

JHARKHAND BIJLI VITRAN NIGAM LIMITED (JBVNL)

**Petition for Revised
Audited True-up of FY
2021-22, APR for FY 2022-
23, and ARR & Tariff for FY
2023-24 of the Control
Period from FY 2021-22 to
FY 2025-26**



**JHARKHAND BIJLI VITRAN NIGAM
LIMITED**



Before the Hon'ble Jharkhand State Electricity Regulatory Commission, Ranchi

Filing Number: _____

Case Number: _____

IN THE MATTER OF: Filing of Petition for approval of True-up for FY 2021-22, Annual Performance Review for FY 2022-23 and Approval of Tariff and Aggregate Revenue Requirement for FY 2023-24 of the control Period (FY 2021-22 to FY 2025-26) under Section 45, 46, 61, 62, 64 and 86 of the Electricity Act, 2003 and as per the Regulations of Jharkhand State Electricity Regulatory Commission (JSERC) Terms and Conditions for Determination of Distribution Tariff) Regulations, 2020.

AND IN THE MATTER OF: Jharkhand Bijli Vitran Nigam Limited (hereinafter referred to as "JBVNL", or "erstwhile JSEB -Distribution function" which shall mean for the purpose of this Petition the "Licensee" or "Petitioner") having its registered office at HEC, Dhurwa, Ranchi

The Petitioner respectfully submits hereunder:

1. The erstwhile Jharkhand State Electricity Board ("Board" or "JSEB") was a statutory body constituted under Section 5 of the Electricity (Supply) Act, 1948 and was engaged in electricity generation, transmission, distribution, and related activities in the State of Jharkhand.
2. Jharkhand Urja Vikas Nigam Ltd. (herein after to be referred to as "JUVNL" or "the Holding company") has been incorporated under Indian Companies Act, 1956 pursuant to decision of Government of Jharkhand to reorganize erstwhile Jharkhand State Electricity Board (herein after referred to as "JSEB"). The Petitioner submits that the said reorganization of the JSEB has been done by Government of Jharkhand pursuant to "Part XIII – Reorganization of Board" read with section 131 of the Electricity Act 2003. The Holding company has been incorporated on 16th September 2013 with the Registrar of Companies, Jharkhand, Ranchi and has obtained Certificate of Commencement of Business on 12th November 2013.
3. Jharkhand Bijli Vitran Nigam Ltd. (herein after to be referred to as "JBVNL" or "the Petitioner" or erstwhile "JSEB-Distribution function" has been

incorporated on 23rd October 2013 with the Registrar of Companies, Jharkhand, Ranchi and has obtained Certificate of Commencement of Business on 28th November 2013. The Petitioner is a Company constituted under the provisions of Government of Jharkhand, General Resolution as notified by transfer scheme vide notification no. 8, dated 6th January 2014. The Distribution Company - Jharkhand Bijli Vitran Nigam Ltd. is duly registered with the Registrar of Companies, Ranchi on 23rd October 2013

4. Pursuant to the enactment of the Electricity Act, 2003, every utility is required to submit its Aggregate Revenue Requirement (ARR) for control period and Tariff Petitions as per procedures outlined in section 61, 62 and 64, of Electricity Act 2003, and the governing regulations thereof.
5. JBVNL has earlier submitted the true up for FY 21-22 based on provisional accounts, APR for FY 22-23 and ARR for FY 23-24 on November 30,2022. Tariff petition was not filed earlier, and we requested additional time for filing up tariff petition with audited accounts For FY 21-22.
6. The present Petition is being filed by JBVNL before the Hon'ble Commission for approval of audited True-up for FY 2021-22, Annual Performance Review (APR) for FY 2022-23 and Approval of Aggregate Revenue Requirement & Tariff for FY 2023-24 as per the Electricity Act, 2003 and as per the provisions of the Jharkhand State Electricity Regulatory Commission (JSERC) (Terms and Conditions for Determination of Distribution Tariff) Regulations, 2020.

Jharkhand Bijli Vitran Nigam Limited
Petitioner

Place: Ranchi

Dated:

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List of abbreviations

Abbreviation	Full Form
A&G	Administration & General
ABCIL	Aditya Birla Chemicals Indian Limited
Act	The Electricity Act, 2003
ADP	Annual Development Plan
APR	Annual Performance Review
ARR	Aggregate Revenue Requirement
APNRL	Adhunik Power & Natural Resources Limited
AT&C	Aggregate Technical & Commercial
Capex	Capital Expenditure
Commission	Jharkhand State Electricity Regulatory Commission
Cr.	Crore
CS	Commercial Services
CWIP	Capital Work-In-Progress
DDUGJY	Deen Dayal Upadhayay Gram Jyoti Yojana
DPS	Delayed Payment Surcharge
DVC	Damodar Valley Corporation
EA 2003	The Electricity Act, 2003
EHT	Extra High Tension
FY	Financial Year
GFA	Gross Fixed Assets
GoJ	Government of Jharkhand
HT	High Tension
IEX	Indian Energy Exchange Limited
IPDS	Integrated Power Development Scheme
IPP	Independent Power Producer
ISTS	Inter-State Transmission System
JSBAY	Jharkhand Sampurna Bijli Achchhaadan Yojana
JSEB	Jharkhand State Electricity Board
KVA	Kilo Volt Ampere
kWh	Kilo Watt Hour
LT	Low Tension
MOD	Merit Order Dispatch
MU	Million Units
MW	Mega Watt
MYT	Multi-Year Tariff
NHPC	National Hydro Power Corporation
NTPC	National Thermal Power Corporation
NTI	Non-Tariff Income
NVVNL	NTPC Vidyut Vyapar Nigam Limited
O&M	Operation and Maintenance

Abbreviation	Full Form
PGCIL	Power Grid Corporation of India Ltd.
PLR	Prime Lending Rate
POSOCO	Power System Operation Corporation Limited
PoC	Point of Connection
PPA	Power Purchase Agreement
PTC	Power Trading Corporation
R&M	Repair and Maintenance
R-APDRP	Restructured Accelerated Power Development and Reforms Programme
RE	Renewable Energy
REC	Renewable Energy Certificate
RGVY	Rajiv Gandhi Grameen Vidyutikaran Yojana
RoE	Return on Equity
SBI	State Bank of India
SECI	Solar Energy Corporation of India
SERC	State Electricity Regulatory Commission
SHPS	Sikidri Hydro Power Station
T&D	Transmission & Distribution
TVNL	Tenughat Vidyut Nigam Limited
UDAY	Ujjwal Discom Assurance Yojana
UI	Unscheduled Interchange
UOM	Unit Of Measurement

1. Background and Procedural History

1.1. Background

- 1.1.1. Jharkhand Bijli Vitran Nigam Ltd. (herein after to be referred to as “JBVNL” or “the Petitioner” or “erstwhile JSEB-Distribution function) has been incorporated under Indian Companies Act, 1956 pursuant to decision of Government of Jharkhand to reorganize erstwhile Jharkhand State Electricity Board (herein after referred to as “JSEB”).
- 1.1.2. The Petitioner submits that the said reorganization of the JSEB has been done by Government of Jharkhand pursuant to “Part XIII – Reorganization of Board” read with section 131 of The Electricity Act 2003. The Petitioner is a Company constituted under the provisions of Government of Jharkhand, General Resolution as notified by transfer scheme vide notification no. 8, dated 6th January 2014. The distribution company, Jharkhand Bijli Vitran Nigam Ltd has been incorporated on 23rd October 2013 with the Registrar of Companies, Jharkhand, Ranchi and has obtained Certificate of Commencement of Business on 28th November 2013.
- 1.1.3. The Petitioner is a Distribution Licensee under the provisions of the Electricity Act, 2003 (EA, 2003) having license to supply electricity in the State of Jharkhand. The Petitioner is functioning in accordance with the provisions envisaged in the Electricity Act, 2003 and is engaged, within the framework of the Electricity Act, 2003, in the business of Distribution of Electricity to its consumers situated over the entire State of Jharkhand.
- 1.1.4. Section 62 of the Electricity Act 2003 requires the licensee to furnish details as may be specified by the Commission for determination of tariff. In addition, as per the Regulations issued by the Hon’ble Commission, JBVNL is required to file for all reasonable expenses, it believes it would incur over the next financial years forming part of MYT Control Period and seek the approval of the Hon’ble Commission for the same. The filing is to be done based on the projections of the expected revenue and costs, which should be arrived at by a reasonable methodology adopted by the Petitioner.

1.2. Distribution Tariff Regulations

- 1.2.1. The present Petition for revised audited True-up for FY 2021-22, APR for FY 2022-23, Approval of ARR and tariff for FY 2023-24 of the Control Period (FY

2021-22 to FY 2025-26) has been prepared in accordance with the following acts/policies/regulations:

- a) Electricity Act 2003
- b) Provisions of National Electricity Policy;
- c) Provisions of National Tariff Policy;
- d) JSERC (Terms and Conditions for Distribution Tariff) Regulations, 2020

1.2.2. The present Petition presents the projections of various operational and financial parameters and emphasizes on the requirement of further rationalizing the tariff in the State to make it reflective of voltage-wise actual cost of supply, to the extent possible. It is humbly submitted that due to not issuing of FY 2021-22 and FY 2022-23 Tariff Orders by the Hon'ble Commission, a significant gap got piled-up. Such inadequate tariff has led to impairment in Petitioner's ability to service its liability and non-achievement of the objective of shifting from Resource Gap Funding (RGF) mechanism to tariff subsidy mechanism. Hence, it would be in the larger interest of the State and electricity consumers that a cost reflective tariff may be issued to ensure the financial viability for the Petitioner and lessen its dependence on State Govt. support, other than consumer subsidy.

1.2.3. The Petition is prepared in line with the letter sent by Energy Dept., Govt of Jharkhand vide letter no 4020 dated 20.10.17 to Hon'ble Commission that emphasises that Resource Gap Funding (RGF) shall not be provided to JBVNL and upcoming Tariff fixation shall be done without considering the support for Resource Gap funding. However, considering the significant gap between revenue required and actual realization, there has been an accumulation of power purchase liabilities for which JBVNL has been forced to depend upon the support from the State Government.

1.2.4. The Petitioner has filed Appeal No. 22 and 223 of 2018, against Hon'ble Commission Order dated 27th April, 2018 regarding following issues:

- a) Consideration of loan restructured under UDAY scheme for reducing revenue gap
- b) Reduction in Fixed charge of CS-Urban consumer category
- c) Non-consideration of carrying cost for the revenue gap created in FY 2015-16
- d) Disallowance of AT&C loss as per UDAY Trajectory
- e) Imposition of Penalty of 2% of ARR of FY 17-18 for non-compliance of

directives

1.2.5. Furthermore, the Petitioner has also filed Review Petition before Hon'ble Commission in Case No. 23 of 2020 against Order dated 1st October, 2020 regarding True-up for FY 2018-19, APR for FY 2019-20 and ARR & Tariff for FY 2021-22. The Petitioner has made following prayers to Hon'ble Commissions regarding the impugned Order:

- a) Consideration of loss take over under UDAY scheme as revenue in FY 2018-19, FY 2019-20 and FY 2021-22
- b) Consideration of low Power Purchase Cost from DVC- KTPS in APR for FY 19-20 and ARR for FY 20-21
- c) Consideration of Meter Rent as Non-Tariff Income for FY 2021-22
- d) Revision of Minimum Billed Demand (101 KVA) for HT Consumers

1.2.6. The above Appeal and Review Petition are still pending. Therefore, the Petitioner has considered some of the numbers as per the impugned orders in interest of the consumers to understand the Petition. However, submissions made in this Petition are without prejudice to the prayers made in above mentioned Appeal and Review Petition. If Hon'ble APTEL and Hon'ble Commission dispose the Appeal and Review Petition in favour of the Petitioner (in part or full), it is requested that the effect of the same should be passed on to the Petitioner and the figures considered, wherever applicable, shall be subject to revision.

1.2.7. Furthermore, Hon'ble Commission in its Order in Case no. 06 of 2019 dated 30th September 2020 has partially allowed Review Petition on True-up for FY 2016-17 & FY 2017-18, APR for FY 2018-19 and ARR & Tariff for FY 2019-20 filed by JBVNL limited to following matters:

- a) To rectify the treatment of DVC Delayed payment surcharge of Rs 352.85 crore, along with the other incidental components of Annual Revenue Requirement of FY 2017-18
- b) To revise the depreciation allowed for the FY 2017-18, FY 2018-19 and FY 2019-20 along with the other incidental components of Annual Revenue Requirement

JBVNL requests Hon'ble Commission to give an effect to above Order in its subsequent Order on instant Petition.

1.2.8. It is submitted that the Petitioner is committed towards improving the electricity availability in the State, while achieving the operational turnaround for a

sustained business model in future and lessen dependence on the State Government finances. A slew of measures is being undertaken and activities are being carried out at a considerable level to achieve the greater goal of becoming a sustainable power utility.

- 1.2.9. The following section of the Petition presents the details of projections of Aggregate Revenue Requirement, underlying approach & methodology and rationale for proposed ARR.
- 1.2.10. Hence, it is requested that the Hon'ble Commission may admit the Petition and provide opportunity to JBVNL to supply any deficient information, for expeditious disposal of this Petition.

1.3. ARR and Tariff Petition for FY 2021-22, FY 2022-23 and FY 2023-24

- 1.3.1. The Petitioner had submitted its Business Plan Petition for the Control Period from FY 2021-22 to FY 2025-26, ARR and Tariff Petition for FY 2021-22 (including Provisional True-up for FY 2019-20 and APR for FY 2021-22) on 30th November 2020.
- 1.3.2. The Petitioner had submitted its ARR Petition for FY 2022-23 (including Provisional True-up for FY 2020-21 and APR for FY 2021-22) on 30th November 2021 and the audited true up for FY 2020-21 on 26th October 2022.
- 1.3.3. The Petitioner now submits ARR Petition for FY 2023-24 (including revised audited True-up for FY 2021-22 and APR for FY 2022-23) along with tariff for FY 23-24.

2. True Up for FY 2021-22

2.1. Introduction

- 2.1.1. As there is no Tariff Order for FY 2021-22, the Petitioner is only submitting its ARR based on the Audited Annual Accounts for FY 2021-22 (submitted in **Annexure: 2**) for the consideration of Hon'ble Commission.

2.2. Energy Sales

- 2.2.1. The energy sales of JBVNL for FY 2021-22 based on the audited annual accounts is provided for the kind consideration of Hon'ble Commission.
- 2.2.2. The following Table summarizes the consumer category-wise sales for FY 2021-22 for kind consideration of the Hon'ble Commission:

Table 2-1: Energy Sales (MUs) of JBVNL for FY 2021-22

Particulars	Audited Claimed (MUs)
Domestic	5,686.37
Commercial/Non-Domestic	869.95
Public Lighting / SS	86.88
Irrigation / IAS	179.23
Industrial LT / LTIS/LTIS-D	230.54
Industrial HT / HTS / EHT	1,883.70
RTS/MES	81.53
Total Sales	9,018.19

- 2.2.3. The Hon'ble Commission is requested to approve the unit sales as submitted in the above Table.

2.3. Power Purchase Expense

- 2.3.1. It is submitted that JBVNL has firm allocations of power from central allocations like NTPC, NHPC, DVC and other sources such as DVC, PTC etc. In addition to these, JBVNL has also purchased power from private stations like APNRL, Inland Power, ABCIL, Rungta Mines and some quantum from renewable sources during FY 2021-22.
- 2.3.2. The following Table provides for station wise Power Purchase quantum and cost for FY 2021-22 based on Actual power purchase for FY 2021-22 of JBVNL.

Table 2-2: Power purchase quantum and cost for JBVNL for FY 2021-22

S.N.	Name of Generating Stations	Allocation (MW)	Total Units purchased (MU)	Total Cost of Power Purchase (in Rs. Crore)
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S.N.	Name of Generating Stations	Allocation (MW)	Total Units purchased (MU)	Total Cost of Power Purchase (in Rs. Crore)	
1	NTPC	Farrakka	137.19	870.35	325.56
		Farrakka III	84.74	562.72	244.46
		Khalagaon I	26.92	205.93	72.54
		Talcher	76.70	532.10	148.49
		Khalagaon II	18.73	174.12	57.07
		Barh I	79.20	172.95	90.47
		Barh II	93.54	570.87	286.50
		Korba	50.00	395.49	108.15
		Darlipalli	147.52	766.04	224.78
		TCS Charge	-	-	0.00
		Total	714.54	4250.57	1558.02
		Kanti Power	13.39	110.67	54.49
		Nabinagar	43.24	248.64	111.35
		Grand Total	771.17	4609.89	1723.87
2	NHPC	Rangit	8.00	43.76	17.39
		Teesta	62.83	321.01	78.44
		Total	70.83	364.77	95.83
3	PTC	Chukha	29.00	195.36	46.92
		Tala	115.72	317.27	68.55
		Total	144.72	512.63	115.46
4	Total Central Sector	986.72	5487.28	1935.16	
5	DVC	KTPS (OA)	600.00	3151.81	1459.21
		Standby Power	-	354.49	251.04
		UI (Deviation)	-	-175.28	24.65
		Trans. Charge	-	-	75.56
		HT Points	54.00	203.00	92.08
		TCS Charge	0.00	0.00	0.00
		Total	654.00	3534.01	1902.54
6	TVNL	420.00	1581.29	599.58	
7	UI Payable (Deviation)	0.00	144.48	109.48	
8	APNRL	Unit I	0.00	481.39	174.84
		Unit II	0.00	481.39	175.72
		APNRL (Add.)	0.00	517.24	188.30
		ERLDC APNRL	0.00	0.00	0.04
		Total	188.85	1480.02	538.91
9	SOLAR	SECI (Tranche-I)	200.00	96.04	24.33
		SECI (MNRE-II)	10.00	14.72	9.09
		State IPPs (MNRE-I)	16.00	18.24	32.74
		Total	226.00	129.00	66.16
10	Wind	PTC	200.00	520.30	183.66

S.N.	Name of Generating Stations	Allocation (MW)	Total Units purchased (MU)	Total Cost of Power Purchase (in Rs. Crore)
	SECI	100.00	296.62	80.69
	Total	300.00	816.92	264.36
11	INLAND	58.00	384.67	182.71
12	ABCIL	0.00	23.69	5.85
13	Rungta Mines	0.00	15.78	4.94
14	PTC-IEX (Purchase)	-	313.79	150.01
15	PTC-IEX (Sale)	-	-394.46	-134.07
16	Total Purchase	2833.57	13516.47	5625.62
17	SRHPS (Generation)	130.00	300.34	39.19
18	Total	2963.57	13816.81	5664.81
19	UI Receivable	-	-78.65	-4.75
20	SER-DSM	-	-8.71	-3.65
21	Trans. Charge	PGCIL	-	324.24
		Posoco (ERLDC)	-	1.22
		JUSNL	-	236.27
22	Grand Total	-	13729.45	6218.15
23	Supplementary Bills	0.00	0.00	109.99
24	Net Unit (with Supp. Bills)	0.00	13729.45	6924.07
	Less			
25	SER-DSM			-136.76
26	Net Total		13729.45	6430.83

2.3.3. Further, the actual distribution loss for FY 2021-22 is coming to be 27.45%. Non achievement of the loss target despite best efforts by the petitioner is again due to addition of high number of rural consumers. The petitioner therefore prays to Hon'ble Commission to allow the actual distribution loss considering the nature of operation, high LT to HT consumers and COVID conditions in FY 21-22.

2.4. Renewable Purchase Obligation (RPO)

2.4.1. JSERC (Renewable Energy Purchase Obligation and its compliance) (First Amendment) Regulations, 2021, is issued to promote renewable energy sources and to fix a minimum percentage of total consumption of the electricity of the Obligated Entities for purchase of energy from Renewable Energy Sources and to achieve long term growth trajectory of Renewable Purchase Obligation (RPO) from Solar as well as Non-Solar Energy. The Petitioner understands that it is obligated to fulfil its RPO. Thus, it has signed PPA with SECI for 100MW floating solar PV from Getalsud dam. JBVNL is in the process of adopting

solar rooftop programme from which it will get power from the prosumers in the state. We had also done the agreement with SECI for 700 MW out of which 450 MW has been commissioned in January 2022 and balance 250 MW is under arbitration. We have also done the agreement for wind power with INOX wind, commissioning of which got delayed and is expected in FY 2024-25. In future, it aims to meet the RPO targets for the state. The status of RPO compliance for FY 2021-22 are as under:

Table 2-3: Status of RPO for FY 2021-22

S.No.	Particulars	UOM	Value
1	Total Power Purchased	MU	13730.59
2	Hydro power purchased	MU	1179.87
3	Co-generation power purchased	MU	0
4	Solar RPO target	%	10.5
5	Non solar RPO target	%	10.5
8	Solar RPO target	MU	1317.83
9	Non solar RPO target	MU	1317.83
10	Solar Purchase	MU	128.9
11	Non-Solar Purchase	MU	816.89
12	Solar REC Purchase	Nos	0
13	Non-Solar REC Purchase	Nos	0
14	Equivalent Solar RPO	MU	0
15	Equivalent Non-Solar RPO	MU	0
16	Total Solar PRO compliance	MU	128.9
17	Total Non-Solar PRO compliance	MU	816.89
18	Non Compliance (Solar)	MU	-1188.93
19	Non-Compliance Non (Solar)	MU	-500.94

2.5. Energy Balance

- 2.5.1. It is submitted that energy availability for FY 2021-22 has been computed based on the actual Power purchase and sales as per the audited annual accounts for FY 2021-22.
- 2.5.2. JBVNL would like to submit that power purchased from various sources has been segregated into different heads, while calculating the energy balance for the control period. The various sources are listed below:
- Power Purchase from Outside JSEB Boundary – i.e. Power sourced from NTPC, NHPC, PTC, APNRL, part of TVNL, NVVNL, SECI
 - Energy Input Directly to State Transmission System - Input of power from TVNL through TVNL-PTPS directly to State Transmission System
 - State-owned Generation- SHPS, Rungta Mines, ABCIL, Inland Power
 - Direct Input of Energy to Distribution System- DVC and Solar IPPs.
- 2.5.3. It is submitted that the Petitioner has computed the energy requirement based on the below

mentioned formulae:

$$\text{Energy requirement} = \text{Sales} / (1 - \text{Distribution loss})$$

- 2.5.4. Based on the information provided above, Energy Balance of JBVNL for FY 2021-22 is provided in the Table below:

Table 2-4: Energy Balance for JBVNL for FY 2021-22

Particulars	2021-22
	Claimed
Power Purchase from Outside JSEB Boundary (MU)	8459.23
Loss in External System (%)	3.00%
Loss in External System (MU)	253.78
Net Outside Power Available (MU)	8205.45
Energy Input Directly to State Transmission System (MU)	424.14
State-owned Generation (MU)	1293.84
Energy Available for Onward Transmission (MU)	9923.43
Transmission Loss (%)	10.46%
Transmission Loss (MU)	1038.34
Net Energy Sent to Distribution System (MU)	8885.09
Direct Input of Energy to Distribution System (MU)	3552.25
Total Energy Available for Sales (MU)	12437.34
Energy Billed (MU)	9018.19
Distribution Loss	27.45%

- 2.5.5. JBVNL would like to submit that it has calculated transmission losses (Both inter and intra State) by subtracting total input energy received at 33 kV from total energy purchased from various power plants. JBVNL thereafter considers Inter-State Transmission Losses at 3% of all power purchase from external sources considering Point of Connection (PoC) withdrawal losses for Jharkhand and PoC injection losses of various power plants with which it has PPA. Thereafter, JBVNL segregates Intra-State Transmission Loss by subtracting Inter-State Transmission losses from total Transmission losses.
- 2.5.6. The Actual Distribution loss for FY 2021-22 is coming to be 27.45%. The Petitioner prays to Hon'ble Commissioner to allow the Distribution loss of 27.45% for FY 2021-22 as per actual figures.
- 2.5.7. It may be seen that Intra-State Transmission Losses of JUSNL is at very high level. This may be due to sub-optimal upkeep of transmission system by JUSNL. The Hon'ble Commission is requested to direct JUSNL to improve its system including increase in voltage level to reduce losses and requested to allow the intra-state losses on actual basis.

2.6. Intra-State Transmission Charges

2.6.1. The actual Intra-state transmission charges payable to JUSNL for FY 2021-22 are provided in the Table below for kind consideration of Hon'ble Commission:

Table 2-5: Intra-state transmission charges of JBVNL for FY 2021-22

Particulars	Unit	Audited Claimed
Transmission Charges	Rs. Crore	236.27

2.7. Operation and Maintenance Expenses

2.7.1. Operation and Maintenance Expenses (O&M expenses) comprises of Employee Expenses, Repair & Maintenance Expenses and Administrative & General Expenses.

Employee Expenses

2.7.2. Total Employee expenses comprise of Employee Cost (salaries, dearness allowance, bonus, leave encashment and staff welfare expenses) and terminal benefits in the form of pension & gratuity.

2.7.3. The employee cost for FY 2021-22 based on the audited annual accounts of FY 2021-22 is provided in the Table below for kind consideration of Hon'ble Commission:

Table 2-6: Employee cost of JBVNL for FY 2021-22

Particular	Audited claimed
Employee Cost Inc. Terminal Benefits (Rs. Crore)	269.93
• Employee Expenses (Rs. Crore)	238.74
• Terminal Benefit (Rs. Crore)	31.19

Repairs & Maintenance Expenses (R&M)

2.7.4. The revised R&M expenses for FY 2021-22 as per the audited annual accounts of FY 2021-22 is provided in the Table below for kind consideration of Hon'ble Commission:

Table 2-7: Repair and Maintenance expense of JBVNL for FY 2021-22

Particulars	Audited claimed
R&M Expenses (Rs. Crore)	231.05

2.7.5. Therefore, it is prayed that the Hon'ble Commission may kindly approve the actual R&M expenses, as per the annual accounts of FY 2021-22.

Administrative and General Expense (A&G)

- 2.7.6. The revised A&G expenses for FY 2021-22 as per the audited annual accounts of FY 2021-22 is provided in the Table below for kind consideration of Hon'ble Commission.

Table 2-8: A&G Expenses of JBVNL FY 2021-22

Particulars	Audited claimed
A&G Expenses (Rs. Crore)	84.79

2.8. Capital Expenditure

- 2.8.1. The actual capex for FY 2021-22 as per JBVNL audited annual accounts of FY 2021-22 is detailed in the Table below:

Table 2-9: Actual Capital work in progress of JBVNL for FY 2021-22 (Rs. Crore)

Particulars	Claimed
Opening CWIP (A)	4,817.75
Capex during the year (B)=(D)-(A)+(C)	1,451.59
Transfer to GFA (C)	4,326.85
Closing CWIP (D)	1,942.50

- 2.8.2. The additions in GFA are created from various source of financing including Debt, Equity (D&E), Consumer Contribution and Grants (CCG) etc. The CCG has been considered based on actual, however the Debt and Equity are estimated based on norms and principles adopted by Hon'ble Commission in its earlier orders.
- 2.8.3. The CCG of JBVNL, based on the audited annual accounts for FY 2021-22 is provided in the Table below.

Table 2-10: Consumer contribution and grants of JBVNL for FY 2021-22

Particulars	Claimed (Rs. Crore)
CCG Opening (Based on Closing filed in True-up for FY 2020-21)	8,010.39
Addition: Govt Grant	1,603.05
Addition: Consumer Contribution	78.85
Closing CCG	9,692.29

2.9. Calculation of Normative GFA, Loan and Equity

- 2.9.1. The Petitioner has calculated Normative GFA from Debt & Equity, Loan and Equity as per approach adopted by Hon'ble Commission in its previous Tariff Orders.
- 2.9.2. The Petitioner has bifurcated GFA and Accelerated Depreciation into component from Debt & Equity (D&E) and from CCG as per approach by Hon'ble Commission followed in previous Tariff Orders. The Petitioner has thereafter applied the normative debt-equity ratio of 70:30 on GFA out of D&E to calculate Normative Equity as per JSERC Distribution Tariff Regulation, 2020.

- 2.9.3. After netting Normative Equity from closing GFA (out of D&E), the Petitioner has deducted, accumulated depreciation pertaining to D&E component from the resultant to arrive at normative closing debt.
- 2.9.4. The calculation of Normative Debt and Equity is Tabulated below:

Table 2-11: Source of Funding of GFA for FY 2021-22 (Rs. Crore)

Particulars	Claimed (Rs. Crore)
Opening GFA (A)	15,497.37
CCG towards Opening CWIP (B)	1,899.67
CCG towards Opening GFA (C)	6,110.72
Opening GFA Less CCG (D = A- C)	9,386.66
Closing GFA (E)	19,824.22
CCG towards Closing GFA (F)	8,827.33
Closing GFA Out of D&E (G= E-F)	10,996.88
Accumulated Depreciation (H)	5,851.86
Accumulated Depreciation Out of D&E (I =H*G/E)	3,246.14
Closing Normative Equity (J = G* 30%)	3,299.07
Closing Normative Loan (K = G-I-J)	4,451.68

2.10. Depreciation

- 2.10.1. The Petitioner has first arrived at the opening and closing GFA of FY 2021-22, created out of debt and equity (D&E), by deducting CCG portion deployed towards opening and closing GFA. The Petitioner has applied the depreciation rate, as per audited annual accounts in line with Regulation 10.42 of JSERC Distribution Tariff Regulation, 2020, on the average GFA and accordingly calculations are made to arrive at the total depreciation being claimed as part of the true-up exercise. The depreciation calculated by the Petitioner is provided in the Table below:

Table 2-12: Financing of the Capital Investments in FY 2021-22 (Rs. Crore)

Particulars	Claimed (Rs. Crore)
Opening GFA (Less CCG) (Rs. Cr.)	9,386.66
Closing GFA (Less CCG) (Rs. Cr.)	10,996.88
Average GFA excluding Consumer Contributions and Grants (Rs. Cr.)	10,191.77
Depreciation Rate (%)	7.69%
Depreciation Cost (Rs. Cr.)	783.93

2.11. Interest & Finance Charges

Interest on Long Term Loan

- 2.11.1. The opening debt for FY 2021-22 has been considered equal to closing value of FY 2020-21 (True-up filed for FY 2020-21).
- 2.11.2. Closing debt for FY 2021-22 has been calculated above in above Table: 2-11 in line with the JSERC Tariff Regulations, 2020.
- 2.11.3. In line with the JSERC Tariff Regulations, 2020 repayment of loan for FY 2021-22 has been considered equal to Depreciation as calculated above.
- 2.11.4. Further, the rate of interest on long-term loan has been considered at the Base rate of SBI as applicable on April 1st (7.00%) of FY 2021-22 plus 200 basis points as per the JSERC Distribution Tariff Regulations, 2020. Interest cost thus calculated is provided in the Table below:

Table 2-13: Allowable Interest & finance charges of JBVNL for FY 2021-22 (Rs. Crore)

Particulars	Claimed
Opening Balance	4,621.75
Deemed Addition during the year	613.86
Deemed Repayments during the year	783.93
Closing Balance	4,451.68
Average balance during the Year	4,536.71
Interest Rate	9.00%
Interest Expense	408.30

- 2.11.5. It is requested that the Hon'ble Commission may approve the interest and finance charges as submitted by the Petitioner.

Interest on Consumer Security Deposits

- 2.11.6. The Interest on consumer deposit as per annual accounts for FY 2021-22 is provided in the Table below:

Table 2-14: Interest on consumer deposit of JBVNL for FY 2021-22 (Rs. Crore)

Particulars	claimed
Interest on Consumer Security Deposit	41.46

Bank and Finance Charges

- 2.11.7. The Petitioner humbly submits that it has incurred Bank and Finance charges to the tune of Rs. 0.49 Crore as per audited annual accounts for FY 2021-22 towards expenditures like Bank charges, finance charges, etc. The Petitioner requests the Hon'ble commission to approve the same.
- 2.11.8. The following Table summarizes the Interest and Finance charges claimed by the Petitioner.

Table 2-15: Interest and Finance Charges for FY 2021-22 (Rs. Crore)

Particulars	Claimed
A: Interest on Long Term Loans	
Interest Expenses	408.30

Particulars	Claimed
B: Finance and Other Charges	
Interest on Consumer Security Deposits	41.46
Bank/ Finance Charges	0.49
Total Finance Charges	41.95
Total (A+B)	450.26

2.12. Interest on Working Capital

- 2.12.1. The Petitioner has calculated normative working capital requirement for FY 2021-22 in line with the JSERC Tariff Regulations, 2020.
- 2.12.2. Rate of Interest on Working Capital (IoWC) has been considered to be equal to the Base Rate of SBI as applicable on the 1st April of the respective year plus 350 Basis Points as per JSERC Distribution Tariff Regulations, 2020.
- 2.12.3. The Petitioner has estimated the working capital requirement and interest thereof, as provided in the Table below:

Table 2-16: Interest on Working Capital of JBVNL for FY 2021-22 (Rs. Crore)

Particulars	Claimed
Maintenance Spares (1% of GFA)	93.87
2 months Receivables	1401.74
Less: 1 month cost of power purchase	489.09
Less: Security Deposit from Customers	681.95
Total Working Capital requirement	324.57
Interest rate on WC	10.50%
Interest on Working Capital	34.08

2.13. Return on Equity

- 2.13.1. The Petitioner has considered the opening balance of normative equity for 2021-22 as per the closing balance for the FY 2020-21, as claimed in the filed True-up petition for FY 2020-21.
- 2.13.2. Closing equity for FY 2021-22 has been calculated using normative debt equity ratio (70:30) as calculated above in Table: 2-11, as per the provisions of JSERC Distribution Tariff Regulations, 2020.
- 2.13.3. Further, the rate of Return on Equity (RoE) is considered to be 14.50% as per the provisions of JSERC Distribution Tariff Regulations, 2020.
- 2.13.4. The return on equity is provided in the Table below for kind consideration of Hon'ble Commission:

Table 2-17: Return on Equity RoE for FY 2021-22 (Rs. Crore)

Particulars	Claimed
Opening Balance of Normative Equity	3,268.57
Deemed Additions	30.49
Closing Balance of Normative Equity	3,299.07
Average Equity	3,283.82
Return on Equity (%)	14.50%
Return on Equity	476.15

2.14. Revenue from Sale of Power

2.14.1. The audited Annual Accounts have reported the revenue from sale of power to be Rs. 5,718.96 Crore towards electricity sales. The Petitioner requests the Hon'ble Commission to approve the same.

2.15. Non-Tariff Income

2.15.1. The Non-Tariff Income (Other Income) of JBVNL for FY 2021-22, based on the audited annual accounts has been provided for the kind consideration of Hon'ble Commission.

2.15.2. However, while computing the Non-Tariff income (Other Income) of JBVNL for FY 2021-22, the financing cost for corresponding receivables has to be reduced as accrued DPS is considered as NTI. It is pertinent to mention that the Petitioner has already incurred power purchase costs on such outstanding receivables and DPS is levied as financing cost of such receivables. However, the Petitioner is allowed only 2 months of receivables in allowance of working capital. For the receivables beyond the period DPS is applicable and as DPS is considered to be additional income for the Petitioner financing cost of such receivables are allowed in line with the judgement of Hon'ble APTEL dated 12.07.2011 in case No. 142 & 147 of 2009.

2.15.3. The Hon'ble Commission in its Tariff order for Aggregate Revenue Requirement for MYT Period FY 2016-17 to FY 2021-22 and Tariff Order for FY 2019-20 dated 28th February, 2019 for JBVNL has also considered the above approach in line with the judgement of Hon'ble APTEL in Appeal no. 48 of 2016 and Appeal no.316 of 2016 & IA no.656 of 2016 dated 31st May, 2017, while approving the Non-Tariff income. Further it is submitted that the Petitioner has not considered the "Receipt from Consumers for capital works" of Rs 28.99 Crore under Non-Tariff income as the same is towards amortisation of consumer contribution.

2.15.4. The Petitioner humbly prays to the Hon'ble Commission to approve the Non-tariff income for FY 2021-22 as outlined below:

Table 2-18: Non-tariff income of JBVNL for FY 2021-22 (Rs. Crore)

Non-Tariff Income	FY 2021-22
	Audited True-Up FY 2021-22
Interest Income from Investment in Fixed Deposits	20.34
D.P.S from Consumer	448.48

Non-Tariff Income	FY 2021-22
	Audited True-Up FY 2021-22
Interest on advance to Supplier/Contractor	-
Interest from Bank (Other than FD)	5.09
Income from Staff Welfare activities	-
Supervision Charges	3.28
Miscellaneous Receipt	3.60
Transformer Rent	20.34
Wheeling Charges / Fuel surcharge	101.36
Miscellaneous Charges from Consumers	0.25
Interest Income from Investment in Fixed Deposits	9.46
Total	612.20
Corresponding Receivables against DPS	2,491.57
Interest rate for Receivable's financing	10.50%
Less: Interest on Receivables against DPS	261.62
Net NTI to be considered	350.58

2.16. Aggregate Revenue Requirement (ARR) for FY 2021-22 after Truing Up

2.16.1. The Aggregate Revenue Requirement for FY 2021-22 after truing up is summarised in the Table below:

Table 2-19: Aggregate Revenue Requirement (ARR) for FY 2021-22 (Rs. Crore)

Particulars	FY 2021-22
	Audited True-Up FY 2021-22
Total Power Purchase Expense	6430.83
<i>Power Purchase Expense</i>	5869.10
<i>Intrastate transmission charges</i>	236.27
<i>Interstate transmission Charge</i>	325.46
Operations and Maintenance Expenses	585.77
<i>Employee Expense</i>	238.74
<i>Administration & General Expense</i>	84.79
<i>Repair & Maintenance Expense</i>	231.05
<i>Terminal Liability</i>	31.19
Depreciation	783.93
Interest on Long Term Loan	408.30
Interest on Working Capital Loan	34.08
Interest on Consumer Security Deposit	41.46
Bank/ Finance Charges	0.49
Return on Equity Capital	476.15
Total Expenditure	8761.02
<i>Less: Non Tariff Income</i>	350.58
Annual Revenue Requirement	8410.44
<i>Total Revenue</i>	5718.96
Net Gap/(Surplus)	2691.48

- 2.16.2. It is prayed to the Hon'ble Commission that the above ARR and Revenue gap may be allowed, and impact shall be passed on to JBVNL, while approving the tariff for FY 2023-24

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

3.1. Introduction

3.1.1. This chapter provides the details of elements of APR for FY 2022-23, estimated based on the provisions of JSERC (Terms and Conditions for Determination of Distribution Tariff) Regulations, 2020 and actual values for six months of the financial year.

3.2. Consumption Parameters: Consumer Numbers, Connected Load and Sales

3.2.1. In order to arrive at the Consumers for the FY 2022-23, JBVNL has considered effective consumers of FY 2021-22 and escalated the same to arrive at the Effective Consumers at the end of FY 2022-23.

3.2.2. Domestic category includes all residential premises for domestic use for household electric appliances such as Radios, Fans, Televisions, Desert Coolers, Air Conditioner, etc. and including Motors pumps for lifting water for domestic purposes and other household electrical appliances not covered under any other schedule. This rate is also applicable for supply to religious institutions such as Temples, Gurudwaras, Mosques, Church and Burial/Crematorium grounds and other recognized charitable institutions, where no rental or fees are charged whatsoever.

3.2.3. In the recent years, the Number of domestic category consumers have significantly increased, primarily due to release of connections under the Saubhagya Scheme. As there has been a drastic growth towards the last years of previous MYT control period, it won't be prudent to consider past years CAGR for the propose of projecting the number of consumers for FY 2022-23. In light of the above, JBVNL has considered the nominal growth rate of 7% for metered domestic consumers and 6% growth rate for domestic HT consumers.

3.2.4. Public Lighting- This category shall be applied for use of Street Lighting system, including single system in corporation, municipality, notified area committee, panchayats etc. and also in areas not covered by municipalities and Notified Area Committee provided the number of lamps served from a point of supply is not less than 5. In order to arrive at the number of Street Light Consumers, JBVNL has escalated the Consumers base of FY 2021-22 by 5%.

3.2.5. The Petitioner while projecting the billing determinants (number of consumers, load and energy sales) for FY 2022-23, in its Business Plan Petition for the Control Period from FY 2021-22 to FY 2025-26 had considered appropriate growth rate for different categories considering the impact of restrictions during the first half of the FY 2021-22 & April to June of FY 2021-22 due to Covid-19 pandemic. Therefore, the Petitioner is considering the same

category-wise growth rates as projected in its Business Plan Petition for FY 2022-23 except for Domestic and Public Lighting consumers.

3.2.6. The Petitioner further submits that based on the actual figures available for FY 2021-22, the Petitioner revised the estimates for FY 2022-23 which are even lower than the sales projections submitted to Hon'ble Commission in the Business Plan Petition for FY 2022-23. The Petitioner, therefore, requests the Hon'ble Commission to consider the billing determinants for FY 2022-23 as per revised estimates submitted in this Petition, which is more realistic and based on actual figures of 2021-22.

3.2.7. The Category-wise billing determinants estimates submitted by the Petitioner for FY 2022-23 is shown in the Table below:

Table 3-1: Consumption Parameters for FY 2022-23

Categories	Revised Estimates		
	Consumers (No.)	Connected Load (kW)	Sales (MUs)
Domestic	5,033,231	5,664,410	5,945
Commercial/Non-Domestic	320,776	652,803	918
Public Lighting / SS	568	18783	92
Irrigation / IAS	78,937	69,309	187
Industrial LT / LTIS/LTIS-D	19,283	358,744	236
Industrial HT / HTS / S/ EHT	2,021	981,482	1,959
RTS/MES	13	38,938	77.55
Total	5,454,830	7,784,469	9,415

3.3. Distribution Loss

3.3.1. It is submitted that the distribution loss trajectory for the period FY 2021-22 to FY 2025-26 was submitted by the Petitioner in its Business Plan petition dated 30.11.2020. Considering the Covid-19 pandemic and other actual situation of the business scenario, the Petitioner is unable to achieve trajectory projected in the Business Plan petition. The actual distribution loss as per audited account of FY 2021-22 is 27.45% and projected distribution loss for FY 2022-23 is 26.34%. Therefore, the Petitioner has submitted the revised projection for the control period i.e., FY 2021-22 & FY 2025-26 in the ARR and tariff filing for FY 2022-23 dated 30th November 2021. The same is depicted in the Table below:

Table 3-2: Distribution Loss (%) for FY 2021-22 to FY 2025-26

Distribution Loss	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
	Actual	Projected	Projected	Projected	Projected
JBVNL	27.45%	26.34%	19.00%	18.00%	17.00%

- 3.3.2. It is requested that the Hon'ble Commission may approve the distribution loss of 26.34% for FY 2022-23 as submitted by the Petitioner.

3.4. Power Purchase

- 3.4.1. JBVNL has estimated the power purchase quantum for FY 2022-23 based on following facts and assumptions:

- **Purchase of Units during first six months of current financial year:** Power Purchase quantum has been considered as per bills raised by respective generating companies.
- **Trend for Purchase of Units in Previous Financial Year:** Purchased units during remaining six months in current Financial Year have been estimated as per generation ratio of the six months of previous Financial Year FY 2021-22.
- **Power Requirement in FY 2022-23:** Based on estimated Sales and Energy balance for FY 2022-23 (as detailed in below section), excess power available for sale in open market has been calculated.
- **Purchase through short-term sources:** No new power purchase from IEX (PTC) or UI mechanism has been estimated in remaining six months due to excess supply. However, the same may be purchased in case of emergency and shall be subject to subsequent true-up.
- **Unit Consideration for TVNL Power Plant:** TVNL generating station 61% Units has been considered under Outside JSEB Boundary and remaining 39% has been taken under State Owned Generation as per the actual ratio of TVNL bills for FY 2022-23.
- **Current status of upcoming Thermal Power Stations:** As per updates from respective stakeholders, JBVNL has considered following schedule for Date of Commercial Operation (COD) of upcoming plants in FY 2022-23.

Table 3-3: Detail of Upcoming Power Plants in FY 2022-23

Particulars	Allocated Capacity (MW)	COD	Power Purchase Cost (Rs/kWh)
North Karnpura Unit-1	166.70	Jan., 2023	4.00

- Furthermore, PLF of new plants have been considered in range of 60%, as they would be under stabilization mode, just after commissioning and auxiliary losses has been considered at 6.5%.
- 3.4.2. JBVNL has estimated the power purchase Cost for FY 2022-23 based on following facts and assumptions:

- **Power Purchase Cost during first six months of current financial year:** Average Power Purchase cost for first six months as per bills raised by respective generating companies, have been considered for full year estimation. No Escalation have been provided to Generating Stations over six months actual per unit charges to

estimate the per unit charges for the complete year.

- **Transmission and Scheduling Charges:** Actual Transmission and scheduling Charges for FY 2021-22 has been escalated by 5% to arrive at corresponding figure for FY 2022-23.
- **Power Purchase Cost for new Plants:** Power Purchase cost of new plants (North Karnpura) have been considered at Rs 4.00 kWh (Energy Charge- Rs 1.75/kWh and Capacity Charge-Rs 2.25/kWh).
- **Supplementary Bills:** Supplementary bills based on actuals of FY 2021-22 has been considered.

3.4.3. Based on above facts and assumptions, source-wise estimated Power Purchase quantum and cost for FY 2022-23 is Tabulated below:

Table 3-4: Power purchase quantum and cost of JBVNL for FY 2022-23

Audited Power Purchase for FY 2022-23						
S.N.	Name of Generating Stations	Allocation (MW)	Total Units purchased (MU)	Total Cost of Power Purchase (in Crore Rs.)		
1	NTPC	Farrakka	137.19	1092.33	530.58	
		Farrakka III	52.24	212.68	114.59	
		Khalagaon I	26.92	235.10	115.00	
		Talcher	76.70	472.48	143.49	
		Khalagaon II	18.73	235.17	106.02	
		Barh I	0.00	1.73	0.98	
		Barh II	0.00	2.58	1.19	
		Korba	50.00	302.20	88.21	
		Darlipalli	147.52	1086.47	316.54	
		TCS Charge	-			
		Total	509.301	3640.75	1416.59	
		Kanti Power	1.30	0.36	0.17	
		Nabinagar	20.00	149.67	79.40	
		North Karnpura Unit-I	166.67	201.96	80.78	
		Grand Total	697.26	3992.73	1576.94	
		2	NHPC	Rangit	8.00	45.57
Teesta	62.83			351.98	72.39	
Total	70.83			397.55	89.42	
3	PTC	Chukha	29.00	193.10	46.37	
		Tala	116.89	295.21	67.01	
		Total	145.89	488.31	113.39	

Audited Power Purchase for FY 2022-23					
S.N.	Name of Generating Stations	Allocation (MW)	Total Units purchased (MU)	Total Cost of Power Purchase (in Crore Rs.)	
4	Total Central Sector	913.98	4878.59	1779.75	
5	DVC	KTPS (OA)	600.00	3428.84	1839.31
		Standby Power		45.88	25.64
		UI (Deviation)		-113.00	10.72
		Trans. Charge			79.34
		HT Points	54.00	77.31	35.07
		TCS Charge			
		Total	654	3439.04	1990.08
	DVC STO A		235.51	123.08	
6	TVNL	420	2328.17	990.65	
7	UI Payable (Deviation)		84.72	84.90	
8	APNRL	Unit I		402.17	154.87
		Unit II		402.17	154.03
		APNRL (Add.)		432.13	166.83
		ERLDC APNRL		0.00	6.56
		Total	188.85	1236.47	482.29
9	SOLAR	SECI (Tranche-I)	450	977.32	249.36
		SECI (MNRE-II)	10	15.03	3.92
		State IPPs (MNRE-I)	16	18.46	33.15
		Total	476	1010.81	286.43
10	Wind	PTC	200	467.53	165.04
		SECI	100	291.67	79.33
		Total	300.00	759.20	244.37
11	INLAND	58	355.36	205.30	
12	ABCIL		0.00		
13	Rungta Mines		0.00		
14	PTC-IEX (Purchase)		267.52	261.57	
15	PTC-IEX (Sale)		-267.81	-100.68	
16	Total Purchase	3010.83	14092.07	6224.65	
17	SRHPS (Generation)	130	91.20	9.09	
18	Total	3140.83	14183.26	6233.74	
19	UI Receivable		-38.68	-6.31	
20	SER-DSM			0.00	
21	Trans. Charge	PGCIL		340.45	
		Posoco (ERLDC)		1.29	
		JUSNL		248.09	
22	Grand Total	-	14144.59	6817.25	

Audited Power Purchase for FY 2022-23				
S.N.	Name of Generating Stations	Allocation (MW)	Total Units purchased (MU)	Total Cost of Power Purchase (in Crore Rs.)
23	Supplementary Bills			109.99
24	Net Total (with Supp. Bills)		14144.59	6972.25

3.5. Renewable Purchase Obligation (RPO)

- 3.5.1. JSERC (Renewable Energy Purchase Obligation and its compliance) (First Amendment) Regulations, 2021, is issued to promote renewable energy sources and to fix a minimum percentage of total consumption of the electricity of the Obligated Entities for purchase of energy from Renewable Energy Sources and to achieve long term growth trajectory of Renewable Purchase Obligation (RPO) from Solar as well as Non-Solar Energy. The Petitioner understands that it is obligated to fulfil its RPO. The estimates for RPO for FY 2022-23 are as under:

Table 3-5: Estimated RPO for FY 2022-23

Sr. No.	Particular	FY 2022-23
1	Net Power Procured (MU)	14144.59
2	less: Large Hydo Power procured (MU)	977.06
3	Power procured considered for RPO (MU)	13167.53
4	Solar Target in (%)	11.50%
5	Non-Solar target in (%)	11.50%
6	Solar Target in (MU)	1,514.27
7	Non-Solar target in (MU)	1,514.27
8	Total Targeted RPO (MU)	3,028.53
9	Solar Power Procured (MU)	1010.81
10	Non-Solar Power Procured (MU)	759.20
11	Total	1770.01
12	Solar target deficit	-503.46
13	Non-Solar target deficit	-755.06
14	Total deficit	-1,258.52

- 3.5.2. Further, the JBVNL submits that it will not be able to achieve the RPO Targets in FY 2022-23 but to achieve the RPO targets in the future, , it has signed PPA with SECI for 100MW floating solar PV from Getalsud dam. JBVNL is in the process of adopting solar rooftop programme from which it will get power from the prosumers in the state. We had also done the agreement with SECI for 700 MW out of which 450 MW has been commissioned in January 2022 and balance 250 MW is under arbitration. We have also done the agreement for wind power with

INOX, commissioning of which got delayed and is expected in FY 2024-25. In future, it aims to meet the RPO targets for the state.

3.6. Energy Balance

3.6.1. JBVNL would like to submit that power purchased from various sources for FY 2022-23 has been segregated into different heads, while calculating the energy balance for the control period.

- Power Purchase from Outside JSEB Boundary- Power sourced from NTPC, NHPC, PTC, APNRL, part of TVNL, NVVNL, SECI and RE (Wind)
- Energy Input Directly to State Transmission System- Input of power from TVNL directly to State Transmission System
- Energy Input through Renewables sources- Input from Solar IPPs selected through JREDA
- State-owned Generation- PTPS, SHPS, Rungta Mines, ABCIL and Inland Power
- Direct Input of Energy to Distribution System- DVC and Solar IPPs.

3.6.2. JBVNL considers Inter-State Transmission Losses at 3% of all power purchase from external sources considering Point of Connection (PoC) withdrawal losses for Jharkhand and PoC injection losses of various power plants with which it has PPA. Thereafter, JBVNL considered the Intra-State Transmission Loss @10.46% based on actual intra state transmission losses for FY 2021-22. It may be seen that Intra-State Transmission Losses of JUSNL is at very high level. This may be due to sub-optimal upkeep of transmission system by JUSNL. The Hon'ble Commission is requested to direct JUSNL to improve its system including increase in voltage level to reduce losses and requested to allow the intra-state losses on actual basis.

3.6.3. Based on the information provided above, Energy Balance of JBVNL for 2022-23 is provided in the Table below:

Table 3-6: Energy balance of JBVNL estimated for FY 2022-23 (in MU)

Particulars	2022-23
	Estimated
Power Purchase from Inter State Transmission System (MU)	9317.52
Loss in External System (%)	3.00%
Loss in External System (MU)	279.53
Net Outside Power Available (MU)	9038.00
Energy Input Directly to State Transmission System (MU)	355.36
State-owned Generation (MU)	999.18
Energy Available for Onward Transmission	10392.54
Transmission Loss (%)	10.46%
Transmission Loss (MU)	1087.43

Particulars	2022-23
	Estimated
Net Energy Sent to Distribution System (MU)	9305.11
Direct Input of Energy to Distribution System (MU)	3472.52
Total Energy Available for Sales (MU)	12777.64

3.7. Intra-State Transmission Charges

- 3.7.1. It is submitted that transmission charges payable to JUSNL have been computed based on the Actual Transmission Charges for FY 2021-22, which has been escalated by 5% to arrive at corresponding figure for FY 2022-23.
- 3.7.2. The estimated Intra-state transmission charges payable to JUSNL for FY 2022-23 is provided in the Table below:

Table 3-7: Intra-state transmission charges of JBVNL for FY 2022-23

Particulars	FY 2022-23
	Estimated
Transmission Charges (Rs Cr.)	248.09

3.6 Operation and Maintenance Expenses

- 3.7.3. Operation and Maintenance Expenses (O&M expenses) comprises of Employee Expenses, Repair & Maintenance Expenses and Administrative & General Expenses.

Employee Expenses

- 3.7.4. The Petitioner has calculated the employee cost for FY 2022-23 by escalating the employee cost of FY 2021-22 as submitted above in Chapter for audited True-Up for FY 2021-22 by the inflation factor of 6.08 % and the methodology provided under Clause 10.6 (b) and (c) of JSERC MYT Regulations, 2020.
- 3.7.5. The projected employee cost for FY 2022-23 is provided in the table below for kind consideration of Hon'ble Commission.

Table 3-8: Employee Expenses of JBVNL for FY 2022-23 (Rs. Crore)

SI No.	Particular	Estimated
A	Total Employee Expense	286.33
	• Employee Expense	253.25
	• Terminal Benefits	33.09

Repairs & Maintenance Expenses (R&M)

- 3.7.6. In line with the Regulation 10.6 (a) of JSERC MYT Regulations 2020, the R&M expenses for FY 2022-23 have been estimated by applying K-factor of 1.49% computed based on audited

data of FY 2021-22. Further the Petitioner has considered Indexation Factor of 6.08% as per Regulation 10.6 (a) of JSERC MYT Regulations 2020 for projecting Repair & Maintenance Expenditure in next Control Period.

- 3.7.7. The R&M expenses for FY 2022-23 is provided in the table below for kind consideration of Hon'ble Commission.

Table 3-9: R&M Expenses of JBVNL for FY 2022-23 (Rs. Crore)

S. No.	Particulars	Estimated
1	R&M Expenses	295.55

Administrative and General Expense (A&G)

- 3.7.8. In line with the Clause 10.6 (b) and (c) of JSERC MYT Regulations 2020, the A&G expenses for FY 2022-23 has been calculated by escalating A&G expense of FY 2021-22 by inflation factor of 6.08%.

- 3.7.9. The A&G expenses for FY 2022-23 is provided in the table below for kind consideration of Hon'ble Commission.

Table 3-10: A&G Expenses of JBVNL for FY 2022-23 (Rs. Crore)

Sr. No.	Particulars	Estimated
1	A&G Expenses	89.95

3.8. Calculation of Normative GFA, Loan and Equity

- 3.8.1. The Petitioner has calculated Normative GFA, Debt and Equity as per approach adopted by Hon'ble Commission in its previous Tariff Orders.
- 3.8.2. The Petitioner has first arrived at the opening and closing GFA, created out of D&E, by deducting the CC&G portion deployed towards opening and closing GFA. The Petitioner has applied the depreciation rate as approved by the Hon'ble Commission on the average GFA calculated as per Regulation 10.39 of JSERC Distribution Tariff Regulations, 2020 to arrive at the total depreciation.
- 3.8.3. After calculating the closing GFA out of D&E, the petitioner has deducted accumulated depreciation out of D&E and normative equity calculated at 30% of Closing GFA out of D&E from the resultant to arrive at normative closing debt.
- 3.8.4. Calculation of Normative GFA out of Debt and Equity, Loan and Equity is Tabulated below:

Table 3-11: Capital Investment in FY 2022-23 (Rs. Crore)

Particulars	Derivation	Estimates
Closing GFA	A	22,518.41
CCG towards GFA	B	10,690.29

Particulars	Derivation	Estimates
Closing GFA Out of D&E	C=A-B	11,828.11
Accumulated Depreciation	D	6,729.68
Accumulated Depreciation towards GFA	E	3,534.86
Closing Normative Equity	F= C*30%	3,548.43
Closing Normative Loan	G= C-E-F	4,744.82

3.9. Scheme-wise Capital Expenditure

3.9.1. The Capital expenditure schedule for FY 2022-23 is detailed in the present section. A brief discussion regarding the expected expenditure is also provided for consideration of Hon'ble Commission:

Table 3-12: Estimated Scheme wise Capital Investment in FY 2022-23 (Rs. Crore)

Scheme Name	FY 2022-23
	Estimated
Revamped Distribution Sector Scheme (RDSS)	710.37
<i>Consumer Metering</i>	<i>40.78</i>
<i>Energy Accounting (DT Metering)</i>	<i>4.27</i>
<i>Energy Accounting (Feeder Metering)</i>	<i>0.97</i>
<i>Loss Reduction</i>	<i>659.21</i>
<i>PMA</i>	<i>5.14</i>
Annual Development Plan (ADP)	231.00
JSBAY -RE and Urban	695.00
Jharkhand Power System Improvement Project (JPSIP)	206.00
<i>Smart Metering in Ranchi</i>	<i>75.00</i>
<i>IT Hardware and software Upgradation</i>	<i>60.00</i>
<i>Software for Power Management</i>	<i>3.00</i>
<i>IT Project Management</i>	<i>2.00</i>
<i>Business Process Upgradation</i>	<i>4.00</i>
<i>Upgradation of Training Centre</i>	<i>2.00</i>
<i>Energy Accounting (Ranchi and Jamshedpur)</i>	<i>60.00</i>
Smart metering Dhanbad	40.00
Consumer contribution	78.85
Total	1961.22

Brief overview of Schemes undertaken in Jharkhand

3.9.2. **Revamped Distribution Sector Scheme:** The introduction of Revamped Distribution Sector Scheme by MoP which aims to curb down the AT&C losses. The JBVNL has opted the Revamped scheme and all the aforesaid works under RDSS of the Discom will now come under this scheme. The transition from existing schemes to the revamped scheme may create some unpredictable situation for JBVNL. The Revamped scheme is under process. Thus, in view of the above, the licensee is estimating the limited capital expenditure details which have clarity till date.

3.9.3. **Annual Development Plan (ADP):** The budget for Annual Development plan is prepared every year by the Sub-Transmission and Distribution Network (erstwhile S&D) wing of

JBVNL, based on the requirements raised by the field offices. The budget generally covers the equipment or works not covered under any other State, Central or Multi-lateral scheme and mostly focused towards miscellaneous infrastructure replacement and small works. In order to cater the load growth and the addition of new consumers in the system, the state has kept aside budget apart from centrally sponsored scheme in the form of ADP budget. The funding of Annual Development Plan is provided by State Government in form of loan.

- 3.9.4. **Jharkhand Sampurna Bijli Achchadan Yojna (JSBAY):** is a new State Govt. sponsored scheme which aims to cover the several left over work required to ensure 24x7 power supply to all villages/Habitations and achievement of objectives of UDAY Yojana for reduction of AT&C losses. Detailed Project Reports (DPRs) under the JSBAY Scheme has already been prepared and the some part of Rural Electrification work has already been awarded and is currently under progress.
- 3.9.5. **Jharkhand Power System Improvement Project (JPSIP):** Government of India (GoI) and Government of Jharkhand (GoJ) had posted the Jharkhand power system improvement project (JPSIP) to the World Bank for Financing vide DEA Letter No. 6/02/2016 F-VIII, and Govt. of Jharkhand Letter No. 268 dated 08.02.2016. The World Bank accepted the request to finance the Power Project vide letter dated 03.10.2016.
- 3.9.6. The JPSIP Project include components on providing financing for strengthening of Power Transmission Network in the state of Jharkhand and Capacity Building and Institutional Development of the unbundled Power Utilities (JUSNL and JBVNL). Key objective of JPSIP project are defined below:-
- Component A- Power Transmission system Strengthening*
 - Component B-Technical Assistance for Institutional Development and Capacity Building at JUSNL*
 - Component C-Institutional Development and Capacity Building of JBVNL*
- 3.9.7. **Smart metering at Dhanbad:** The State Government has budgeted Rs. 40 Crore for smart metering at Dhanbad.
- 3.9.8. Considering the above capital expenditure for FY 2022-23, the Petitioner has projected revised CWIP and creation of GFA.

Table 3-13: Actual Capital work in progress of JBVNL for FY 2022-23

Particulars	FY 2022-23
	Estimated (Rs Cr.)
Opening CWIP	1,942.50
Capex during the year	1,961.22
Transfer to GFA	2,694.19
Closing CWIP	1,209.53

Note: Capitalization for FY 2022-23 has been considered based on capitalization rate i.e., 69% of FY 2021-22

3.9.9. The CCG funding of JBVNL for FY 2022-23, based on the closing CCG funding of FY 2022-23 is provided in the Table below:

Table 3-14: Consumer Contributions and Capital Grants of JBVNL for FY 2022-23 (Rs. Crore)

Particulars	Estimated (Rs Cr)
Opening (Closing from FY 2021-22 APR)	9,692.29
addition: Govt Grant	1,493.36
addition: Cons Contribution	78.85
Closing	11,264.50

3.10. Depreciation

3.10.1. The Petitioner has estimated the Depreciation for FY 2022-23 in line with the approach adopted in audited true-up for FY 2021-22.

3.10.2. The Petitioner has first arrived at the opening and closing GFA, created out of D&E, by deducting the CC&G portion deployed towards opening and closing GFA. The Petitioner has applied the depreciation rate as approved by the Hon'ble Commission on the average GFA calculated as per Regulation 10.39 of JSERC Distribution Tariff Regulations, 2020 to arrive at the total depreciation.

3.10.3. The depreciation expense for FY 2022-23 is provided below for kind consideration of Hon'ble Commission.

Table 3-15: Depreciation cost of JBVNL for FY 2022-23 (Rs Crores)

Particulars	FY 2022-23
	Estimated (Rs Cr.)
Opening GFA (Less CCG)	10,996.88
Closing GFA (Less CCG)	11,828.11
Average GFA excluding Consumer Contributions and Grants (Rs. Cr.)	11,412.50
Depreciation Rate	7.69%
Depreciation Cost (Rs. Cr.)	877.82

3.11. Interest and Finance Charges

Interest on Long Term Loan

3.11.1. The opening debt for FY 2022-23 has been considered equal to closing value of FY 2021-22 as submitted above in chapter regarding audited True-up for FY 2021-22.

- 3.11.2. Closing debt for FY 2022-23 has been calculated in the above tables in line with the Regulation 10.22 of the JSERC Tariff Regulations, 2020.
- 3.11.3. In line with the Regulation 10.23 of the JSERC Tariff Regulations, 2020 repayment of loan for FY 2022-23 has been considered equal to Depreciation as calculated above.
- 3.11.4. Further, the rate of interest on long-term loan, has been considered as Bank Rate as on April 01 of the respective year of the Control Period plus 200 basis points as per Regulation 10.26 of the JSERC Distribution Tariff Regulations, 2020. Interest cost thus calculated vis-à-vis as approved by the Hon'ble Commission is provided in the Table below:

Table 3-16: Interest and Finance Charges of JBVNL for FY 2022-23 (Rs. Crore)

Particulars	Estimate
Opening Balance	4,451.68
Addition during the year	1,170.96
Repayments during the year	877.82
Closing Balance	4,744.82
Average balance during the Year	4,598.25
Interest Rate (%)	9.00%
Interest Expense	413.84

- 3.11.5. It is requested that the Hon'ble Commission may approve the interest and finance charges as submitted by the Petitioner.

Interest on Consumer Security Deposits

- 3.11.6. In order to estimate the interest on consumer security deposit for FY 2022-23, the petitioner has assumed an escalation of 5% over the accumulated consumer security of FY 2021-22 as per audited accounts.
- 3.11.7. Further, the applicable interest rate as per JSERC Supply Code Regulations, 2015 has been applied to estimate the Interest on consumer deposit for FY 2022-23. The interest rate considered is the SBI Base Rate prevailing on 1st April 2022 (7.55%) Interest on Consumer Security Deposit computed for FY 2022-23 is as under:

Int. on CSD	Estimated for FY 2022-23 (Rs Cr)
Consumer Deposit	716.05
Interest Rate	7.55%
Interest on Consumer Security Deposit	54.06

Bank and Finance Charges

- 3.11.8. The Petitioner humbly submits that it has estimated the Bank and Finance charges for the FY 2022-23 to the tune of Rs. 0.49 Crore as per audited annual accounts for FY 2021-22 towards expenditures like Bank charges, finance charges, etc. The Petitioner requests the Hon'ble commission to approve the same.

3.12. Interest on Working Capital

Interest on Working Capital

- 3.12.1. The Petitioner has estimated the working capital requirement for FY 2022-23 in line with the Regulation 10.29 and 10.30 of the JSERC Tariff Regulations, 2020.
- 3.12.2. Rate of IoWC has been considered to be equal to the SBI MCLR (for 1 year period) prevailing as on 1 April, 2022 plus 350 Basis Points as per Regulation 10.31 of the JSERC Distribution Tariff Regulations, 2020.
- 3.12.3. It is submitted that based on the expenditure for FY 2022-23, the Petitioner has estimated the working capital requirement and interest thereof, as provided in the Table below.

Table 3-17: Interest on Working Capital for FY 2022-23 (In Rs. Crore)

Particulars	Derivation	Estimated (Rs Cr)
Maintenance Spares (1% of GFA)	A	109.97
2 months Receivables	B	1,571.39
Less: 1 month cost of power purchase	C	528.12
Less: Security Deposit from Customers	D	716.05
Total Working Capital requirement	E = A+B-C-D	437.20
Interest Rate on WC	F	11.20%
Interest on Working Capital	G = E x F	48.97

3.13. Return on Equity

- 3.13.1. The Petitioner has considered the opening balance of normative equity for FY 2022-23 as per the closing balance for the FY 2021-22 as submitted above in chapter regarding True-up for FY 2021-22.
- 3.13.2. Closing equity for FY 2022-23 has been calculated using normative debt equity ratio (70:30) as per the provisions of Regulation 10.16 of JSERC Distribution Tariff Regulations, 2020.
- 3.13.3. Further, the rate of Return on Equity (RoE) is considered to be 14.50% as per the provisions of Regulation 10.19 of JSERC Distribution Tariff Regulations, 2020.
- 3.13.4. The return on equity is provided in the Table below for kind consideration of Hon'ble Commission:

Table 3-18: Return on Equity (RoE) of JBVNL for FY 2022-23 (Rs. Crore)

Particulars	Revised Estimates
Opening Balance of Normative Equity	3,299.07
Deemed Additions	249.37
Closing Balance of Normative Equity	3,548.43
Average Equity	3,423.75
Return on Equity (%)	14.50%
Return on Equity	496.44

3.14. Revenue from Sale of Power

3.14.1. The Petitioner has estimated the revenue for FY 2022-23 to Rs. 6,305.99 Crore.

3.15. Non-Tariff Income

3.15.1. The Non-Tariff Income (Other Income) of JBVNL for FY 2022-23 has been at the level of FY 2021-22 for the kind consideration of Hon'ble Commission. The Petitioner has already submitted the rationale behind the computation of NTI in Chapter regarding True-up, which is in line with the judgement of Hon'ble APTEL dated 12.07.2011 in case No. 142 & 147 of 2009. The Petitioner has not estimated any delayed payment surcharge for FY 2022-23 and will consider the same on actual basis.

3.15.2. The Petitioner humbly prays to the Hon'ble Commission to approve the Non-tariff income as outlined below:

Table 3-19: Non-Tariff income of JBVNL for FY 2022-23

Non Tariff Income	FY 2022-23 Estimate
Interest Income from Investment in Fixed Deposits	20.34
Interest from Bank (Other than FD)	5.09
Supervision Charges	3.28
Miscellaneous Receipt	3.60
Transformer Rent	20.34
Wheeling Charges / Fuel surcharge	0.00*
Miscellaneous Charges from Consumers	0.25
Interest Income from Investment in Fixed Deposits	9.46
Total	62.35

**Wheeling charges are not considered as income from sale of power to exchange. It has been considered in power purchase expenses.*

3.16. Measures taken to reduce AT&C loss

3.16.1. The Petitioner would like to further reiterate that several administrative measures has been undertaken to curb the AT&C losses along with the technical measures such as increasing the metering, focusing on billing efficiency and collection efficiency improvement. It is submitted that Hon'ble Commission has approved 99% collection efficiency for FY 2022-23, which is on extremely higher side and even the most efficient State utilities in the Country are not able to achieve it.

3.16.2. A Reforms-Based and Results-Linked Scheme' (RDSS) has been launched by Ministry of Power, Government of India with objective of improving the quality and reliability of power supply to consumers through a financially sustainable and operationally efficient distribution Sector. The Scheme aims to reduce the AT&C losses to pan-India levels of 12-15% and ACS-ARR gap to zero by 2024-25. Jharkhand Bijli Vitran Nigam Limited (JBVNL) has envisaged to implement the scheme in 24 districts under its electrical supply area. Under this scheme, prepaid Smart metering for consumers and System metering at Feeder and Distribution Transformer Level with communicating feature along with associated Advance Metering Infrastructure (AMI) will be done in TOTEX mode through PPP. For prepaid metering, an

estimated budget outlay of INR 1475.11 crores has been provisioned under the RDSS scheme. JBVNL has set targets to complete 100% DT metering in Phase-I areas by March 2023 and in remaining area by December 2023, to facilitate energy accounting and it is expected to bring down the AT&C losses to the desired level.

- 3.16.3. In order to reduce the losses JBVNL has already completed 100% Feeder Metering and is in process of ensuring 100% metering of DTs and Consumers to enable energy auditing. Further, Petitioner is also taking other measures like Name and Shame Campaign, preparation of MIS for performance monitoring and management, Feeder Improvement Program for network strengthening, Physical segregation of feeders, Installation of AMR meters, providing electricity access to unconnected households, Implementation of ERP systems, Installation of AB Cables, Tying up with Bank and Post Offices, Feeder Segregation, Revenue Intelligence Cell Formation, etc. Moreover, to enhance the collection efficiency, consumers are facilitated with multiple collection avenues such as Mobile App (ezy-bzly), online payment, E-wallet (through UM), ~440 post offices, ~194 ATP machines etc. The Petitioner humbly submits that despite creating several avenues for payment of bills by the consumers, the collections have still remained lower than the targets.
- 3.16.4. Further, JBVNL has migrated to a centralized Android based mobile photo spot billing (with collection facility) platform, having complete control over consumer billing database. In order to ensure 100% billing coverage, a maximum of 1200 designated consumers have been assigned to each Urja Mitra, that also acts as a JBVNL Touch-point for billing, collection and various other consumer services. The centralized billing database and software tool has dedicated dashboards for JBVNL, agencies and UMs, for real-time progress and performance monitoring and enhancing billing and collection. Apart from Urja Mitras, JBVNL has implemented a scheme Gramin “Urja Sathi” Yojana where in it is appointing Urja Sathis, engaging local people to bill the rural consumers and thus, increasing the billing coverage in rural areas.
- 3.16.5. The Petitioner is prone to difficulties of T&D losses and collection inefficiencies due to difficult terrains and large rural consumers with limited paying capacity, in overall consumer mix. Further, under Universal Supply Obligation (USO), the petitioner is obliged to provide quality power without any interruption or reduction in power supply in areas with poor collection efficiencies.
- 3.16.6. The Petitioner therefore prays to Hon’ble Commission to consider the estimated target of Distribution loss of 26.35% while approving the APR for FY 2022-23.

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

- 3.17.1. Based on the components of the ARR discussed in the above sections, the final ARR for FY 2022-23 has been provided in the Table below for kind consideration of Hon’ble Commission:

Table 3-20: Summary of Aggregate Performance Review (APR) for FY 2022-23 (Rs Crore)

Particulars	FY 2022-23
	APR for FY 2022-23
Total Power Purchase Expense	6927.25
<i>Power Purchase Expense</i>	6337.43
<i>Intrastate transmission charges</i>	248.09
<i>Interstate transmission Charge</i>	341.73
Operations and Maintenance Expenses	671.83

Particulars	FY 2022-23
	APR for FY 2022-23
<i>Employee Expense</i>	253.25
<i>Administration & General Expense</i>	89.95
<i>Repair & Maintenance Expense</i>	295.55
<i>Terminal Liability</i>	33.09
Depreciation	877.82
Interest on Long Term Loan	413.84
Interest on Working Capital Loan	48.97
Interest on Consumer Security Deposit	54.06
Bank/ Finance Charges	0.49
Return on Equity Capital	496.44
Total Expenditure	9490.71
<i>Less: Non Tariff Income</i>	62.35
Net: Aggregate Revenue Requirement	9428.35
<i>Revenue from Intrastate sales / Sale of Power</i>	6305.99
Net Revenue Gap/ (Surplus)	3122.36

- 3.17.2. The Petitioner requests to approve the Revised Estimates of the ARR claimed/ Revenue Gap for FY 2022-23 in above Table.

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

4.1. Consumption Parameters: Consumer Numbers, Connected Load and Sales

- 4.1.1. The Petitioner while projecting the billing determinants (number of consumers, load and energy sales) for FY 2023-24, in its Business Plan Petition had considered appropriate growth rates for different categories and sub-categories, considering FY 2023-24 to be a normal 'business as usual' year.
- 4.1.2. The Petitioner, therefore, requests the Hon'ble Commission to consider the billing determinants for FY 2023-24 as per estimations submitted in this Petition, which have been arrived at by considering the actual data of FY 2021-22.
- 4.1.3. The category wise number of consumers connected load and Energy sales projected for FY 2023-24 is provided in subsequent tables. The percentage growth rate for consumer no. projection has been considered and discussed in the subsequent paragraphs.
- 4.1.4. JBVNL has considered a growth rate of 7% for LT Domestic Consumers for the FY 2023-24. Further, the projection for the DS-HT is considered with a growth rate of 6% as submitted in the MYT petition.
- 4.1.5. Commercial Consumers are all those consumers using electrical energy for light, fan and power loads for non-domestic purposes like shops, hospitals (govt. or private), nursing homes, clinics, dispensaries, restaurants, hotels, clubs, guest houses, marriage houses, public halls, show rooms, workshops, etc.
- 4.1.6. For projecting the Commercial consumers for the FY 2023-24, a growth rate of 9 %, which has been applied on the number of consumers during FY 2022-23.
- 4.1.7. Industrial Consumers are comprised of mainly two following sub-categories-
- 4.1.8. LT consumers- This category applied on all industrial units applying for a load of less than or equal to 100 kVA (or equivalent in terms of HP or kW).
- 4.1.9. HT Consumers- The category applied on all consumers having contract demand above 100 kVA.
- 4.1.10. For projecting the industrial consumers for the FY 2023-24, a growth rate of 8% has been computed for LT consumers whereas, for HT consumers a growth rate of 5% has been applied on the number of consumers during FY 2022-23.
- 4.1.11. Agriculture category includes tube wells and processing of the agricultural produce, confined to Chaff-Cutter, Thresher, Cane crusher and Rice-Hauler, organic farming when operated by the agriculturist in the field or farm and does not include Rice mills, Flour mills, Oil mills, Dal mills, Rice-Hauler or expellers.

- 4.1.12. In order to arrive at the number of Consumers at the end of FY 2023-24, JBVNL has escalated the number of Consumers in FY 2022-23 by 5%.
- 4.1.13. Public Lighting- This category shall be applied for use of Street Lighting system, including single system in corporation, municipality, notified area committee, panchayats etc. and also in areas not covered by municipalities and Notified Area Committee provided the number of lamps served from a point of supply is not less than 5. In order to arrive at the number of Street Light Consumers, JBVNL has escalated the Consumers base of FY 2022-23 by 5%.
- 4.1.14. MES- This includes Military Engineering Services (MES) for a mixed load in defence cantonment and related area. JBVNL has assumed the same number of Consumers.
- 4.1.15. Railways - It is to pertinent to mention that railway traction consumers have been considered to be the same for the control period as the railway traction has been shifted from JBVNL's network and opted for purchase of power through open access only. No increase in number of railway consumers has been considered for the control period.
- 4.1.16. The Category-wise billing determinants as approved by the Commission and claimed by the petitioner for FY 2023-24 is shown in the Table below:

Table 4-1: Billing Determinants projected for FY 2023-24

Categories	Projection		
	Consumers (No.)	Connected Load (kW)	Sales (MUs)
Domestic	5,385,557	5,920,034	6,360
Commercial/Non-Domestic	349,646	711,556	1,001
Public Lighting / SS	596	19723	97
Irrigation / IAS	82,884	72,774	197
Industrial LT / LTIS/LTIS-D	20,826	387,444	255
Industrial HT / HTS / HTSS/ EHT	2,122	1,030,556	2,057
RTS/ MES	13	38,938	77.55
Total	5,841,645	8,181,024	10,045

- 4.1.17. The Hon'ble Commission is requested to approve the billing determinants as submitted in the above table.

4.2. Distribution Loss

- 4.2.1. As discussed in APR section, revised distribution loss of 19% has been projected for FY 2023-24.

4.3. Power Purchase

- 4.3.1. JBVNL has projected the power purchase quantum for FY 2023-24 based on following facts and assumptions:

- **Power Purchase Cost projection for the financial year:** Per Unit Escalation of 5% have been provided to per unit charges of Generating Stations over FY 2022-23 to project the per unit charges for the FY 2023-24. In view of the upcoming CERC orders for central generating stations, it is expected that the cost of power generation will be increased considering the increase in cost of coal and it will be passed through in tariffs by the CERC.
- **Transmission and Scheduling Charges:** Transmission and scheduling Charges for FY 2022-23 has been escalated by 5% to arrive at corresponding figure for FY 2023-24.
- **Reduction in Units for Costlier Power Plants:** To reduce dependency in costlier power plants, the Petitioner has reduced power purchase from the costlier plants, the purchase units have been reduced by approx. 16% having per unit charges equal or more than Rs. 4.00.
- **Supplementary Bills:** Supplementary bills based on actuals of FY 2021-22 has been considered.
- **Unit Consideration for TVNL Power Plant:** For TVNL generating station, 61% of power purchase Units has been considered under Outside JSEB Boundary and remaining 39% has been taken under State Owned Generation as per the actual ratio of TVNL bills for FY 2022-23.
- **Current status of upcoming Thermal Power Stations:** JBVNL has considered following schedule for Date of Commercial Operation (COD) of upcoming plants in FY 2023-24.

Table 4-2: Detail of Upcoming Power Plants in FY 2023-24

Particulars	Allocated Capacity (MW)	COD	Power Purchase Cost (Rs/kWh)
North Karnpura Unit-II	166.70	1 st April' 23	4.00

- Furthermore, PLF of new plants have been considered in range of 60%, as they would be under stabilization mode, just after commissioning and auxiliary consumption has been considered at 6.5%.

4.3.2. The source-wise estimated Power Purchase quantum and cost for FY 2023-24 is Tabulated below:

Table 4-3: Power Purchase Quantum in Mus and cost in Rs Crore

S.N.	Name of Generating Stations	Allocation (MW)	Projection for Units (MU)	Total Cost of Purchase (in Crore Rs.)
1	Farrakka	137.19	921.46	469.96
	Farrakka III	50.00	179.41	101.49
	Khalagaon I	26.92	198.32	101.86
	Talcher	76.68	472.48	150.66
	Khalagaon II	18.73	198.39	93.91

S.N.	Name of Generating Stations	Allocation (MW)	Projection for Units (MU)	Total Cost of Purchase (in Crore Rs.)	
	Barh I	0.00			
	Barh II	0.00			
	Korba	50.00	302.20	92.62	
	Darlipalli	73.76	1086.47	332.36	
	TCS Charge	-	-	0.00	
	Total	433.279	3358.72	1342.87	
	Kanti Power	1.30	0.36	0.18	
	Nabinagar	21.62	168.34	93.77	
	North Karnpura Unit-I&II	333.33	1638.12	655.25	
	Grand Total	789.53	5165.54	2092.06	
2	NHPC	Rangit	8.00	45.57	17.88
		Teesta	62.83	351.98	76.01
		Total	70.83	397.55	93.89
3	PTC	Chukha	29.00	193.10	48.69
		Tala	116.89	295.21	70.36
		Total	145.89	488.31	119.06
4	Total Central Sector	1006.25	6051.40	2305.01	
5	DVC	KTPS (OA)	600.00	2571.63	1448.46
		Standby Power	0.00	34.41	20.19
		UI (Deviation)	0.00		0.00
		Trans. Charge	0.00	-	83.31
		HT Points	8.50	9.13	4.35
		TCS Charge	0.00		
		Total	608.5	2615.17	1556.30
	DVC STOA				
6	TVNL	420.00	1963.97	877.46	
7	UI Payable (Deviation)	0.00		0.00	
8	APNRL	Unit I	0.00	339.26	137.17
		Unit II	0.00	339.26	136.43
		APNRL(Add.)	0.00	364.53	147.77
		ERLDC APNRL	0.00	0.00	
		Total	188.85	1043.05	421.37
9	SOLAR	SECI (Tranche-I)	450.00	977.32	249.36
		SECI (MNRE-II)	10.00	15.03	3.92
		State IPPs (MNRE-I)	16.00	18.46	33.15
		Total	476	1010.81	286.43

S.N.	Name of Generating Stations		Allocation (MW)	Projection for Units (MU)	Total Cost of Purchase (in Crore Rs.)
10	Wind	PTC	200.00	467.53	165.04
		SECI	100.00	291.67	79.33
		Total	300	759	244
11	INLAND		58.00	299.77	181.84
12	ABCIL		0.00	0.00	0.00
13	Rungta Mines		0.00	0.00	0.00
14	PTC-IEX (Purchase)		0.00		0.00
15	PTC-IEX (Sale)		0.00		0.00
16	Total Purchase		3057.60	13743.37	5872.79
17	SRHPS (Generation)		130.00	91.20	9.09
18	Grand Total		3187.60	13834.56	5881.88
19	UI Receivable				0.00
20	SER-DSM				
21	Trans. Charge	PGCIL			357.47
		Posoco (ERLDC)			1.35
		JUSNL			260.49
22	Net Unit			13834.56	6501.19
23	Supplementary Bills				109.99
24	Net Unit (with Supp. Bills)			13834.56	6611.19

- 4.3.3. The Petitioner prays to the Hon'ble Commission to approve the power purchase expenses including transmission charges of Rs 6611.19 Crore for FY 2023-24.
- 4.3.4. As per JSERC (Terms and Conditions for Determination of Distribution Tariff) Regulations, 2020, Commission allows the distribution licenses to carry out adjustment of change in fuel price, **without any prior approval of the Commission**, through the Fuel Price and Power Purchase Adjustment (FPPPA) formula as specified by Commission in the said regulation.
- 4.3.5. In reference to the same, Jharkhand Bijli Vitran Nigam Limited proposes to carry out the adjustment of any change in fuel price through the FPPPA formula specified by the Commission starting from the FY 2023-24 and onwards.

4.4. Renewable Purchase Obligation (RPO)

- 4.4.1. JSERC (Renewable Energy Purchase Obligation and its compliance) (First Amendment) Regulations, 2021, is issued to promote renewable energy sources and to fix a minimum percentage of total consumption of the electricity of the Obligated Entities for purchase of energy from Renewable Energy Sources and to achieve long term growth trajectory of

Renewable Purchase Obligation (RPO) from Solar as well as Non-Solar Energy. The Petitioner understands that it is obligated to fulfil its RPO. The projection for RPO for FY 2023-24 are as under:

Table 4-4: Projected RPO for FY 2023-24

Sr. No.	Particular	FY 2023-24
1	Net Power Procured (MU)	13834.56
2	less: Large Hydro Power procured (MU)	977.06
3	Power procured considered for RPO (MU)	12857.51
4	Solar Target in (%)	12.50%
5	Non-Solar target in (%)	12.50%
6	Solar Target in (MU)	1,607.19
7	Non-Solar target in (MU)	1,607.19
8	Total Targeted RPO (MU)	3,214.38
9	Solar Power Procured (MU)	1010.81
10	Non-Solar Power Procured (MU)	759.20
11	Total	1770.01
12	Solar target deficit	-596.38
13	Non-Solar target deficit	-847.99
14	Total deficit	-1,444.37

- 4.4.2. Further, the JBVNL submits that it will not be able to achieve the RPO Targets in FY 2022-23 but to achieve the RPO targets in the future, , it has signed PPA with SECI for 100MW floating solar PV from Getalsud dam. JBVNL is in the process of adopting solar rooftop programme from which it will get power from the prosumers in the state. JBVNL had also done the agreement with SECI for 700 MW out of which 450 MW has been commissioned in January 2022 and balance 250 MW is under arbitration. It has also done the agreement for wind power with INOX, commissioning of which got delayed and is expected in FY 2024-25. In future, it aims to meet the RPO targets for the state.

4.5. Energy Balance

- 4.5.1. Considering the energy available, energy sales and T&D loss projections discussed in previous sections, JBVNL has worked out the Energy Balance for the FY 2023-24. For the purpose of power purchase, the above available allocated capacity of various central generating stations and own generating stations has been considered.
- 4.5.2. JBVNL would like to submit that power purchased from various sources has been segregated into different heads, while calculating the energy balance for the control period.
- Power Purchase from Outside JSEB Boundary- sourced from NTPC, NHPC, PTC, APNRL, part of TVNL, NVVNL, SECI and RE (Wind)
 - Energy Input Directly to State Transmission System- Input of power from TVNL directly

to State Transmission System

- Energy Input through Renewables sources- Input from Solar IPPs selected through JREDA
- State-owned Generation- PTPS, SHPS, Rungta Mines, ABCIL and Inland Power
- Direct Input of Energy to Distribution System- DVC and Solar IPPs.

4.5.3. JBVNL considers Inter-State Transmission Losses at 3% of all power purchase from external sources considering Point of Connection (PoC) withdrawal losses for Jharkhand and PoC injection losses of various power plants with which it has PPA. Thereafter, JBVNL considered the Intra-State Transmission Loss @10.46% based on actual intra state transmission losses for FY 2021-22. It may be seen that Intra-State Transmission Losses of JUSNL is at very high level. This may be due to sub-optimal upkeep of transmission system by JUSNL. The Hon'ble Commission is requested to direct JUSNL to improve its system including increase in voltage level to reduce losses and requested to allow the intra-state losses on actual basis.

4.5.4. Based on the information provided above, Energy Balance of JBVNL for 2023-24 is provided in the Table below:

Table 4-5: Energy Balance for FY 2023-24

Particulars	FY 2023-24
Power Purchase from Outside JSEB Boundary (MU)	10028.99
Loss in External System (%)	3.00%
Loss in External System (MU)	300.87
Net Outside Power Available (MU)	9728.12
Energy Input Directly to State Transmission System (MU)	299.77
State-owned Generation (MU)	857.15
Energy Available for Onward Transmission (MU)	10885.04
Transmission Loss (%)	10.46%
Transmission Loss (MU)	1138.96
Net Energy Sent to Distribution System (MU)	9746.08
Direct Input of Energy to Distribution System (MU)	2648.66
Energy Available for Sale	12394.74

4.6. Intra-State Transmission Charges

- 4.6.1. It is submitted that transmission charges payable to JUSNL have been computed based on the Transmission Charges for FY 2022-23, which has been escalated by 5% to arrive at corresponding figure for FY 2023-24.
- 4.6.2. The estimated Intra-state transmission charges payable to JUSNL for FY 2023-24 is provided in the Table below:

Table 4-6: Intra-state transmission charges of JBVNL

Particular	FY 2023-24
Transmission Charge (Rs. Crore)	260.49

4.7. Operation and Maintenance Expenses

- 4.7.1. Operation and Maintenance Expenses (O&M expenses) comprises of Employee Expenses, Repair & Maintenance Expenses and Administrative & General Expenses.

Employee Expenses

- 4.7.2. The Petitioner has calculated the employee cost for FY 2023-24 by escalating the employee cost of FY 2022-23 as submitted above in Chapter of APR for FY 2022-23 by the inflation factor of 6.08% and the methodology provided under Clause 10.6 (b) and (c) of JSERC MYT Regulations, 2020.
- 4.7.3. The projected employee cost for FY 2023-24 is provided in the Table below for kind consideration of Hon'ble Commission.

Table 4-7: Employee Expenses of JBVNL for FY 2023-24 (Rs. Crore)

Sl No.	Particular	Projected
A	Employee Expenses after escalation	268.64
B	Terminal Benefits	35.10
C	Total Employee Expenses	303.74

Repair & Maintenance Expenses (R&M Expenses)

- 4.7.4. In line with the Regulation 10.6 (a) of JSERC MYT Regulations 2020, the R&M expenses for FY 2023-24 has been estimated by applying K-factor of 1.49% computed on actual details of FY 2021-22. Further the Petitioner has considered Indexation Factor of 6.08% as per Regulation 10.6 (a) of JSERC MYT Regulations 2020 for projecting Repair & Maintenance Expenditure.
- 4.7.5. The R&M expenses for FY 2023-24 is provided in the Table below for kind consideration of Hon'ble Commission.

Table 4-8: R&M Expenses for FY 2023-24 (Rs. Crore)

S. No.	Particulars	Projected
1	R&M Expenses after escalation	335.72

Administrative & General Expenses (A&G)

- 4.7.6. In line with the Clause 10.6 (b) and (c) of JSERC MYT Regulations 2020, the A&G expenses for FY 2023-24 has been calculated by escalating A&G expense of FY 2022-23 by inflation factor of 6.108 %.
- 4.7.7. The A&G expenses for FY 2023-24 is provided in the Table below for kind consideration of Hon'ble Commission.

Table 4-9: A&G Expenses for FY 2023-24 (Rs. Crore)

Sr. No.	Particulars	Projected
1	A&G Expenses after escalation	95.41
2	A&G Expenses	95.41

4.8. Calculation of Normative GFA, Loan and Equity

- 4.8.1. The Petitioner has calculated Normative GFA, Debt and Equity as per approach adopted by Hon'ble Commission in its previous Tariff Orders.
- 4.8.2. The Petitioner has first arrived at the opening and closing GFA, created out of D&E, by deducting the CC&G portion deployed towards opening and closing GFA. The Petitioner has applied the depreciation rate as approved by the Hon'ble Commission on the average GFA calculated as per Regulation 10.39 of JSERC Distribution Tariff Regulations, 2020 to arrive at the total depreciation.
- 4.8.3. After calculating the closing GFA out of D&E, the petitioner has deducted accumulated depreciation out of D&E and normative equity calculated at 30% of Closing GFA out of D&E from the resultant to arrive at normative closing debt.
- 4.8.4. Calculation of Normative GFA out of Debt and Equity, Loan and Equity is Tabulated below:

Table 4-10: Capital Investment in FY 2023-24 (Rs. Crore)

Particulars	Derivation	Estimates
Closing GFA	A	25,272.42
CCG towards GFA	B	12,705.77
Closing GFA Out of D&E	C=A-B	12,566.65
Accumulated Depreciation	D	7,667.88
Accumulated Depreciation towards GFA	E	3,812.83
Closing Normative Equity	F= C*30%	3,769.99
Closing Normative Loan	G= C-E-F	4,983.82

4.9. Scheme-wise Capital Expenditure

4.9.1. The Capital expenditure for FY 2023-24 is detailed in the present section. A brief discussion regarding the expected expenditure is also provided for consideration of Hon'ble Commission:

Table 4-11: Projected Scheme wise Capital Investment in FY 2023-24 (Rs. Crore)

Scheme Name	FY 2023-24
	Projected
Revamped Distribution Sector Scheme (RDSS)	1,322.52
<i>Consumer Metering</i>	153.73
<i>Energy Accounting (DT Metering)</i>	7.37
<i>Energy Accounting (Feeder Metering)</i>	0.58
<i>Loss Reduction</i>	1,145.42
<i>PMA</i>	15.42
Annual Development Plan (ADP)	550.00
JSBAY -RE and Urban	577.00
Jharkhand Power System Improvement Project (JPSIP)	212.50
<i>Smart Metering in Ranchi</i>	90.00
<i>IT Hardware and software Upgradation</i>	40.00
<i>Software for Power Management</i>	3.00
<i>IT Project Management</i>	2.50
<i>Business Process Upgradation</i>	4.00
<i>Upgradation of Training Centre</i>	3.00
<i>Energy Accounting (Ranchi and Jamshedpur)</i>	70.00
Smart metering Dhanbad	40.00
Consumer contribution	78.85
Total	2780.87

Brief overview of Schemes undertaken in Jharkhand

4.9.2. **Revamped Distribution Sector Scheme:** The introduction of Revamped Distribution Sector Scheme by MoP which aims to curb down the AT&C losses. The JBVNL has opted the Revamped scheme and all the aforesaid works of the Discom will now come under this scheme. The transition from existing schemes to the revamped scheme may create some unpredictable situation for JBVNL. The Revamped scheme is under process. Thus, in view of the above, the licensee is estimating the limited capital expenditure details which have clarity till date.

4.9.3. **Annual Development Plan (ADP):** The budget for Annual Development plan is prepared every year by the Sub-Transmission and Distribution Network (erstwhile S&D) wing of JBVNL, based on the requirements raised by the field offices. The budget generally covers the equipment or works not covered under any other State, Central or Multi-lateral scheme and mostly focused towards miscellaneous infrastructure replacement and small works. In order to cater the load growth and the addition of new consumers in the system, the state has kept aside budget apart from centrally sponsored scheme in the form of ADP budget. The funding of Annual Development Plan is provided by State Government in form of loan.

- 4.9.4. **Jharkhand Sampurna Bijli Achchadan Yojna (JSBAY):** is a new State Govt. sponsored scheme which aims to cover the several left over work required to ensure 24x7 power supply to all villages/Habitations and achievement of objectives of UDAY Yojana for reduction of AT&C losses. Detailed Project Reports (DPRs) under the JSBAY Scheme has already been prepared and the some part of Rural Electrification work has already been awarded and is currently under progress.
- 4.9.5. **Jharkhand Power System Improvement Project (JPSIP):** Government of India (GoI) and Government of Jharkhand (GoJ) had posted the Jharkhand power system improvement project (JPSIP) to the World Bank for Financing vide DEA Letter No. 6/02/2016 F-VIII, and Govt. of Jharkhand Letter No. 268 dated 08.02.2016. The World Bank accepted the request to finance the Power Project vide letter dated 03.10.2016.
- 4.9.6. The Project include components on providing financing for strengthening of Power Transmission Network in the state of Jharkhand and Capacity Building and Institutional Development of the unbundled Power Utilities (JUSNL and JBVNL). Key objective of JPSIP project are defined below:-
- d. *Component A- Power Transmission system Strengthening*
 - e. *Component B-Technical Assistance for Institutional Development and Capacity Building at JUSNL*
 - f. *Component C-Institutional Development and Capacity Building of JBVNL*
- 4.9.7. **Smart metering at Dhanbad:** The State Government has budgeted Rs. 40 Crore for smart metering at Dhanbad.
- 4.9.8. Considering the above capital expenditure schedule for FY 2023-24, the Petitioner has projected revised CWIP and creation of GFA.

Table 4-12: Actual Capital work in progress of JBVNL for FY 2023-24

Particulars	FY 2023-24
	Estimated (Rs Cr.)
Opening CWIP	1,209.53
Capex during the year	2,780.87
Transfer to GFA	2,754.01
Closing CWIP	1,236.39

Note: Capitalization for FY 2023-24 has been considered based on capitalization rate (i.e., 69%) of FY 2021-22

- 4.9.9. The CCG funding of JBVNL for FY 2023-24, based on the closing CCG funding of FY 2023-24 is provided in the Table below:

Table 4-13: Consumer Contributions and Capital Grants of JBVNL for FY 2023-24 (Rs. Crore)

Particulars	Estimated
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Particulars	Estimated
Opening	11,264.50
<i>addition: Govt Grant</i>	1984.02
<i>Addition: Consumer Contribution</i>	78.85
Closing	13327.37

4.10. Depreciation

- 4.10.1. The Petitioner has proposed the Depreciation for FY 2023-24 in line with the approach adopted by the Hon'ble Commission in its Tariff orders dated 01st October'2020.
- 4.10.2. The Petitioner has first arrived at the opening and closing GFA, created out of D&E, by deducting the CC&G portion deployed towards opening and closing GFA. The Petitioner has applied the depreciation rate as approved by the Hon'ble Commission on the average GFA calculated as per Regulation 10.39 of JSERC Distribution Tariff Regulations, 2020 to arrive at the total depreciation.
- 4.10.3. The depreciation expense for FY 2023-24 is provided below for kind consideration of Hon'ble Commission.

Table 4-14: Depreciation cost of JBVNL for FY 2023-24

Particulars	FY 2023-24
	Projected
GFA Excl. CCG-Opening	11,828.11
GFA Excl. CCG-Closing	12,566.65
Average GFA	12,197.38
Depreciation Rate	7.69%
Depreciation	938.20

4.11. Interest and Finance Charge

- 4.11.1. The opening debt for FY 2023-24 has been considered equal to closing value of FY 2022-23 as submitted above in chapter regarding APR for FY 2022-23.
- 4.11.2. Closing debt for all financial years of FY 2023-24 in consideration has been calculated in accordance with the Regulation 10.22 of the JSERC Tariff Regulations, 2020.
- 4.11.3. In line with the Regulation 10.23 of the JSERC Tariff Regulations, 2020 repayment of loan for FY 2023-24 has been considered equal to Depreciation as calculated above.
- 4.11.4. Further, the rate of interest on long-term loan, has been considered as prevailing MCLR of SBI plus 200 basis points as per Regulation 10.26 of the JSERC Distribution Tariff Regulations, 2020. Interest cost thus calculated vis-à-vis as approved by the Hon'ble Commission is provided in the Table below.

Table 4-15: Interest & finance charges of JBVNL for FY 2023-24

Particulars	FY 2023-24 (Rs. Crore)
Opening Balance	4,744.82
Addition	1,177.20
Repayment	938.20
Closing Balance	4,983.82
Average Loan	4,864.32
Rate of Interest	9.00%
Interest Cost	437.79

- 4.11.5. It is requested that the Hon'ble Commission may approve the interest and finance charges as submitted by the Petitioner.

4.12. Interest on Consumer Security Deposit

- 4.12.1. In order to estimate the interest on consumer security deposit for FY 2023-24, the petitioner has assumed an escalation of 5% over the accumulated consumer security of FY 2022-23 as submitted in above chapter regarding APR for FY 2021-22.
- 4.12.2. Further, the applicable interest rate as per JSERC Supply code Regulations, 2015 has been applied to estimate the Interest on consumer deposit for FY 2023-24. the interest rate considered is the SBI Base Rate prevailing as on November 2022 the date of filing Petition i.e., 8.70% p.a.

Table 4-16: Interest on consumer deposit of JBVNL for FY 2023-24

Particulars	FY 2023-24
	Projected (Rs. Crore)
Consumer Deposit	751.85
Interest Rate	8.70%
Interest on Consumer Security Deposit	65.41

Bank and Finance Charges

- 4.12.3. The Petitioner humbly submits that it has estimated the Bank and Finance charges for the FY 2023-24 to the tune of Rs. 0.49 Crore as per audited annual accounts for FY 2021-22 towards expenditures like Bank charges, finance charges, etc. The Petitioner requests the Hon'ble commission to approve the same.

4.13. Interest on Working Capital

- 4.13.1. The Petitioner has estimated the working capital requirement for MYT Control Period in line with the Regulation 10.29 and 10.30 of the JSERC Tariff Regulations, 2020.

- 4.13.2. Rate of IoWC has been considered to be equal to the SBI MCLR (for 1 year period) prevailing as on 30th Sep, 2020 plus 350 Basis Points as per Regulation 10.31 of the JSERC Distribution Tariff Regulations, 2020.
- 4.13.3. It is submitted that based on the estimated expenditure for FY 2023-24, the Petitioner has estimated the working capital requirement and interest thereof, as provided in the Table below:

Table 4-17: Interest on working capital of JBVNL for FY 2023-24

Particulars	FY 2023-24 (Rs. Crore)
Maintenance Spares	118.28
2 months Receivables	1,550.49
Less: 1-month cost of power purchase	499.32
Less: Security Deposit from Customers	751.85
Total Working Capital requirement	417.60
Interest rate on WC	11.20%
Interest on Working Capital	46.77

4.14. Return on Equity

- 4.14.1. The Petitioner has considered the opening balance of normative equity for FY 2023-24 as per the closing balance for the FY 2022-23 as submitted above in chapter regarding APR for FY 2022-23.
- 4.14.2. Closing equity in FY 2023-24 has been calculated using normative debt equity ratio (70:30) as calculated above in table above, as per the provisions of Regulation 10.16 of JSERC Distribution Tariff Regulations, 2020.
- 4.14.3. Further, the rate of Return on Equity (RoE) is considered to be 14.50% as per the provisions of Regulation 10.19 of JSERC Distribution Tariff Regulations, 2020.
- 4.14.4. The Return on Equity (RoE) for FY 2023-24 is shown below:

Table 4-18: Return on Equity (RoE) for FY 2023-24 (Rs. Crore)

Particulars	Projected
Opening Equity	3548.43
Additions	221.56
Closing Equity	3,769.99
Average Equity	3,659.21
Rate of Equity	14.50%
Return on Equity	530.59

4.15. Revenue from Sale of Power

4.15.1. Category-wise revenue at existing tariff has been worked-out based on above assumptions and projected billing determinants are shown in the Table below:

Table 4-19: Category-wise revenue of JBVNL for FY 2023-24 at existing tariff (Rs. Crore)

Category	Energy Charges	Fixed Charges	Total Revenue
Domestic (including DS HT)	3,772.81	210.14	3,982.95
NDS	694.90	77.88	772.78
SS	60.39	2.31	62.70
LTIS	172.76	44.77	217.53
IAS	98.26	1.70	99.97
HT (including RTS & MES)	1,304.27	329.16	1,633.43
Total	6,103.38	665.97	6,769.35

4.15.2. The Revenue from sale of power for FY 2023-24 at existing tariff as projected by the Petitioner works out to be Rs. 6,769.35 Crore towards electricity sales.

4.16. Non-Tariff Income

4.16.1. The Non-Tariff Income (Other Income) of JBVNL for FY 2023-24 has been considered at the level of FY 2021-22 for the kind consideration of Hon'ble Commission. The Petitioner has already submitted the rationale behind the computation of NTI in Chapter regarding True-up, which is in line with the judgement of Hon'ble APTEL dated 12.07.2011 in case No. 142 & 147 of 2009. The Petitioner has not estimated any delayed payment surcharge for FY 2023-24 and will consider the same on actual basis.

4.16.2. The Petitioner humbly prays to the Hon'ble Commission to approve the Non-tariff income as outlined below:

Table 4-20: Non-Tariff income of JBVNL for FY 2023-24 (Rs. Crore)

Non-Tariff Income	FY 2023-24
	ARR for FY 2023-24
Interest Income from Investment in Fixed Deposits	20.34
Interest from Bank (Other than FD)	5.09
Supervision Charges	3.28
Miscellaneous Receipt	3.60
Transformer Rent	20.34
Wheeling Charges / Fuel surcharge	0.00*
Miscellaneous Charges from Consumers	0.25
Interest Income from Investment in Fixed	9.46

Non-Tariff Income	FY 2023-24
	ARR for FY 2023-24
Deposits	
Total	62.35

**Wheeling charges i.e., income from sale of power to IEX will be considered on actual basis for FY 2023-24*

4.16.3. Based on the components of the ARR discussed in the above sub-sections, the projected ARR for FY 2023-24 has been provided in the Table below:

Table 4-21: Projected Aggregate Revenue for FY 2023-24 (Rs Crores) at existing tariff

Particulars	ARR for FY 2023-24
Total Power Purchase Expense	6611.19
<i>Power Purchase Expense</i>	5991.88
<i>Intrastate transmission charges</i>	260.49
<i>Interstate transmission Charge</i>	358.82
Operations and Maintenance Expenses	734.87
<i>Employee Expense</i>	268.64
<i>Administration & General Expense</i>	95.41
<i>Repair & Maintenance Expense</i>	335.72
<i>Terminal Liability</i>	35.10
Depreciation	938.20
Interest on Long Term Loan	437.79
Interest on Working Capital Loan	46.77
Interest on Consumer Security Deposit	65.41
Bank/ Finance Charges	0.49
Return on Equity Capital	530.59
Total Expenditure	9365.30
<i>Less: Non Tariff Income</i>	62.35
Annual Revenue Requirement	9302.94
<i>Revenue from Intrastate sales / Sale of Power</i>	6769.35
Net Gap/(Surplus)	2533.59

4.16.4. The net gap for JBVNL for FY 23-24 at existing tariff comes out to be Rs 2533.59 Cr. As the net gap is huge for FY 23-24, the JBVNL proposes for new tariff rates in all categories of consumers to reduce the overall gap. The Petitioner requests the Hon'ble Commission to approve the ARR claimed for FY 2023-24 as per the table provided above.

4.16.5. The projected gap for FY 23-24 at proposed tariff rates is provided below:

Table 4-222: Projected Aggregate Revenue for FY 2023-24 (Rs Crores) at proposed tariff

Particulars	ARR for FY 2023-24
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Particulars	ARR for FY 2023-24
Total Power Purchase Expense	6611.19
<i>Power Purchase Expense</i>	5991.88
<i>Intrastate transmission charges</i>	260.49
<i>Interstate transmission Charge</i>	358.82
Operations and Maintenance Expenses	734.87
<i>Employee Expense</i>	268.64
<i>Administration & General Expense</i>	95.41
<i>Repair & Maintenance Expense</i>	335.72
<i>Terminal Liability</i>	35.10
Depreciation	938.20
Interest on Long Term Loan	437.79
Interest on Working Capital Loan	46.77
Interest on Consumer Security Deposit	65.41
Bank/ Finance Charges	0.49
Return on Equity Capital	530.59
Total Expenditure	9365.30
<i>Less: Non Tariff Income</i>	62.35
Annual Revenue Requirement	9302.94
<i>Revenue from Intrastate sales / Sale of Power</i>	9793.86
Net Gap/(Surplus)	(490.92)

5. Accumulated Revenue Gap

5.1. Accumulated Revenue Gap to be recovered for FY 23-24

5.1.1. The Petitioner submits that accumulated Revenue Gap from True-up, APR and ARR for FY 21-22 to FY 23-24 at existing tariff without considering carrying cost is as under:

Table 5-1: Accumulated Revenue Gap without carrying cost at existing tariff for FY 2023-24 (Rs. Crore)

Particulars (Rs Crore)	Revenue Gap
Revenue Gap for FY 2021-22 Gap/(Surplus)	2,691.48
Revenue Gap for FY 2022-23 Gap/(Surplus)	3122.36
Revenue Gap for FY 2023-24 Gap/(Surplus) at Existing Tariff	2533.59
Total Gap/(Surplus) to be recovered in FY 2023-24	8347.43

5.1.2. The total gap to be recovered in FY 2023-24 considering the gaps from FY 21-22 to FY 23-24 is Rs 8347.43 crores at existing tariff.

Table 5-2: Accumulated Revenue Gap without carrying cost at proposed tariff for FY 2023-24 (Rs. Crore)

Particulars (Rs Crore)	Revenue Gap
Revenue Gap for FY 2021-22 Gap/(Surplus)	2,691.48
Revenue Gap for FY 2022-23 Gap/(Surplus)	3122.36
Revenue Gap for FY 2023-24 Gap/(Surplus) at Proposed Tariff	(490.92)
Total Gap/(Surplus) to be recovered in FY 2023-24	5322.92

5.1.3. At proposed tariff, the petitioner aims to recover an additional amount of Rs 3024.51 Cr through the hike in tariff and the resulting revenue surplus for FY 2023-24 comes out to be Rs 490.92 Crores. The revenue surplus that would be accrued in FY 23-24 would partially compensate the revenue gap accrued for FY 21-22 and FY 22-23 due to no increment of tariff in previous years.

5.1.4. The Petitioner prays to the Hon'ble Commission to approve the proposed tariff so that cumulative revenue gap till FY 2023-24 reduces to Rs 5322.92 crores. The petitioner prays to the Commission to allow carrying cost on the revenue gap created and allow it to either recover of the same through tariff in the ensuing year or allow financing cost of the gap with recovery of the gap in future years.

6. Directives

- 6.1.1. The Petitioner humbly submits that it is committed to follow and comply with the directives of the Hon'ble Commission to become a 100% regulatory compliant distribution utility. Hon'ble Commission has issued last Tariff Order on 01st October 2020 and thereafter, JBVNL filed the Petition on 30th November 2020 as per Regulations. Owing to delay in issuance of Tariff Order and ongoing pandemic situation, JBVNL had limited time for compliance of directives during filing of the last MYT Petition dated 30th November 2020. In its previous Petition filed on November 30, 2021, JBVNL submitted detailed status of pending directives issued by Hon'ble Commission in its Order dated 01st October 2020. The order on the same is still pending before the commission. In this instant petition, JBVNL would like to update the compliance status to the commission.

Table 6-1: Status of the Pending directives issued by JSERC in the Order dated 01st Oct. 2020

Sl. No.	Directives	Details	Status of Compliance/ Petitioner's Reply
1	Abolishment of Un-metered Category	The Petitioner shall not be allowed to bill any unmetered consumers from January 01, 2021. The Commission, however, provides final opportunity to the Petitioner to complete the metering of by December 2020 and submit the completion report by December 31, 2020.	<p>It is to mention that JBVNL, during the past years, have taken focused steps to convert the unmetered category of consumers to metered category of consumers and there is no unmetered consumers under domestic category.</p> <p>JBVNL filed a miscellaneous petition vide case no 02 of 2020 on December 18, 2020 seeking to allow unmetered tariff parallelly as provided in the tariff order dated 27.04.2018, till the time 100% metering is achieved.</p> <p>JBVNL monitored the meter installation work rigorously and the work stepped up through third party meter installation agencies under ADP scheme. Three agencies viz M/s HPL, M/s Bentec and M/s Avon are engaged by JBVNL for procurement and installation of 2,90,000 (nos.) single phase meters in the premises of unmetered consumers.</p> <p>In its final order dated 10/01/2023, the commission disposed of the petition stating that the metering of unmetered consumers has been completed by the petitioner.</p>

Sl. No.	Directives	Details	Status of Compliance/ Petitioner's Reply
2	RPO Obligation	<p>The Commission direct the Petitioner to comply with the RPO Obligation by August 2020 for period till FY 2019-20 and submit the report by September 2020. The Petitioner is required to submit the quarterly report on RPO compliance for FY 2020-21. The Commission, in this Order has not imposed a penalty for non-fulfilment of RPO. The Commission may be constrained to levy penalty in future, if the Petitioner do not comply with the same. A monetary penalty may also be imposed on the Managing Director and/ or senior management of the Discoms, if the Commission deems so.</p>	<p>The Petitioner humbly submits the RPO compliance for FY 2021-22 and 1st Q1 for FY 2022-23 which is attached as Annexure-A. Further, the JBVNL submits that it will not be able to achieve the RPO Targets in FY 2022-23 but to achieve the RPO targets in the future, , it has signed PPA with SECI for 100MW floating solar PV from Getalsud dam. JBVNL is in the process of adopting solar rooftop programme from which it will get power from the prosumers in the state. We had also done the agreement with SECI for 700 MW out of which 450 MW has been commissioned in January 2022 and balance 250 MW is under arbitration. We have also done the agreement for wind power with INOX, commissioning of which got delayed and is expected in FY 2024-25. In future, it aims to meet the RPO targets for the state.</p>
3	Energy Audit & T&D Loss Reduction Plan	<p>The Commission observes that the Petitioner has been consistently sidestepping the directions of the Commission for compliance of the directives on Energy Audit and T&D Loss Reduction Plan. The Commission provides a final opportunity for the Petitioner to conduct division-wise Energy Audit & prepare circle-wise T&D Reduction Plan and submit the same along with its progress to the Commission within six months of issue of this Tariff Order. The Commission has observed that a formal report has not been submitted by the Petitioner along with the efforts made to reduce such losses. The Commission directs to submit the verified audit report on sample basis within 3 months from the date of issuance of this Order without any fail. The Commission also directs the Petitioner to move towards prepaid meters to improve the collection efficiency.</p>	<p>The JBVNL has appointed the M/s Feedback Infra for the study of Circle wise Loss Reduction Plan and the report was submitted by them and the same is attached for the reference of the Hon'ble Commission as Annexure-B. Further, for perfect energy audit the system metering is mandatory. To install the meters at all Feeders and Distribution Transformers, the JBVNL has prepared a plan of Rs. 358.67 Crore and the same was approved by BoD dated 17-05-2021. Thereafter, it was under the approval from State Cabinet but after the introduction of Revamped Distribution Sector Scheme , the JBVNL has opted the Revamped scheme and the aforesaid works of the Discom will now come under this scheme and also the same has been approved by JBVNL BoD on 25 October 2021. State Cabinet ,Govt. of Jharkhand vide resolution no. 570 dated 22.03.2022 gave administrative approval for a total project cost for Rs 9643.79Cr of</p>

Sl. No.	Directives	Details	Status of Compliance/ Petitioner's Reply
			RDSS Project and also approved to release State Govt. share in light of funding pattern of scheme. In RDSS scheme, 2241306 Nos. prepaid smart meters will be installed with a budget outlay of INR 1475.11 crores.
4	Interest on Consumer Security Deposit	The Commission has noted that the Petitioner has not made any official submissions on the issue to the Commission and directs the Petitioner to ensure that the interest is paid to all the consumers on the security deposits and submit the monthly compliance report to the Commission. The Petitioner is required to submit data related to total amount of consumer security received by the Petitioner, interest payable on consumer security deposit and actual amount paid till date on quarterly basis to Commission.	The Licensee submits that it has paid the dues pertaining to interest on consumer security deposit to those consumers whose data has been updated in the internal database of JBVNL. Further, JBVNL is in the transition phase of transferring the data from one Billing Software Agency to another and after that the licensee will be able to get the actual amount of interest on consumer security deposit paid to consumers.
5	Segregation into Retail & wheeling supply of business	According to the Regulation 5.4 of the Tariff Regulations 2015, separate accounting has to be done for Wheeling & Retail supply of Business which has not been the case till now. As per Regulation 5.5 of Tariff Regulations 2015, until the time accounts are not segregated an Allocation Statement shall be prepared and submitted to apportion the costs and revenues after the approval of the Board of Directors. The Commission strictly directs the Petitioner and directed to prepare the FAR and submit the same before Commission along with the MYT Petition.	The licensee humbly submits that the process for selection of agency for preparation of Fixed Asset Register (FAR) is under approval from the competent authority and after that the work order will be issued to the selected agency to start the said work in scheduled time. Accordingly, after the completion of the said work JBVNL will submit the FAR to the Hon'ble Commission.
6	Actual Supply Hours in Rural Areas	The Petitioner is directed to comply with the SOP and submit the monthly report in the prescribed formats.	The average supply hours for Urban & Rural area for the month of October 2022 of JBVNL is attached in the Annexure-C .
7	Voltage Wise-Cost of Supply	The Commission has noted the submissions of the Petitioner. The Petitioner is directed to submit the complete study along with all its annexures and clear methodology used for calculation of VCoS within 1 month from the date of issue of this Order.	As per the direction of the Hon'ble Commission, JBVNL has already communicated to the M/s Feedback Infra for the resubmission of the Revised Voltage wise report with all requisites and also to present for the discussion on the methodology adopted in the report in front of the Hon'ble Commission.
8	Wheeling	The Commission observes the	The licensee humbly submits that

Sl. No.	Directives	Details	Status of Compliance/ Petitioner's Reply
	Charges	persistence in delay in execution of the current directive and directs the Petitioner strictly to prepare the FAR and submit detailed calculation for voltage wise wheeling charge in the MYT Petition.	the process for selection of agency for preparation of Fixed Asset Register (FAR) is under approval from the competent authority and after that the work order will be issued to the selected agency to start the said work in scheduled time. Accordingly, after the completion of the said work JBVNL will submit the FAR to the Hon'ble Commission and start the calculation for voltage wise wheeling charges.
9	Employee Performance Appraisal	The Commission observes that the Petitioner is yet to submit any report in this regard to the Commission. The Commission observes that the Petitioner has made some interim arrangement. The Commission directs the Petitioner to develop an arrangement whether the quality of supply can be objectified into performance indicators and for an area is linked to respective Officers. The Petitioner to submit the compliance report in 3 months from the date of issue of this order.	The licensee humbly submits that it has implemented the Loss Reduction Incentive Scheme for its employees. The Copy of the same is attached here as Annexure-D .
10	Capacity Building of Employees	The Commission directs the Petitioner to ensure such capacity building program should be conducted on regular basis and submit details of such workshops undertaken along with the next Tariff Petition.	Due to COVID related issues, the capacity building programs conducted were very less in previous year. However, the details of the capacity building programs conducted in the various areas/circles are attached here as Annexure-E .
11	Submission of impact analysis and requisite data along with proposal for introduction of ToD Tariff	The Commission directs the Petitioner to submit the load curves for days with maximum peak demand and minimum peak demand for each month of FY 2019-20 and April 2020 to September 2020 along with its technical preparedness for implementation of ToD Tariffs while submitting the Business Plan and MYT Petition for FY 2021-22 to FY 2025-26.	The licensee humbly submits that the day wise Maximum and Minimum Peak demand with Load curve for the FY 2021-22 are attached as Annexure-F . Further, the JBVNL is already in the process of implementation of Smart Meters which is having the functionality for ToD Tariff. As a pilot, JBVNL has achieved implementing 1000 smart meters in Ranchi area and currently monitoring the overall effect of the same so as to increase the coverage of its implementation quickly.
12	Reduction in Fixed Charges	The Commission directs the Petitioner to submit a report on implementation of the reduction in Fixed Charges based on billing hours for all categories except LT - Domestic, within 30 days of issue	The licensee humbly submits that implementation of the reduction in fixed charges for HT consumers is in place. Some samples of the billing are attached in Annexure G . However, JBVNL is facing

Sl. No.	Directives	Details	Status of Compliance/ Petitioner's Reply
		of this Order and implement the same from the subsequent billing cycle following the issuance of this Order. With regard to LT-Domestic category, the Commission directs the Petitioner to implement the same from January 01, 2021.	operational difficulties in the process of implementing the same for LT and domestic category.

7. Prayers

The Petitioner humbly prays that the Hon'ble Commission may be pleased to:

- a) Admit the tariff and ARR Petition for FY 2023-24 accompanying audited True-up for FY 2021-22 and APR for FY 2022-23 in accordance with the JSERC (Terms and Conditions for Determination of Distribution Tariff) Regulations, 2020.
- b) Allow the Petitioner to add/ change / alter / modify this application at a future date.
- c) To condone any inadvertent omissions/ errors/ shortcomings and permit the Petitioners to add/ change/ modify/ alter this filing and make further submissions as may be required at a future date.
- d) To allow petitioner to carryout adjustment of change in fuel price from FY 2023-24 and onwards in accordance with JSERC (Terms and Conditions for Determination of Distribution Tariff) Regulations, 2020.
- e) To pass such Orders as deemed fit and proper in the facts and circumstances of the case in the interest of justice.

8. Review on the Tariff Orders for True-Up of FY 2018-19, APR of FY 2019-20, ARR and Tariff of FY 2021-22

8.1.1. It is submitted that some of the claim in the Petition for True-Up of FY 2018-19, APR of FY 2019-20, ARR and Tariff of FY 2021-22, was disallowed by the Hon'ble Commission in Order dated 01.10.2020. The Petitioner has filed a Review Petition on the said Tariff Order before the Hon'ble Commission. The impact of said Review Petition will have a bearing in this Petition. In view thereof, it is submitted that the Petitioner's claim in the present Petition is without prejudice to its contentions in Review and it is requested to the Hon'ble Commission to consider the impact of the above in this Order. The issues, which the petitioner have raised under Review Petition are as follows:

- 1) Consideration of loss take over under UDAY scheme as revenue in FY 2018-19, FY 2019-20 and FY 2021-22.
- 2) Power Purchase Cost of DVC.
- 3) Consideration of Meter Rent in Non-Tariff Income.
- 4) Revision of Minimum Billed Demand (101 KVA) for HT Consumers.
- 5) Introduction of Per Bulb Tariff in case of Street Lights consumers where meter cannot be installed.
- 6) Reduction in Fixed Charges.
- 7) Arithmetical error in Power Procurement Table for FY 2019-20.