BGCL
14	Shri. Perwez Alam	CE/STU	BSPTCL
15	Shri. Purushottam Prasad	CE/Comm	SBPDCL
16	Shri. Arun Kumar Choudhary	CE (System Operation)	SLDC/ BSPTCL
17	Shri. Kanik Ram	Director (Operations)	NBPDCCL
18	Shri. Uttam Kumar	Director (Operations)	BSPTCL
19	Shri. Deepak Kumar	CE (Comm)	NBPDCCL
20	Shri. Manoj Kumar	Engineer	BGCL
21	Shri. Sanjay Bhartiya	Chairman, Energy	Bihar Industries Association
22	Shri. S.K.Patwari	Convener, Industries council	BCCI
23	Shri. Saurabh Srivastav	Manager (Regulatory)	IEX
24	Shri. Vineeth Parashar	Consultant	DISCOMs
25	Shri. Arvind Tewari	Consultant	BSPTCL

**PUBLIC HEARING AT ARWAL on 24.01.2023****Case No. 17/2022****Appearance on behalf of SBPDCL**

1.	Shri. Arwind Kumar	G.M (Revenue)
2.	Shri. Purushottam prasad	CE (Commercial)
3.	Shri Irshad Akthar	EEE (Commercial)
4.	Shri. Ritu Abhishek	Chairman, CGRF, Aurangabad
5.	Shri. Somesh Kumar	Member, CGRF, Aurangabad
6.	Shri. Kumar Deo	Consultant

**Appearance on behalf of stakeholder/Public**

1.	Shri. Sushant Kumar	Shalii Mittal Flour Mills, Arwal
2.	Shri. Vimal Kumar	Consumer
3.	Shri. Arvind Kumar	Consumer
4.	Shri. Sashi Kiran Kumar	Consumer
5.	Shri. Biraj Kumar	Consumer
6.	Shri. Dherendra Kumar	Saroti Pax Rice Mill
7.	Shri. Rakesh Kumar	New Kishan Rice Mill
8.	Shri. Umesh Kumar	Consumer
9.	Shri. Kushum Devi	Consumer
10.	Shri. Durga Singh	Consumer
11.	Shri. Subodh Kumar	Consumer
12.	Shri. Vipul Kumar	Consumer
13.	Shri. Shailendra Kumar	Consumer
14.	Shri. Satya Prakash	Consumer
15.	Shri. Dileep Kumar	Consumer
16.	Shri. Yasir	Consumer
17.	Shri. Bramdev Singh	Consumer
18.	Shri. Dharendra Kumar	DPO, ICDS
19.	Shivam Agro Industries	Consumer
20.	Shri. Deepak	Chairman, Jila Parishad
21.	Shri. Jai Kumar	Consumer
22.	Shri. Krishna Paswan	Consumer
23.	Shri. Anil Kumar	Consumer
24.	Shri. Anant Kumar	Consumer
25.	Shri. Yogendra Singh	Consumer
26.	Shri. Rajeev Kumar	Consumer
27.	Shri. Ram Naresh Singh	Consumer
28.	Shri. Dharmaveer Singh	Consumer
29.	Shri. Rahul Ranjan Pathak	Consumer
30.	Shri. Rakesh Kumar	M/s New Kishan Rice Mills
31.	Shri. Subodh Kumar	Consumer
32.	Shri. Anil Paswan	Consumer
33.	Shri. Vinod Kumar Singh	Consumer
34.	Shri. Harishchandra Paswan	Consumer

**PUBLIC HEARING AT PURNEA on 21.02.2023****Case No. 16/2022****Appearance on behalf of NBPDC**

1.	Shri. Jayjit Ray	DGM (Revenue)
2.	Shri. Deepak Kumar	Chief Engineer (Commercial)
3.	Shri. Pranav Kumar	Chief Engineer, Project-II
4.	Shri. Siddhartha Vardhan	Revenue Officer
5.	Shri. Natwar Lal Gupta	EEE Purnea (East)
6.	Shri. Prashanth Kumar.Manjh	EEE Purnea (West)
7.	Shri. Diwakar Kumar	ESE/Purnea
8.	Shri. Rohit Kumar Kaushak	AEE
9.	Shri. Santosh Kr. Roy	Meter Agency
10.	Shri. Vineet Parashar	Sr. Consultant

**Appearance on behalf of stakeholder/Public**

1.	Shri. Nawin Kr. Singh	Kali Rollex Flour Mills Pvt. Ltd
2.	Shri. Shekgahr Kr. Choudhary	Pran Sukhi Cold Storage Pvt. Ltd
3.	Shri. Bharat Bamal	Jagadamba Agro Mills Pvt. Ltd
4.	Shri. Ashish Singh	Puja Agro Food Pvt. Ltd
5.	Shri. Rupesh Kumar Singh	Bihar Industries Association
6.	Shri. Raju Kumar Sah	Consumer
7.	Shri. Deepak Kr. Choudhary	Consumer
8.	Shri. Rajiv Kumar	Consumer
9.	Shri. Niranjan Kr. Gupta	Consumer
10.	Shri. Vikash Kr. Jha	Consumer
11.	Smt. Sudha Singhania	Consumer
12.	Shri. Rupesh Kumar	Consumer
13.	Smt.Saraswati Devi Lohia	Consumer
14.	Smt. Mamta Devi	Consumer
15.	Smt. Nanhaki Devi	Consumer
16.	Smt. Rupesh Kr. Dungarwal	Consumer

**PUBLIC HEARING AT PATNA on 28.01.2023 & 01.03.2023****Case No. 16/2022 (NBPDC)****Appearance on behalf of NBPDC**

1	Shri. Deepak Kumar	Chief Engineer (Comm)
2	Shri. Nand Kumar Jha	GM (F&A)
3	Shri. Jayant Kr. dubey	ESE (Energy Acct. Dept)
4	Shri. Sujeet Pal	SM (A/C & Budget)
5	Shri. Atul Singh	Consultant

**Appearance on behalf of stakeholder/Public**

1.	Shri. Purushotam Prasad	Chief Engineer (Comm), SBPDCL
2.	Shri. Abhay Kumar	AEE (Comm) SBPDCL
3.	Shri Arwind Kumar	G.M (Revenue), SBPDCL
4.	Shri. Arwind Kumar Kumar	Chairperson, CGRF, Patna
5.	Shri. Navin Kumar	Chairperson, CGRF, PESU
6.	Shri. Praful Lata	Chairperson, CGRF, PESU (WEST)
7.	Shri. Pradip Maji	GM (F&A), SBPDCL
8.	Shri. Gautam Pd. Budha	LS/SBPDCL
9.	Shri. Kumar Deo	Consultant
10.	Shri. Vishal Singh Chandel	Associate Consultant
11.	Shri. Rajendra Kumar	Social Worker, Bhojpur
12.	Shagun Srivastava	BSMA
13.	Shri. S.K.Patwari	Patwari Steels Pvt. Ltd
14.	Managing Director	Dadji Steels Pvt. Ltd
15.	Shri. Basudeo Prasad	Triveni Smelters Pvt Ltd
16.	Shri. Mohan Prasad	Vidyuth Upabokhta Morcha
17.	Shri. Ankit Gaurav	Lead-Legal, Bharat Airtel Limited
18.	Shri. Kumar Apurva	Head-legal, Bharati Airtel Limited
19.	Shri. Kamal Kishore	Citizen Forum ,Patna
20.	Shri. Udayan Choudhary	Consumer Association (BECA)
21.	Shri. Prashar Mohan Kumar	Consumer Association (BECA)
22.	Shri. Subash Kumari Patwari	Convenor, BCCI Director, Patwari Steels Pvt. Ltd
23.	Shri. Kumar Pushraj	OSD, BCCI
24.	Shri. Ratnakar Pandeeep	Reliance Jio Inoftech Ltd
25.	Shri. Shwet Ketu	State Legal Head, reliance Jio Infortech Ltd
26.	Shri. Sunil Kumar Singh	Eng. Cum Teacher, Citizen Forum
27.	Shri. Nand Kishore Singh	Social workers, Citizen Forum, Patna
28.	Shri. Pradeep Mehta	General, Jan Sangarsh Morcha
29.	Shri. Ajay Kumar Yadav	Akhilya Bhartiya Grakahak Panchayat
30.	Shri. Rajiv Ranjan	Akhilya Bhartiya Grakahak Panchayat
31.	President	Bihar Gas Mnaufacturer Association
32.	Md. Qaisar	Retd. Member, Patna University
33.	Shri. Pramod Kumar Sharma	Vaishali Vidyuth Upbhokta Sangh
34.	Shri. Nand Sharma	Individual, Patna
35.	Shri. Basudeo Prasad	BIA
36.	Shri. Devratna Prasad	Jan Sangarsh Morcha
37.	Shri. Abhay Kumar	Jan Sangarsh Morcha
38.	Shri. Doman Singh	Consumer



39.	Md. Molwi Hashan	Consumer
40.	Shri. Viswajeet Kumar	CPI, Patna
41.	Shri. Sunil Kumar Singh	Consumer
42.	Shri. Karji Prasad	AITCU
43.	Shri. Mohit Goyal	BSMA

**PUBLIC HEARING AT PATNA on 28.01.2023 & 01.03.2023****Case No. 17/2022 (SBPDCL)****Appearance on behalf of SBPDCL**

1	Shri. Purushotam Prasad	C.E (Comm)
2	Shri. Arwind Kumar	GM (Revenue)
3	Shri. Abhay Kumar	AEE, (Comm)
4	Shri. Irshad Akthar	EEE (Comm)
5	Shri. Pradip Maji	GM (F&A)
6	Shri. Gautam Pd. Budha	LS
7	Shri. Atul Singh	Consultant

**Appearance on behalf of stakeholder/Public**

1.	Shri. Deepak Kumar	Chief Engineer (Comm), NBPDC
2.	Shri. Nand Kumar Jha	GM (F&A) NBPDC
3.	Shri Jayant kumar Dubey	ESE (Energy Acct. dept), NBPDC
4.	Shri. Arwind Kumar Kumar	Chairperson, CGRF, Patna
5.	Shri. Navin Kumar	Chairperson, CGRF, PESU
6.	Shri. Praful Lata	Chairperson, CGRF, PESU (WEST)
7.	Shri. Pradip Maji	GM (F&A), SBPDCL
8.	Shri. Gautam Pd. Budha	LS/SBPDCL
9.	Shri. Kumar Deo	Consultant
10.	Shri. Vishal Singh Chandel	Associate Consultant
11.	Shri. Rajendra Kumar	Social Worker, Bhojpur
12.	Shagun Srivastava	BSMA
13.	Shri. S.K.Patwari	Patwari Steels Pvt. Ltd
14.	Managing Director	Dadji Steels Pvt. Ltd
15.	Shri. Basudeo Prasad	Triveni Smelters Pvt Ltd
16.	Shri. Mohan Prasad	Vidyuth Upabokhta Morcha
17.	Shri. Ankit Gaurav	Lead-Legal, Bharat Airtel Limited
18.	Shri. Kumar Apurva	Head-legal, Bharati Airtel Limited
19.	Shri. Kamal Kishore	Citizen Forum ,Patna
20.	Shri. Udayan Choudhary	Consumer Association (BECA)
21.	Shri. Prashar Mohan Kumar	Consumer Association (BECA)
22.	Shri. Subash Kumari Patwari	Convenor, BCCI
		Director, Patwari Steels Pvt. Ltd
23.	Shri. Kumar Pushraj	OSD, BCCI
24.	Shri. Ratnakar Pandey	Reliance Jio Inoftech Ltd
25.	Shri. Shwet Ketu	State Legal Head, reliance Jio Infortech Ltd
26.	Shri. Sunil Kumar Singh	Eng. Cum Teacher, Citizen Forum
27.	Shri. Nand Kishore Singh	Social workers, Citizen Forum, Patna
28.	Shri. Pradeep Mehta	General, Jan Sangarsh Morcha
29.	Shri. Ajay Kumar Yadav	Akhilya Bhartiya Grakahak Panchayat
30.	Shri. Rajiv Ranjan	Akhilya Bhartiya Grakahak Panchayat
31.	President	Bihar Gas Mnaufacturer Association
32.	Md. Qaisar	Retd. Member, Patna University
33.	Shri. Pramod Kumar Sharma	Vaishali Vidyuth Upbhokta Sangh
34.	Shri. Nand Sharma	Individual, Patna
35.	Shri. Basudeo Prasad	BIA
36.	Shri. Devratna Prasad	Jan Sangarsh Morcha

37.	Shri. Abhay Kumar	Jan Sangarsh Morcha
38.	Shri. Doman Singh	Consumer
39.	Md. Molwi Hashan	Consumer
40.	Shri. Viswajeet Kumar	CPI, Patna
41.	Shri. Sunil Kumar Singh	Consumer
42.	Shri. Karji Prasad	AITCU
43.	Shri. Mohit Goyal	BSMA

## Annexure-6.1

## NBPDC Revenue with approved Tariff computed for FY 2023-24

Category	Approved for FY 2023-24			Fixed charge	Unit	Energy Charge	Unit	P.F	M.D	Fixed charge (Crores)	Energy Charge (crore)	Total Revenue (crores)	ABR
	Consumers	Connected Load (KW)	Sales (MU)										
<b>Domestic</b>	<b>10915513</b>	<b>9320550.00</b>	<b>9690.91</b>							<b>629.86</b>	<b>7583.51</b>	<b>8213.37</b>	<b>8.48</b>
<b>Kutir Jyoti</b>	<b>4386824</b>	<b>1096706.00</b>	<b>2358.09</b>							<b>105.28</b>	<b>1785.10</b>	<b>1890.38</b>	<b>8.02</b>
Metered 0-50	43,86,824	1096706.00	2358.09	20.00	Connection/Month	7.57	kWh	1.00	1.00	105.28	1785.10	1890.38	8.02
<b>DS I Rural</b>	<b>5129603</b>	<b>5518375.00</b>	<b>4868.20</b>			0.00				<b>264.88</b>	<b>3799.18</b>	<b>4064.06</b>	<b>8.35</b>
Metered (Now Demand Based)	5129603	5518375.00	4868.20			0.00				264.88	3799.18	4064.06	8.35
First 50 Units	29,12,963	3133736.00	2764.52	40.00	kW/Month	7.57	kWh	1.00	1.00	150.42	2092.77	2243.19	8.11
51-100 Units	11,63,312	1251479.00	1104.03	40.00	kW/Month	8.11	kWh	1.00	1.00	60.07	895.54	955.61	8.66
101-200 Units	10,53,328	1133160.00	999.65	40.00	kW/Month	8.11	kWh	1.00	1.00	54.39	810.87	865.26	8.66
<b>DS II Demand Based</b>	<b>1399001</b>	<b>2705041.00</b>	<b>2464.23</b>			0.00				<b>259.68</b>	<b>1998.87</b>	<b>2258.56</b>	<b>9.17</b>
First 100 Units	9,05,428	1750691.00	1594.84	80.00	kW/Month	7.57	kWh	1.00	1.00	168.07	1207.31	1375.38	8.62
101-200 Units	2,64,407	511245.00	465.73	80.00	kW/Month	9.10	kWh	1.00	1.00	49.08	424.04	473.12	10.16
201-300 Units	2,29,166	443105.00	403.66	80.00	kW/Month	9.10	kWh	1.00	1.00	42.54	367.52	410.06	10.16
<b>DS III</b>	<b>85</b>	<b>428.00</b>	<b>0.39</b>	<b>80.00</b>	<b>kW/Month</b>	9.18	kWh	<b>1.00</b>	<b>1.00</b>	<b>0.01</b>	<b>0.36</b>	<b>0.37</b>	<b>9.54</b>
<b>Non_Domestic Service</b>	<b>814545</b>	<b>1830095.00</b>	<b>1887.62</b>			0.00				<b>482.93</b>	<b>1604.33</b>	<b>2087.26</b>	<b>11.06</b>
<b>NDS I - Metered Now Demand Based</b>	<b>432356</b>	<b>610555.00</b>	<b>539.96</b>			0.00				<b>43.96</b>	<b>437.90</b>	<b>481.86</b>	<b>8.92</b>
First 100 Units	2,57,536	363681.00	321.63	60.00	kW/Month	7.94	kWh	1.00	1.00	26.19	255.45	281.64	8.76

Category	Approved for FY 2023-24			Fixed charge	Unit	Energy Charge	Unit	P.F	M.D	Fixed charge (Crores)	Energy Charge (crore)	Total Revenue (crores)	ABR
	Consumers	Connected Load (KW)	Sales (MU)										
101-200 Units	55,753	78732.00	69.63	60.00	kW/Month	8.36	kWh	1.00	1.00	5.67	58.19	63.86	9.17
Above 200 Units	1,19,067	168142.00	148.70	60.00	kW/Month	8.36	kWh	1.00	1.00	12.11	124.26	136.37	9.17
<b>NDS II - Demand Based</b>	<b>382189</b>	<b>1219540.00</b>	<b>1347.66</b>			0.00				<b>438.97</b>	<b>1166.43</b>	<b>1605.40</b>	<b>11.91</b>
Contract Demand <0.5 kW	548	544.00	1.93	200.00	Connection/Month	7.88	kWh	1.00	1.00	0.13	1.52	1.65	8.56
Contract Demand >0.5 kW	3,81,641	1218996.00	1345.73			0.00				438.84	1164.91	1603.74	11.92
First 100 Units	1,34,832	430666.00	475.44	300.00	kW/Month	7.88	kWh	1.00	1.00	155.04	374.66	529.70	11.14
101-200 Units	29,882	95445.00	105.37	300.00	kW/Month	9.08	kWh	1.00	1.00	34.36	95.68	130.04	12.34
Above 200 Units	2,16,927	692885.00	764.92	300.00	kW/Month	9.08	kWh	1.00	1.00	249.44	694.56	944.00	12.34
<b>Street Light Services</b>	<b>2256</b>	<b>26369.00</b>	<b>74.44</b>			0.00				<b>190.17</b>	<b>10.29</b>	<b>200.46</b>	<b>26.93</b>
SS Metered	553	5310.00	11.21	100.00	kW/Month	9.18	kWh	1.00	1.00	0.64	10.29	10.93	9.75
SS Unmetered	1,703	21059.00	63.23	7500.00	100 kW/Month	0.00	kWh	1.00	1.00	189.53	0.00	189.53	29.97
<b>Irrigation &amp; Allied Services</b>	<b>165399</b>	<b>442438.00</b>	<b>508.59</b>			0.00				<b>149.22</b>	<b>360.98</b>	<b>510.20</b>	<b>10.03</b>
<b>IAS I</b>	<b>158638</b>	<b>362037.00</b>	<b>404.93</b>			0.00				<b>95.62</b>	<b>276.65</b>	<b>372.26</b>	<b>9.19</b>
Unmetered	4,815	18591.00	3.27	1350.00	HP/Month	0.00	kWh		1.00	40.37	0.00	40.37	123.46
Metered	1,53,823	343446.00	401.66	100.00	HP/Month	6.89	kWh		1.00	55.25	276.65	331.89	8.26
<b>IAS II</b>	<b>6761</b>	<b>80401.00</b>	<b>103.66</b>			0.00				<b>53.60</b>	<b>84.33</b>	<b>137.93</b>	<b>13.31</b>
Metered (Now Demand Based)	6,761	80401.00	103.66	500.00	kVA/Month	7.32	kVAh	0.90	1.00	53.60	84.33	137.93	13.31

Category	Approved for FY 2023-24			Fixed charge	Unit	Energy Charge	Unit	P.F	M.D	Fixed charge (Crores)	Energy Charge (crore)	Total Revenue (crores)	ABR
	Consumers	Connected Load (KW)	Sales (MU)										
<b>Public Service Connections</b>	<b>61193</b>	<b>173131.00</b>	<b>410.86</b>			0.00				<b>49.35</b>	<b>356.14</b>	<b>405.49</b>	<b>9.87</b>
Public Water Works	2,048	31654.00	54.86	630.00	kVA/Month	9.87	kVAh	0.90	1.00	26.59	60.14	86.73	15.81
Har Ghar Nal	59,145	141477.00	356.00	100.00	HP/Month	8.31	kWh		1.00	22.76	296.00	318.76	8.95
<b>Low Tension Industrial Services</b>	<b>80802</b>	<b>810406.00</b>	<b>632.74</b>			0.00				<b>320.86</b>	<b>558.39</b>	<b>879.24</b>	<b>13.90</b>
LTIS I (0-19 kW)	79,120	709767.00	511.66	288.00	kVA/Month	7.94	kVAh	0.90	1.00	272.55	451.53	724.08	14.15
LTIS II (>19 kW - 74 kW)	1,682	100639.00	121.08	360.00	kVA/Month	7.94	kVAh	0.90	1.00	48.31	106.85	155.16	12.81
<b>LT Electric Vehicle Charging Station</b>	<b>3</b>	<b>173.00</b>	<b>0.09</b>			8.87	<b>kVAh</b>	<b>0.90</b>	<b>1.00</b>	<b>0.00</b>	<b>0.09</b>	<b>0.09</b>	<b>9.86</b>
<b>High Tension (General)</b>	<b>1484</b>	<b>463922.00</b>	<b>1006.65</b>			0.00				<b>346.43</b>	<b>894.40</b>	<b>1240.84</b>	<b>12.33</b>
HTS I - 11 kV	1,410	305012.00	646.64	550.00	kVA/Month	8.13	kVAh	0.90	1.00	223.68	584.03	807.70	12.49
HTS II - 33 kV	68	102992.00	265.37	550.00	kVA/Month	8.07	kVAh	0.90	1.00	75.53	237.85	313.37	11.81
HTS III -132 kV	3	45543.00	58.72	550.00	kVA/Month	8.00	kVAh	0.90	1.00	33.40	52.22	85.62	14.58
HTS IV - 220 kV	0	0.00	0.00	550.00	kVA/Month	0.00	kVAh	0.90	1.00	0.00	0.00	0.00	
HTSS	3	10375.00	35.92	1000.00	kVA/Month	5.09	kVAh	0.90	1.00	13.83	20.31	34.14	9.50
<b>HT Industrial Services</b>						0.00							
	<b>0</b>	<b>0.00</b>	<b>0.00</b>		<b>0.00</b>	#DIV/0!	<b>0.00</b>	<b>6.30</b>	<b>7.00</b>	<b>0.00</b>		<b>0.00</b>	<b>0.00</b>
HTS I - 11 kV				550.00	kVA/Month	8.13	kVAh	0.90	1.00	0.00		0.00	
HTS II - 33 kV				550.00	kVA/Month	8.07	kVAh	0.90	1.00	0.00		0.00	

Category	Approved for FY 2023-24			Fixed charge	Unit	Energy Charge	Unit	P.F	M.D	Fixed charge (Crores)	Energy Charge (crore)	Total Revenue (crores)	ABR
	Consumers	Connected Load (KW)	Sales (MU)										
HTS III -132 kV				550.00	kVA/Month	8.00	kVAh	0.90	1.00	0.00		0.00	
HTS IV - 220 kV				550.00	kVA/Month	0.00	kVAh	0.90	1.00	0.00		0.00	
HTSS				1000.00	kVA/Month	5.09	kVAh	0.90	1.00	0.00		0.00	
HTIS (Oxygen Manufacturers) 11 kV				1000.00	kVA/Month	5.58	kVAh	0.90	1.00	0.00	0.00	0.00	
HTIS (Oxygen Manufacturers) 33 kV				1000.00	kVA/Month	5.52	kVAh	0.90	1.00	0.00	0.00	0.00	
<b>Railway Traction Services</b>	5	42207.00	81.20	540.00	kVA/Month	8.31	kVAh	0.90	1.00	30.39	75.02	105.41	12.98
<b>HT Electric Vehicle Charging Stations.</b>	3	636.00	0.38	0.00	0.00	8.00	kVAh	0.90	1.00	0.00	0.34	0.34	8.89
<b>Nepal</b>	1	0.00	458.95			7.69	kWh			0.00	352.93	352.93	7.69
<b>Total</b>	<b>12041203</b>	<b>13109927</b>	<b>14293</b>							<b>2199.21</b>	<b>11796.42</b>	<b>13995.63</b>	<b>9.79</b>

## Annexure-6.2

## SBPDCL Revenue with approved Tariff computed for FY 2023-24

Category	Approved for FY 2023-24			Tariff				P.F	MD	Fixed Charges (Crores)	Energy Charges (Crores)	Total Revenue (Crores)	ABR
	Consumers	Connected Load (KW)	Sales (MU)	Fixed charge	Unit	Energy Charges	Unit						
<b>Domestic</b>	<b>6000429</b>	<b>8534863.00</b>	<b>9474.32</b>							<b>654.04</b>	<b>7595.59</b>	<b>8249.63</b>	<b>8.71</b>
<b>Kutir Jyoti</b>	<b>1585324</b>	<b>396331.00</b>	<b>945.35</b>							<b>38.05</b>	<b>715.64</b>	<b>753.69</b>	<b>7.97</b>
Metered 0-50	15,85,324	396331.00	945.35	20.00	Connection/Month	7.57	kWh	1.00	1.00	38.05	715.64	753.69	7.97
<b>DS I Rural</b>	<b>2897668</b>	<b>3443829.00</b>	<b>5305.86</b>			0.00				<b>165.30</b>	<b>4219.98</b>	<b>4385.28</b>	<b>8.26</b>
Metered (Now Demand Based)	2897668	3443829.00	5305.86			0.00				165.30	4219.98	4385.28	8.26
First 50 Units	8,46,260	1005765.00	1549.57	40.00	kW/Month	7.57	kWh	1.00	1.00	48.28	1173.04	1221.32	7.88
51-100 Units	11,79,515	1401834.00	2159.78	40.00	kW/Month	8.11	kWh	1.00	1.00	67.29	1751.92	1819.21	8.42
101-200 Units	8,71,893	1036230.00	1596.51	40.00	kW/Month	8.11	kWh	1.00	1.00	49.74	1295.02	1344.76	8.42
<b>DS II Demand Based</b>	<b>1517239</b>	<b>4694217.00</b>	<b>3222.74</b>			0.00				<b>450.64</b>	<b>2659.63</b>	<b>3110.28</b>	<b>9.65</b>
First 100 Units	8,42,402	2606324.00	1789.33	80.00	kW/Month	7.57	kWh	1.00	1.00	250.21	1354.54	1604.75	8.97
101-200 Units	5,19,264	1606562.00	1102.96	80.00	kW/Month	9.10	kWh	1.00	1.00	154.23	1004.22	1158.45	10.50
201-300 Units	1,55,573	481331.00	330.45	80.00	kW/Month	9.10	kWh	1.00	1.00	46.21	300.87	347.08	10.50
<b>DS III</b>	<b>198</b>	<b>486.00</b>	<b>0.37</b>	<b>80.00</b>	<b>kW/Month</b>	9.18	kWh	1.00	1.00	<b>0.05</b>	0.34	<b>0.39</b>	<b>0.05</b>
<b>Non_Domestic Service</b>	<b>619450</b>	<b>1915086.00</b>	<b>1833.40</b>			0.00				<b>565.39</b>	<b>1549.88</b>	<b>2115.28</b>	<b>11.54</b>
<b>NDS I - Metered Now Demand Based</b>	<b>243128</b>	<b>430390.00</b>	<b>581.43</b>			0.00				<b>30.99</b>	<b>477.22</b>	<b>508.20</b>	<b>8.74</b>
First 100 Units	87,499	154893.00	209.25	60.00	kW/Month	7.94	kWh	1.00	1.00	11.15	166.19	177.35	8.48



Category	Approved for FY 2023-24			Tariff				P.F	MD	Fixed Charges (Crores)	Energy Charges (Crores)	Total Revenue (Crores)	ABR
	Consumers	Connected Load (KW)	Sales (MU)	Fixed charge	Unit	Energy Charges	Unit						
101-200 Units	85,890	152044.00	205.40	60.00	kW/Month	8.36	kWh	1.00	1.00	10.95	171.65	182.59	8.89
Above 200 Units	69,739	123453.00	166.78	60.00	kW/Month	8.36	kWh	1.00	1.00	8.89	139.37	148.26	8.89
<b>NDS II - Demand Based</b>	<b>376322</b>	<b>1484696.00</b>	<b>1251.97</b>			0.00				<b>534.41</b>	<b>1072.67</b>	<b>1607.07</b>	<b>12.84</b>
Contract Demand <0.5 kW	8,994	6229.00	6.17	200.00	Connection/Month	7.88	kWh	1.00	1.00	2.16	4.86	7.02	11.38
Contract Demand >0.5 kW	3,67,328	1478467.00	1245.80			0.00				532.25	1067.81	1600.05	12.84
First 100 Units	1,55,818	627159.00	528.46	300.00	kW/Month	7.88	kWh	1.00	1.00	225.78	416.44	642.22	12.15
101-200 Units	44,464	178962.00	150.80	300.00	kW/Month	9.08	kWh	1.00	1.00	64.43	136.93	201.36	13.35
Above 200 Units	1,67,046	672346.00	566.54	300.00	kW/Month	9.08	kWh	1.00	1.00	242.04	514.43	756.48	13.35
<b>Street Light Services</b>	<b>2417</b>	<b>47287.00</b>	<b>161.35</b>			0.00				<b>212.26</b>	<b>53.02</b>	<b>265.28</b>	<b>16.44</b>
SS Metered	1,087	24023.00	57.74	100.00	kW/Month	9.18	kWh	1.00	1.00	2.88	53.02	55.91	9.68
SS Unmetered	1,330	23264.00	103.61	7500.00	100 kW/Month	0.00	kWh	1.00	1.00	209.38	0.00	209.38	20.21
<b>Irrigation &amp; Allied Services</b>	<b>301330</b>	<b>737416.00</b>	<b>1532.63</b>			0.00				<b>827.73</b>	<b>760.92</b>	<b>1588.65</b>	<b>10.37</b>
<b>IAS I</b>	<b>296555</b>	<b>679497.00</b>	<b>1392.29</b>			0.00				<b>789.12</b>	<b>646.75</b>	<b>1435.86</b>	<b>10.31</b>
Unmetered	1,37,821	338094.00	453.28	1350.00	HP/Month	0.00	kWh		1.00	734.20	0.00	734.20	16.20
Metered	1,58,734	341403.00	939.01	100.00	HP/Month	6.89	kWh		1.00	54.92	646.75	701.67	7.47
<b>IAS II</b>	<b>4775</b>	<b>57919.00</b>	<b>140.34</b>			0.00				<b>38.61</b>	<b>114.17</b>	<b>152.79</b>	<b>10.89</b>

Category	Approved for FY 2023-24			Tariff				P.F	MD	Fixed Charges (Crores)	Energy Charges (Crores)	Total Revenue (Crores)	ABR
	Consumers	Connected Load (KW)	Sales (MU)	Fixed charge	Unit	Energy Charges	Unit						
Metered (Now Demand Based)	4,775	57919.00	140.34	500.00	kVA/Month	7.32	kVAh	0.90	1.00	38.61	114.17	152.79	10.89
<b>Public Service Connections</b>	<b>43898</b>	<b>197666.00</b>	<b>523.82</b>			0.00				<b>68.69</b>	<b>476.03</b>	<b>544.72</b>	<b>10.40</b>
Public Water Works	3,365	54325.00	152.92	630.00	kVA/Month	9.87	kVAh	0.90	1.00	45.63	167.63	213.27	13.95
Har Ghar Nal	40,533	143341.00	370.90	100.00	HP/Month	8.31	kWh		1.00	23.06	308.39	331.45	8.94
<b>Low Tension Industrial Services</b>	<b>73042</b>	<b>941260.00</b>	<b>477.36</b>			0.00				<b>389.44</b>	<b>421.26</b>	<b>810.71</b>	<b>16.98</b>
LTIS I (0-19 kW)	68,282	649593.00	281.61	288.00	kVA/Month	7.94	kVAh	0.90	1.00	249.44	248.52	497.96	17.68
LTIS II (>19 kW - 74 kW)	4,760	291667.00	195.75	360.00	kVA/Month	7.94	kVAh	0.90	1.00	140.00	172.75	312.75	15.98
<b>LT Electric Vehicle Charging Station</b>	<b>5</b>	<b>259.00</b>	<b>0.12</b>			8.87	<b>kVAh</b>	<b>0.90</b>	<b>1.00</b>	0.00	0.12	<b>0.12</b>	<b>9.86</b>
<b>High Tension (General)</b>	<b>2238</b>	<b>1063087.00</b>	<b>2529.81</b>			0.00				<b>866.47</b>	<b>2010.22</b>	<b>2876.68</b>	<b>11.37</b>
HTS I - 11 kV	2,035	497152.00	813.04	550.00	kVA/Month	8.13	kVAh	0.90	1.00	364.58	734.32	1098.89	13.52
HTS II - 33 kV	185	347434.00	655.18	550.00	kVA/Month	8.07	kVAh	0.90	1.00	254.78	587.22	842.01	12.85
HTS III -132 kV	5	73721.00	273.16	550.00	kVA/Month	8.00	kVAh	0.90	1.00	54.06	242.94	297.01	10.87
HTS IV - 220 kV				550.00	kVA/Month	7.94	kVAh	0.90	1.00	0.00	0.00	0.00	
HTSS	13	144780.00	788.43	1000.00	kVA/Month	5.09	kVAh	0.90	1.00	193.04	445.73	638.77	8.10

Category	Approved for FY 2023-24			Tariff				P.F	MD	Fixed Charges (Crores)	Energy Charges (Crores)	Total Revenue (Crores)	ABR
	Consumers	Connected Load (KW)	Sales (MU)	Fixed charge	Unit	Energy Charges	Unit						
HT Industrial Services						0.00							
	34.00	7017.00	5.23					6.30	7.00	9.36	3.25	12.60	24.09
HTS I - 11 kV				550.00	kVA/Month	8.13	kVAh	0.90	1.00	0.00			
HTS II - 33 kV				550.00	kVA/Month	8.07	kVAh	0.90	1.00	0.00			
HTS III -132 kV				550.00	kVA/Month	8.00	kVAh	0.90	1.00	0.00			
HTS IV - 220 kV				550.00	kVA/Month	7.94	kVAh	0.90	1.00	0.00			
HTSS				1000.00	kVA/Month	0.00	kVAh	0.90	1.00	0.00			
HTIS (Oxygen Manufacturers) 11 kV	34	7017.00	5.23	1000.00	kVA/Month	5.58	kVAh	0.90	1.00	9.36	3.25	12.60	24.09
HTIS (Oxygen Manufacturers) 33 kV				1000.00	kVA/Month	5.52	kVAh	0.90	1.00	0.00	0.00	0.00	
Railway Traction Services	4	54833.00	115.72	540.00	kVA/Month	8.31	kVAh	0.90	1.00	39.48	106.91	146.39	12.65
HT Electric Vehicle Charging Stations.	3	634.00	0.34	0.00	0.00	8.00	kVAh	0.90	1.00	0.00	0.30	0.30	8.89
Total	7042850.00	13499408.00	16654.10							3632.86	12977.50	16610.36	9.97