Business Plan for MYT Control Period FY 2026-27 to FY 2030-31

Jharkhand Bijli Vitaran Nigam Limited

Table of Contents:

List of Figures

List of Tables

1. Background & Introduction

3.1 Background

1.1.1. The Hon'ble Commission, in exercise of the powers conferred by the Electricity Act 2003, notified the Jharkhand State Electricity Regulatory Commission (Terms and Conditions for Determination of Distribution Tariff) Regulations, 2025 on 16th Otober 2025 in exercise of powers conferred by sub-section (1) of Section 181 and clauses (zd), (ze) and (zf) of sub-section (2) of Section 181, read with Sections 61, 62, and 86, of the Electricity Act, 2003 (36 of 2003). These regulations shall come into force for the period from April 01, 2026 to March 31, 2031.

1.1.2. Regulation 6.9 of JSERC (Terms & Conditions for Determination of Distribution Tariff) Regulations, 2025 states that: "Each Licensee shall file for the Commission's approval a Business Plan approved by an authorized signatory, as per the timelines specified in Section A 24 of these Regulations; ".

1.1.3. Section A 24 of the said regulation states that Business Plan for the Control Period and MYT Petition for the Control Period for FY 2026-27 to FY 2030-31 with Retail and Wheeling Tariffs for first year of the Control Period is to be filled by November 30,2025 along with True-Up for the previous year, Annual Performance Review for the current year and ARR & Tariff Determination for the next year of the Control Period.

1.1.4. Further Regulations 6.10 and 6.11 of JSERC Distribution Tariff Regulations, 2025 states that:

The Business Plan shall be filed separately for the Retail Supply and Wheeling Business. As specified in Clause 6.7 of these Regulations, in the absence of segregated accounts for the two Businesses, the Licensee shall prepare an allocation statement and submit the same with the Business Plan. The Business Plan shall be for the entire Control Period and shall inter- alia contain:

- **Capital Investment Plan** for the entire Control Period commensurate with load growth, distribution loss reduction trajectory and quality improvement measures proposed in the Business Plan. The Capital Investment Plan should also include corresponding capitalisation schedule and financing plan. Distribution Licensee shall also submit scheme-wise capital structure and cost of financing (interest on debt) and return on equity, Grant, Deposit Works, along with terms of the existing loan agreements, etc., as a part of the Capital Investment Plan;
- **Sales/Demand Forecast** for each consumer category and sub- categories for each year of the Control Period;Power Procurement Plan based on the sales forecast and distribution loss trajectory for each year of the Control Period. The Power

Procurement Plan shall also include energy efficiency, RPO fulfilment, and demand side management measures. A set of targets proposed for other controllable items such as distribution losses, Billing efficiency, Collection efficiency, working capital requirement, quality of supply targets (viz., SAIFI, SAIDI and MAIFI as per the Jharkhand State Electricity Regulatory Commission (Distribution Licensees' Standards of Performance) Regulations, 2015, and subsequent amendments), etc. The targets shall be consistent with the capital investment plan proposed by the Licensee.

- **Human Resource Plan** with manpower planning including details of the estimated year wise manpower addition and retirements for the Control Period to meet the growth in demand/consumers;Proposals for Non-Tariff Income with item-wise description and details; Proposals in respect of income from Other Business.

1.1.5. Business Plan shall also contain the requisite information for the preceding Control Period:

1.1.6. Provided that requisite information for the preceding Control Period shall include year-wise audited data on Scheme-wise capital investment, distribution loss trajectory, quality improvement measures undertaken, category-wise number of consumers, connected load and sales, source-wise power procurement quantum and cost, Employee, R&M and A&G Expenses along with detailed break up and any other information used for preparing projections of various performance parameters and other components during the Control Period. In case of a new Licensee, such information is required to be submitted for the period of operations up to the start of the Control Period.

1.1.6 Accordingly, Jharkhand Bijli Vitran Nigam Limited (JBVNL) is hereby filing the Business Plan for the Control Period (FY 26-27 to FY 2030-31) based on the available data from the last control period (i.e) from the FY 21-22 to FY 25-26.

1.1.7 Jharkhand Bijli Vitran Nigam Limited (JBVNL) has prepared the Business Plan taking into the consideration the various existing internal factors and external business environment affecting the business.

1.1.8 As the accounts are not segrgegted for the wheeling and retailing businesses, JBVNL has prepred an allocation plan and submitted the same with this business plan.

1.1.9 Jharkhand Bijli Vitran Nigam Limited (JBVNL) submits that the Business plan is a planning document based on the data available at this point of time and is subjected to change on account of internal and external factors and related policy and regualtory variation in the state as well as centre. So, as and when such changes occur resulting major chnages in the business plan, the same updates will be shared with Hon'ble Commission time to time.

3.2 Introduction to business plan

1.2.1 In the current document we have separately dealt with the different aspects of the business plan for the distribution functions. The key objectives of this business plan are:

The Business Plan serves as a strategic management tool, supporting analysis and anticipation of future infrastructure needs, planning for necessary capital investment, identifying financing options, and recording associated costs to enhance monitoring and implementation of upcoming projects. It is crucial to align network expansion in transmission and distribution with the energy demand growth that underpins the utility's economic objectives.

1.2.2 Additionally, preparing the Business Plan fulfills the regulatory requirement of submitting such a plan as outlined in the JSERC Distribution Regulations, 2025.

1.2.3 This plan aids decision-making and is valuable for management, stakeholders, regulatory authorities, and government agencies. Forecasts and analyses contained within help guide decisions, prompt proactive measures, and thus raise the operational efficiency of the transmission and distribution system.

1.2.4 All these elements are systematically set out in this Business Plan, which starts with Jharkahnd Power Sector : A Changing Landscape and current overview of Jharkhand's power sector and details of JBVNL's operations. Consistent with JSERC Distribution Regulations, 2025, JBVNL's capital expenditure roadmap for infrastructure enhancement and modernization, including criteria for project selection, area of implementation, and schedules for capitalisation are detailed out. Projected operational metrics are laid out in subsequent write up followed by projected energy sales along with an outline of power procurement agreements for meeting rising demand. Since JBVNL was restructured as an independent utility in 2014, it has progressed in terms of service delivery, customer satisfaction and infrastrcutre upgrdation with minimal support of State Government.The business plan concludes with JBVNL's formal submissions to the Commission.

2. Jharkhand Power Sector: A Changing Landscape

2.1 The State of Jharkhand

2.1.1 Jharkhand's emerging power sector is poised for significant transformation driven by the state's abundant natural resources and growing energy demand. Historically reliant on coal, Jharkhand is now strategically shifting focus towards renewable energy to ensure energy security, economic diversification, and sustainable development in alignment with Ministry of Power's new renewable consumption obligations (RCO). The new RCO vis-à-vis the State's aggressive Renewable Purchase Obligation (RPO) targets are pushing JBVNL to meet the growing demand for renewable energy.

2.1.2 The State government's renewable energy policy receives full JBVNL support for developing and implementing state projects. Comprehensive plans target solar, wind, and hydroelectric expansion, grid modernization, and energy efficiency. In 2025, startegic plans are laid out for Jharkhand's BESS ecosystem via key projects and policies for clean energy integration and grid stability through JBVNL. The state eyes low-carbon hub status—EVs, solar panels, BESS—leveraging renewables and battery minerals. JBVNL plans BESS integration in its network via SECI or private partners.

Table 1: Overview of the State of Jharkhand

Parameter	Details
Year of Creation of JBVNL	Jharkhand carved out in 2000 from Sothern part of Bihar, 2015 (Jharkhand Bijli Vitran Nigam Limited was unbundled from Jharkhand State Electricity Board)
Jharkhand Population	Approx. 3.5 crore (35 million) as per 2021 census estimates with 76% rural and 24% urban population
Area	79,710 square kilometres (3rd largest in Eastern India). Out of total area, 29% is covered in forest area and 16% s cropped area
Administrative Setup	24 districts divided into 5 divisions, with decentralized governance
Industrial Corridors	Key corridors include Jamshedpur-Jharkhand Industrial Corridor and Bokaro-Ramgarh Industrial Zone
Infrastructure Build-up	Significant augmentation in transmission & distribution capacity since 2015, including automated metering and network expansion

2.1.3 Jharkhand's urbanization rate is around 24.05%, which is lower than the national average of approximately 31.15%. This reflects that a majority of Jharkhand's population still

resides in rural areas, indicating slower urban development relative to the overall country. The proportion of people below the poverty line in Jharkhand is reported at around 23.3% according to 2025 estimates, which is above the national average poverty rate of about 19-20%. (Source: [1]Niti Ayog)

2.1.4 Power sector being one of the foundational pillars for a stronger infrastructure and a stronger economy, the status of the sector in Jharkhand plays a pivotal role in the overall upliftment of the state and improvement in the standard of living and socio-economic parameters. The following sections provide details about the power sector in Jharkhand and the planned way forward, which has been translated into actionable items and proposed investments as part of this business plan.

2.2 Jharkhand's Power Distribution sector Vis-à-vis JBVNL's Initiatives

2.2.1 Distribution sector is the most vital part of whole power sector value chain as it is connected directly to the consumers. However, this sector has been marred with many inefficiencies like high AT&C losses etc. which has affected the financial health of the state-owned distribution company.

2.2.2 The erstwhile Jharkhand State Electricity Board (JSEB) was constituted on March 10, 2001 under the Electricity (Supply) Act, 1948 as a result of the bifurcation of the erstwhile State of Bihar. Jharkhand State Electricity Regulatory Commission (JSERC) was established on August 22, 2002 and became operational from April 24, 2003. JSERC carries out its functions and roles in accordance with applicable provisions of the Electricity Act, 2003.

2.2.3 In order to comply with the Electricity Act'2003, the state has restructured the erstwhile JSEB on 6th January 2014, into following companies:

- Jharkhand Urja Vikas Nigam Ltd (JUVNL) being the holding company;
- Jharkhand Urja Utpadan Nigam Ltd (JUUNL) undertaking the generation function of the erstwhile JSEB;
- Jharkhand Bijli Vitaran Nigam Ltd (JBVNL) undertaking the distribution function of the erstwhile JSEB;
- Jharkhand Urja Sancharan Nigam Ltd (JUSNL) undertaking the transmission function of the erstwhile JSEB.

2.2.4 The unbundling of erstwhile JSEB in January 2014, has been a step in the right direction, paving way for a robust and sustainable power sector and realizing the long-term vision of ensuring reliable and quality power for everyone.

2.2.5 The State has successfully achieved 100% electrification and now is targeting to improve

[1] A Macro and Fiscal Landscape of the State of Jharkhand

the per capita consumption in Jharkhand (i.e., 867 kWh for FY2021-22, as per CEA), which is lower than the national average of 1,255 kWh for FY2021-22 (as per CEA). India's average per capita electrcity consumption stands at 1,538 kWh in FY25. No recent data exists for Jharkhand. The State is presently being served by 5 different utilities, with JUSCO and DVC having overlapping areas with JBVNL. The petitioner is committed to providing power supply to each household left post SAUBHAGYA Scheme, in the State of Jharkhand.

2.2.6 The State of Jharkhand intends to provide cheaper power to Tribal & economically backward consumers. Hence, JBVNL has expanded its distribution network on a massive scale through the successful implementation of Central Government Schemes such as DDUGJY, AGJY, SAUBHAGYA, R-APDRP and IPDS and State Government Schemes such as JSBAY and TMGKPY which has led to enhanced power demand across all consumer categories and ensured last mile connectivity.

2.2.7 To further improve the quality and reliability of supply, JBVNL is focused on strengthening the existing Distribution Infrastructure with the help of Central Government schemes such as Revamped Distribution Sector Scheme (RDSS) which would focus on metering, AB cabling and UG cabling works thus minimizing losses across the vast sub-transmission and distribution network.

2.2.8 The JBVNL lays huge emphasis on constant monitoring of the Breakdown and Tripping on various feeders in order to improve the power supply quality and thus the Customer satisfaction.

2.2.9 Apart from this, Implementation of Outage Management System (OMS) after GIS mapping is planned to commence in Urban Areas and then gradually extend to rural areas to proactively manage outages and supply restoration for increased Customer Satisfaction.

2.2.10 The JBVNL has taken up the implementation of feeder segregation schemes which has helped in providing reliable supply and better load management in the rural areas. It has also taken initiative to separate Agricultural load from Mixed feeders for establishing dedicated agricultural feeders. Such feeders are being solarized under PM-KUSUM scheme, that will not only help improve the quality of life of farmers by enabling irrigation during the daytime but will also help in reducing the subsidy burden of State Governments in addition to correct estimation of agricultural subsidy announced by the state govt.

2.2.11 JBVNL is committed to implement Electricity (Rights of Consumers) Rules, 2020 and subsequent amendments, as notified by Ministry of Power (Govt. of India), which include the provisions of compensation to the consumers in case of deficiency of any- particular service by the DISCOM. The Jharkhand State Electricity Regulatory Commissions have already specified the expected Standards of Performance of Distribution Licensees and upgradation of the same must be done in cognizance with the notified Electricity (Rights of Consumer) Rules 2020. JBVNL has fully compliant to this regualtion.

2.2.12 JBVNL plans to introduce Time of the Day (ToD) tariff sequentially in order to appreciate the value of peaking power so that proper Demand Side Management (DSM) can be ensured. This has been stressed upon by the Hon'ble Commission and the petitioner is mulling various options to introduce this.

2.3 Some of the initiatives planned:

2.3.1 Becoming a utility with 100% smart metering at all levels including rural consumers, SCADA systems & with utilization of technology and robust energy accounting shall ensure that the reasons for T&D losses can identified and mitigated. The use of automation and smart metering can play a pivotal role in bringing the positive transformation in the distribution sector.

2.3.2 The up gradation of existing distribution infrastructure with feeder improvement program coupled with infrastructure investments under various central government schemes such as RDSS etc. shall ensure 24X7 reliable power to all consumers in the state.

2.3.3 Central and State government schemes such as PM-KUSUM and Jharkhand Sampoorn Bijli Achadan Yojana (JSBAY), have been envisioned to boost the adoption of renewable energy and to bolster the electricity distribution infrastructure thereby meeting increasing energy demands resulting from 100% electrification of rural and urban households in the state.

2.3.4 Initiatives related to energy efficiency, focus on optimization of power purchase cost along with reduction in overall cost of power generation due to coal swaps etc. shall have an impact on creating the affordability of power for all consumers.

2.3.5 The impact of measures to be taken for reduction of AT&C Losses, including feeder segregation, improving billing and collection efficiency through various means shall not only be instrumental in reducing the overall cost of supply but also result in optimal utilization of national resources at large.

2.3.6 Digital transformation initiatives like augmentation of IT infrastructure through cutting edge cloud-based solutions, ERP implementation, GIS, and SCADA for monitoring of key parameters is expected to consolidate the ongoing institutional strengthening initiatives.

2.3.7 Special emphasis is placed on consumer indexing and asset mapping in a time bound manner. Implementation of a power portfolio management tool for demand forecasting under various time horizons and also on season-wise basis to decide on longterm, medium terms and short-term power procurements.

2.3.8 Metering of all distribution transformers and feeder meters within next 3 years' time under projects such as RDSS and multilateral funded projects for accurate energy auditing & accounting.

2.3.9 All the existing meters on feeders and distribution transformers shall be converted into AMR meters so that need for taking manual reading for such meters gets avoided. Distribution SCADA systems are planned to be implemented as a tool with the system operator on a priority basis, to facilitate creation of network information and customer data base and to help in the management of load, improvement in quality, detection of theft and tampering, customer information and also for prompt and correct billing and collection.

2.3.10 As Power Utilities in Jharkhand endeavors to become a regulatory compliant entity with

enhanced discipline in tariff filing and recovery of cost impact through Fuel and Power Purchase Cost Adjustment (FPPCA) mechanism, it can be ensured that the gap between the ACS and ARR gets timely addressed. They will also be able to recover its actual cost of supply and the tariff shocks can be avoided.

2.3.11 Thus, it is expected that JBVNL will be characterized by robust infrastructure, monitoring of performance, motivation of employees and technological interventions. Effectively, it will reduce the dependence of JBVNL on State Government and pave foundations for a financially sustainable and a self-sufficient power sector in Jharkhand

2.4 Power Demand Supply

2.4.1 In terms of demand supply gap, the State has witnessed improvement over the last few years. The gap between the energy requirement and the energy availability for JBVNL over the last few years is reducing and with addition of Patartu Power plant (phase 1 and phase 2) , the gap is expected to be minimal.

Table 2: Expected Energy requirement and Energy availability for JBVNL (FY 26-27 to FY 30-31)

Particulars	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
Peak Demand (MW)	3174.336	3333.053	3499.705	3674.691	3858.425
Peak Available (MW)	3174.336	3333.053	3499.705	3674.691	3858.425
Peak Shortage %	0.00%	0.00%	0.00%	0.00%	0.00%
Energy Requirement (MU's)	17426.33	18282.73	19219.2	20245.52	21372.85
Energy Available (MU's)	17426.33	18282.73	19219.2	20245.52	21372.85
Energy Shortage(%)	0.00%	0.00%	0.00%	0.00%	0.00%

*projected including energy requirement from DVC command area of JBVNL

2.4.2 For the next control period, as substantial additional power from PTPS will be available, JBVNL do not anticipate any peak shortage and energy shortage for the next control period from FY26-27 to FY 30-31. Also, JBVNL is planning to come up with Battery Energy Storage System in its selected PSS to store electricity to meet the peak demand better.

2.5 Key Targets for MYT Period

2.5.1 In accordance with the proposed capital investment, JBVNL expects to achieve various targets for operational and financial turnaround. The proposed capital investment is majorly coming from RDSS scheme of the GoI in which JBVNL is an active partner.

2.5.2 The main RDSS (Revamped Distribution Sector Scheme) targets for JBVNL (Jharkhand Bijli Vitran Nigam Limited) are as follows:

2.5.3 AT&C Loss Reduction: The principal target is to bring down Aggregate Technical & Commercial Losses (AT&C losses) to 12–15% by FY 2024-25, aligned with the national benchmark set by the Ministry of Power. Current revisions for Jharkhand project a distribution loss of 19% for FY 2024-25 and expected targets of 12% for FY 2027-28. However, JBVNL in its projections is targeting a loss of around 15% by the end of nect control period (i.e) FY 30-31..

2.5.4 Smart Meter Rollout: JBVNL has a target of installing 18.5 lakh smart meters under RDSS, JPSIP and state scheme. As of July 2025, about 7.7 lakh smart meters have already been installed, with the rollout ongoing to reach the RDSS objective.

2.5.5 Infrastructure Strengthening: Expansion and strengthening of distribution infrastructure, including extensive deployment of AB (Aerial Bunched) cables to reduce theft—over 78,000 circuit km as of 2025. Additional objectives include feeder improvement, complete metering at DT and feeder level, feeder segregation, implementation of ERP, and IT-driven monitoring.

2.5.6 Financial Targets: Eliminate the ACS-ARR (Average Cost of Supply – Average Revenue Realized) gap to zero by FY 2024-25, ensuring financial sustainability of the utility.The RDSS is expected to continue up to FY 2027-28, with the possibility of extension for full achievement of targets such as smart meter installation and further AT&C loss reduction.

2.5.7 These targets are in line with the operational milestones as specified in RDSS targets as specified by Ministry of Power. JBVNL has already taken initiatives several measures related to loss reduction, tariff measures, Demand side & energy efficiency, employee engagement and customer service strategy, discussed in details in the following sub-sections.

Key Initiatives-Consumer Service Strategy

2.5.8 It is of paramount importance that the consumers served by the distribution utility are satisfied with the services they receive, as this enhances their willingness to pay. Furthermore, in the current open access regime where all authorities (State/Central Government, Commission, etc.) are striving to introduce competition within the sector, the survival of the utilities themselves hinges on the satisfaction levels of their consumers. The customer service strategy of JBVNL is dependent upon various tenets, which have been presented in the chart below and discussed in detail in the sub-sections below.

Customer Service Staretgy	Electricity Access
	Reliable and Quality Power Supply
	Customer Satisfaction Survey
	Consumer Service Cell
	IT enabled Urja Mitra
	Connection to APL Consumer

a) Electricity Access:

2.5.2 Access to electricity is the first and foremost concern for any consumer. Recognizing the same, JBVNL completed electrification works for all households. The plan for significant capacity addition and network augmentation has been laid in direction to ensure that each household has reliable electricity supply. As of September 2025, most of the rural and urban feeders have been metered, enabling feeder-wise energy accounting. JBVNL is replacing meters for lakhs of consumers and expanding smart metering coverage as part of modernization and loss reduction targets.

2.5.3 Intensive efforts are ongoing to connect remaining households in categories such as Particularly Vulnerable Tribal Groups (PVTGs) with JBVNL bearing the cost of connections and metering for these consumers, often under special schemes. JBVNL aims to maintain universal household access while shifting focus from connections to reliability, quality, and service improvement—ensuring 24x7 power for all and eliminating load shedding. Large capital expenditure and annual development programs are planned for upgrading overloaded substations, adding new 33/11 kV substations, laying new lines, and modernizing the network to cater to anticipated load growth and stable supply. Special focus will remain on the affordability and inclusivity of electricity access through social tariffs and targeted subsidies, with continued provision of zero-bill or subsidized connections to the most vulnerable groups as per policy and support from the state govt.

b) Reliable and Quality Power Supply:

2.5.4 The successful implementation of Power for All hinges on providing quality and reliable supply. To provide quality 24x7 power supply to rural areas, there is an urgent need to augment/strengthen the electricity distribution infrastructure.

2.5.5 To improve the quality and reliability of supply, JBVNL is strengthening the existing Distribution Infrastructure, plan has been rolled out to augment the existing network and continuous maintenance of the system. Emphasis is laid on constant monitoring the Breakdown and Tripping on various feeders in order to improve the power supply quality and thus the Customer satisfaction.

2.5.6 Apart from this, JBVNL is planning to implement Outage Management System (OMS) after GIS mapping to begin with in Urban Areas and then gradually extend to rural areas

to proactively manage outages and supply restoration for increased Customer Satisfaction.

c) Customer Satisfaction Survey:

2.5.9 Survey or Regular interaction with the utility consumers is the most important tool to assess the level of satisfaction. JBVNL understands the importance of identification of key parameters for customer satisfaction assessment & surveys in key geographical areas through –

- **Developing a survey plan and designing questions that will provide useful, actionable information.**
- **Determining the right approach for the survey: web, mail, or phone.**
- **Designing and administering surveys by hosting them on our secure survey website, subcontracting telephone surveys with trusted vendors, or distributing paper questionnaires.**
- **Receiving and tabulating the results, analysing the data, and reporting the findings (either in summary form or as raw data, depending on the client's preference).**

2.5.10 Also, in order to increase customer engagement, JBVNL is planning to conduct workshops with various stakeholders such as consumer groups, MLAs etc. to deepen their knowledge on various aspects and enlighten them about the role each stakeholder can play in the turnaround plan of JBVNL. Urja Melas and awareness camps have been conducted by JBVNL regualrly for creating awareness and solve their problems on spot specifically related to billing issues.

d) Consumer Service Cell:

2.5.11 JBVNL has set up a centralized consumer service cell to enhance consumer's approachability towards complaints redressal. JBVNL (Jharkhand Bijli Vitran Nigam Limited) operates a comprehensive Consumer Service Cell network to address consumer needs, enhance customer experience, and provide timely support across its distribution area.

2.5.12 Consumers can apply for new connections, bill payments, load change/enhancement, and raise grievances using a web-based portal reducing the need for physical visits to field offices. JBVNL maintains active communication channels via social networking sites and whatsapp channel , thus enabling consumers to get regualr updates about the initives and billing status etc.

2.5.13 Dedicated contact numbers are availble in its website for direct connect with officals for any pressing issues. JBVNL's consumer service infrastructure is designed to offer efficient, transparent, and accessible support to all electricity users in Jharkhand, leveraging both digital and traditional contact options for quick resolution and proactive service.

e) IT Enabled Urja Mitra in Rural and Urban Areas for Effective Meter Reading, Billing and Collection:

2.5.14 In order to meet the AT&C loss targets, the Urja Mitra system in JBVNL (Jharkhand Bijli Vitran Nigam Limited) provides an important consumer interface and support structure for billing, metering. It is being actively strengthened in FY 2024-25 and continues expanding beyond, as part of JBVNL's modernization and outreach goals.

2.5.15 Urja Mitras serve as JBVNL's frontline representatives for billing, smart meter installation, spot metering and facilitating digital payments and queries. Urja Mitras are instrumental in ensuring 100% coverage in the billing process—using handheld billing machines and mobile photo spot billing to minimize errors and improve efficiency.

2.5.16 Urja Mitra agencies and personnel are linked with centralized JBVNL billing software and real-time dashboards to map progress, monitor performance. Performance of Urja Mitra agencies is now closely monitored, with show-cause notices and service improvements issued for lapses, and awards programs to incentivize best practices. There is ongoing enhancement of digital interfaces, including handheld e-wallet payment options and expanded Android app functionality for both consumers and field personnel.

2.5.17 In JBVNL (Jharkhand Bijli Vitran Nigam Limited), OCR (Optical Character Recognition) billing is implemented as part of a smart spot-billing system where meter readers use Android-based smart mobile devices equipped with OCR technology. This system allows meter readers to capture meter readings via photographs which are then processed through OCR to automatically generate electricity bills accurately and efficiently even in offline mode. The offline functionality enables the capture and storage of data when there is no internet, with bill processing taking place once connectivity is restored.

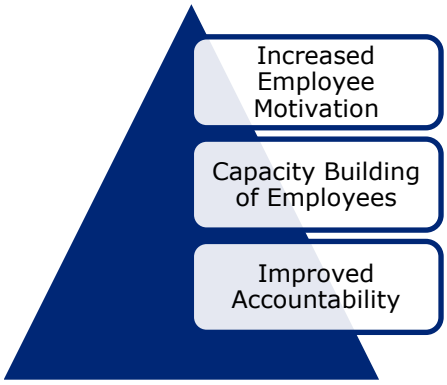
2.5.18 The OCR billing system in JBVNL aims to increase billing coverage, improve revenue collection, and ensure timely billing with real-time door-to-door consumer mapping and geo-tagging. It also helps regularize consumer details like mobile numbers and addresses to reduce errors and enhance consumer satisfaction regarding bill correctness and timeliness. The billing software and OCR applications are provided and managed by JBVNL's IT team or appointed agencies specialized in OCR billing systems. This system supports a mobile app-based workflow allowing URja Mitras to generate bills on the spot, reducing manual entry errors and delays in billing processes while enhancing transparency and service quality for consumers.

2.6 Employee Engagement

2.6.1 The Employee Engagement can be termed as the emotional and functional commitment of employees with his organization. Despite limited new hiring, JBVNL (Jharkhand Bijli Vitran Nigam Limited) is actively engaged in a variety of employee engagement and

development initiatives to maintain workforce motivation, productivity, and capability:

Figure 1: Employee Engagement



a) Increased Employee Motivation

2.6.2 JBVNL realizes that in order to bring about a massive turnaround, motivation and involvement of employee is of utmost importance. Competent involvement of workforce safeguards deployment of optimum number of personnel in each department. Increased level of motivation of employees will ensure the higher level of productivity. Owing to the importance of such an initiative, JBVNL plans to undertake a comprehensive employee motivation program on continuous basis by conducting regular workshops and trainings. Apart from this, there are regualr training programs being conducted in association with accrediated training agencies and institutes like NPTI (National Power Training Institute). This has ensured to impact new technological upgradtion, system improvements like smart metering and other related areas like power trading for improvement of knowledge and understanding of the employees.

b) Capacity Building of Employees

2.6.3 Maintaining a well-trained, well-qualified workforce is a critical function for any Discom and is a key determinant of an organization's success. The utility partners with IIMs, NPTI, REC, and also occasionally arrange for international study tours, to expose employees to advanced practices and build in-house expertise. State-of-the-art training infrastructure is being developed at the Ranchi HQ and each circle office, facilitating regular classroom and field training. JBVNL plans to undertake below mentioned activities for its employees.

c) Performance Management System for Improved Accountability

2.6.4 JBVNL is conducting regualr appriasal for its employees. The performance of every employee is assessed annually through an established mechnism. In coming years, the JBVNL shall form Performance Appraisal Committee (PAC) which shall be responsible for Finalization of the Performance Appraisal Process, Resolution of Performance Appraisal Grievances raised by employee, Monitoring of entire performance appraisal system.This will enhance employee motivation and employee retention in the organisation.

2.7 Demand Side Management (DSM)

2.7.1 JBVNL (Jharkhand Bijli Vitran Nigam Limited) has implemented several Demand Side Management (DSM) initiatives in line with national best practices and in close alignment with nationl goals as executed by Ministry of Power, during the last control period (FY 2016-17 to FY 2020-21) and is continuing to build on these in the upcoming years.

2.7.2 LED Lighting Program: Rolled out statewide from 2015 onwards, this program enabled consumers to purchase highly subsidized LED bulbs, improving voltage stability and significantly reducing power consumption. The LED initiative remains one of JBVNL's largest DSM efforts by volume and impact.

2.7.3 Energy Efficiency Campaigns: Actively promoted the adoption of star-rated appliances and energy-efficient practices targeting both domestic and industrial consumers, reducing the demand during peak hours and optimizing base load.

a) Upcoming DSM Initiatives and Future Plans

1.1.7.

2.7.4 JBVNL's smart meter program forms the backbone of future DSM. Real-time energy monitoring will enable utility-driven demand response programs, consumer alerts, and tariff-based load shifting. Future DSM strategy includes adoption of time-of-Day (TOD) tariff structures for high-consumption consumers, incentivizing off-peak usage and direct load management.

2.7.5 As part of national PM-KUSUM and Jharkhand's solar policy, DSM strategies increasingly focus on integrating rooftop and feeder-level solar to manage peak demand and enhance supply-side efficiency. Programs targeting energy-efficient pumps (Manjhi Krishi Pump Yojna), motor upgrades, and optimizations in industrial process loads are planned. Ongoing consumer education, awareness campaigns, and mobile app nudges for usage reduction and better payment habits.

2.7.6 JBVNL's DSM roadmap aligns with JSERC (State Regulator) and Ministry of Power guidelines, aiming for active demand response, peak load curtailment, and integration of renewables. JBVNL's DSM efforts are evolving rapidly and are set to play a pivotal role in reducing costs, enhancing supply reliability, and ensuring grid modernization in alignment with both national and state level DSM strategies

over the coming years.

2.8 ERP implementation

2.8.1 JBVNL is implementing a full-scale SAP ERP solution as part of its digital transformation, intending to integrate, automate, and streamline all major business processes across finance, HR, inventory, procurement, and operations.

2.8.2 Key modules consit of Finance and Controlling,materials amanagement,projects,Human Resources,etc. Online MIS and dashboards for stakeholders at every operational level—real-time monitoring of billing, collections, capex, inventory, and outages. Single-source-of-truth for financial statements, store status, project progress, and human resources management across all JBVNL offices.

2.8.3 Automated workflows and digital approvals, reducing paperwork, manual errors, and delays in service delivery. Enhanced vendor management and e-procurement via GeM, improving transparency in sourcing and payments. Full rollout is underway, with user manuals and SOPs circulated, and continuous training for all departmental users. ERP is integral to upcoming business plans, helping manage expansion, financial sustainability, and regulatory compliance in line with best practices for modern utilities.

2.9 Way Forward

2.9.1 JBVNL's way forward for implementing cutting-edge technology and system upgradation revolves around full-scale digital transformation, smart grid enablement, and consumer-centric innovation, all aligned with national and global utility trends. Building on current SAP ERP rollout, all critical functions—from finance and HR to inventory, procurement, and project management—will be consolidated on an integrated platform, linking with R-APDRP, capex monitoring, and consumer service portals for seamless data flow and real-time decision-making.

2.9.2 Supervisory Control and Data Acquisition (SCADA) is being planned for real-time monitoring and control at substations and feeders, reducing downtime, speeding up outage response, and enhancing supply reliability. Rapid scale-up of prepaid smart meters and Advanced Metering Infrastructure (AMI) is planned, enabling granular analytics, demand response, and digital billing for over 18 lakh consumers, with expansion to more areas in the state.

2.9.3 GIS mapping of assets, lines, consumers, and outages enables predictive maintenance, location-based planning, and faster restoration. Continued multi-year investment (FY 2025-26 and beyond) in IT systems, network automation, smart metering, and digital consumer outreach will make JBVNL a modern, adaptive, and high-performing utility. JBVNL's transformation plan sets the stage

for a data-driven, reliable, consumer-friendly, and highly efficient power distribution ecosystem in Jharkhand, aligned with national and international standards

2.9.4 Thus, it is expected that a pace will be set for JBVNL, which will be characterized by robust infrastructure, monitoring of performance, motivation of employees and technological interventions.

3 Company Profile and Business Overview

3.3 About JBVNL

3.1.1. Jharkhand Bijli Vitran Nigam Ltd. (JBVNL), is in the business of distribution and retail supply of electricity in the state of Jharkhand. JBVNL 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. This 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.

3.1.2. JBVNL holds a high consumer base of around 55 Lakhs consumers and the details of consumer mix as of September 2025 are as follows:

Table 3: Consumer Details under JBVNL

Category	Sub-Category	Effective Consumer No. Sept-25
Domestic	DS-Rural	3493079
	DS-Urban	1446518
	DS-HT	44
	Total	4939641
Non-Domestic	NDS-Rural	107006
	NDS-Urban	336816
	Total	443822
Street Light	SS	850
	Total	850
LT Industry	LTIS	29333
	Total	29333
Agriculture	IAS-I	118369
	IAS-II	3072
	Total	121441
HT Supply	HTS	2633
	HTSS	21
	RTS	2
	MES	7
	Total	2663
Grand Total		**5537750**

3.1.3. The consumers of Jharkhand are being served by 5 utilities, viz. JBVNL, Damodar Valley Corporation, JUSCO, TSL and SAIL Bokaro. JBVNL serves its ~55 lakh consumers through 649 power substations with a capacity of 8803 MVA.

3.1.4. JBVNL's systems comprise of 33 KV sub-transmission systems which forms the distribution backbone at the district level and 11 KV and LT distribution systems which delivers electricity to the majority of the end consumers. The abstract of JBVNL's network in terms of installed transformation capacity and line lengths of feeders at various voltage levels is provided in Table below -

Table 4: JBVNL's Power Distribution Network (As on September 2025)

No. of PSS	Nos of PTR						Total Nos. of PTR	Total PTR Capacity (in MVA)
	1.6 MVA	3 MVA	3.15 MVA	05 MVA	7.5 MVA	10 MVA		
649	4	5	84	1168	1	267	1529	8803.5

Table 4.1 Total number of feeders and feeder length (As on September 2025)

No. of 33 kV Feeder	Length of 33 kV UG Cable (in KM)	Total Length of 33 kV Feeder (in ckm)	No. of 11 kV Feeder	Length of 11 kV UG Cable	Total Length of 11 kV Feeder (in ckm)
789	721.95	9041.67	2300	995.17	72075.79

Table 4.2 Total number of DTRs (As on September 2025)

No. of DTR							Total Nos. of DTR	Total DTR Capacity (in KVA)
10 kva	16 kva	25 kva	63 kva	100 kva	200 kva	500 kva		
3748	4648	74435	20661	30541	11252	804	137693	8869018

3.4 Summary of Distribution Infrastructure:

- With 649 power Sub stations, 1529 power transformers having a total capacity of 8803 MVA , JBVNL is well positioned to provide quality power to its consumers.
- Feeder wise, JBVNL has 9041.67ckm of 33kV feeder, out of which around 721km is under ground. It has also 72075ckm 11kV feeder, out of which around 995km is under ground. The HT to LT feeder length ratio is around 0.125, indicating only 12.5% of HT. This implies that majority of consumers that are settled in far flung areas, mostly hilly terrains are served with LT feeders having huge length, contributing significantly to line losses.
- JBVNL has 137963 distribution transformers with a total capacity of 8869MVA capacity.

3.4.1 The substantial increase in power demand in the state has led JBVNL to put emphasis on distribution network. JBVNL also endeavors to provide electricity access to all consumers in State, while ensuring operational

efficiency and achieving long term financial viability.

3.5 JBVNL Business overview

3.5.1 Jharkhand Bijli Vitran Nigam Ltd. (JBVNL) is undertaking the distribution function of the erstwhile JSEB, with a consumer base of around 55 Lacs. The key duties being discharged by JBVNL are as follows:

- **Laying and operating of such electric line, sub-station and electrical plant that is primarily maintained for the purpose of distributing electricity in the area of supply of JBVNL, notwithstanding that such line, sub-station or electrical plant are high pressure cables or overhead lines or associated with such high-pressure cables or overhead lines; or used incidentally for the purpose of transmitting electricity for others, in accordance with Electricity Act. 2003 or the Rules framed there under.**

- **Operating and maintaining sub-stations and dedicated distribution network connected there with as per the provisions of the Act and the Rules framed there under.**

- **Arranging, in-coordination with the Generating Company(ies), for the supply of electricity required within the boundary of the supply area and for the distribution of the same in the most economical and efficient manner;**

- **Supplying electricity, as soon as practicable to any person requiring such supply, within its competency to do so under the said Act;**

- **Preparing and carrying out schemes for distribution and generally for promoting the use of electricity within the State.**

3.5.2 Laying emphasis on the thrust areas for distribution, JBVNL endeavors to provide electricity access to all consumers in State, while ensuring operational efficiency by reducing the AT&C loss level to 15% by 2030-31 and achieving long term financial viability. There are several steps which have been envisaged to be covered during the MYT Control Period, including:

- **The infrastructure augmentation and strengthening including smart metering through RDSS scheme by 2028.**

- **Significant addition in distribution infrastructure to increase the electricity reach by creating new 11kV/ LT lines and installation of distribution transformers.**

- **Strengthening and augmentation of existing distribution network to ensure reliable power supply to existing consumers**

- **Enhanced focus on customer service with provision of multiple consumer touch-points for various services, including complaint resolution, bill payment etc.**

4 Capital Investment Plan

4.1 Approach for Capital Expenditure

4.1.1 As per the Regulation 6.12 of JSERC Distribution Tariff Regulations 2025, the Distribution Licensee is required to file the Capital Investment Plan for Control Period of five financial years from April 1, 2026 to March 31, 2031, which shall comprise but not be limited to

a) Purpose of investment (e.g., replacement of existing assets, meeting load growth, technical and distribution loss reduction, non-technical loss reduction, meeting reactive energy requirements, customer service improvement, improvement in quality and reliability of supply, etc.);

b) Approval of Competent Authority;

c) Capital Structure;

d) Detailed Project Report;

e) Capitalization Schedule;

f) Implementation schedule including timelines;

g) Cost-benefit analysis & Rate reasonability;

h) Improvement in operational efficiency envisaged in the Control Period;

i) Ongoing schemes that will spill over into the year under review along with justification;

j) New schemes that will commence during the Control Period but may be completed within or beyond the Control Period.

4.1.2 As discussed in the previous sections, JBVNL is aspiring to establish itself as a modern day utility in the State which is capable of providing reliable and affordable power to all consumers in the State. In last Control Period, JBVNL has already succeeded in electrifying 100% villages in the state under SAUBHAGYA. In the future years, JBVNL needs to become a commercial successful organization by billing all the electricity it purchases and collecting bills from the consumers. JBVNL plans to do the same by using smart meters and IT intervention and with new technoligal upgradations.

4.1.3 JBVNL is also planning to strengthen its infrastructure to improve bottlenecks and provide reliable power to consumers. In order to achieve these larger objectives, JBVNL has prepared a comprehensive capital investment plan to install smart meters, strengthen rural infrastructure, IT software and hardware upgradation and installing SCADA system to automate distribution function.

4.1.4 The capital investments of JBVNL can largely be categorized in following areas:

4.1.5 Investments in new distribution infrastructure to provide electricity access and support the demand requirements.

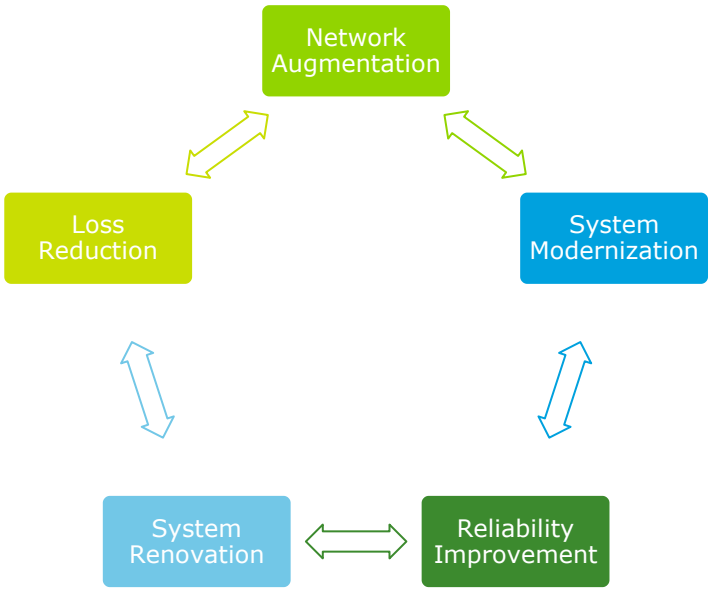
4.1.6 System augmentation and strengthening including renovation and modernization to maintain the performance of the existing system

4.1.7 Feeder Segregation to ensure that rural and agricultural consumers can be segregated to improve the hours of supply to the rural consumers.

4.1.8 Improve the Operational efficiency of the system and bring about cost benefit

The figure below provides a wider overview of the capital investment avenues planned by the JBVNL.

Figure 2: Capital Investment Avenues



4.1.9 The capital works of JBVNL are majorly carried out under following major category of schemes:

1. Revamped Distribution Sector Scheme (RDSS)
2. World Bank funded Scheme Jharkhand Power System Improvement Project (JPSIP)
3. Annual Development Plan prepared by JBVNL for departmental works
4. Mukya Mantri Ujjwal Jharkhand Yojana
5. PVTG (Particularly Vulnerable Tribal Group)

4.1.10 Under each of these schemes of central government, and Multilateral funded project, the capital outlay is proposed by JBVNL in form of the DPRs prepared in line with the objectives of each schemes, based on which the capital outlay is sanctioned by the concerned government/ ministry/ department. It is important to mention that these schemes vary from each other in terms of funding structure, as the amount of funds

provided as grants, debt and equity to be infused by cntral government/ state government are different.

4.1.11 Therefore, this capital expenditure plan discusses in details the key objectives under each of the capital investment schemes, the funds layout, proposed infrastructure and cost benefit analysis of the capital expenditure plan. The table below, summarizes the total capital expenditure proposed to be incurred by JBVNL over the MYT Control period, under various scheme heads.

Table 5: Capital Expenditure Plan (Rs Cr) (FY 26-27 to FY30-31)

Scheme	ARR for FY 2026-27	ARR for FY 2027-28	ARR for FY 2028-29	ARR for FY 2029-30	ARR for FY 2030-31
Revamped Distribution Sector Scheme (RDSS)	-	-	-	-	-
Loss Reduction	1,506.47	-	-	-	-
Smart Metering	-	-	-	-	-
PMA	9.00	4.57	-	-	-
Annual Development Plan (ADP)	495.00	570.00	685.00	820.00	980.00
Mukya Mantri Ujjwal Jharkhand Yojana	832.00	-	-	-	-
JSBAY -RE	-	-	-	-	-
RDSS Mordenisation	-	-	-	-	-
(i) System Augmentation & Mordenisation (Infra Line Network)	824.06	1,648.12	1,648.12	-	-
(ii) System Augmentation & Mordenisation (SCADA)	11.79	23.59	23.59	-	-
(iii) Other (Central/State Sponsored Scheme)	-	-	-	500.00	500.00
Jharkhand Power System Improvement Project (JPSIP)	182.59	-	-	-	-
Smart metering Dhanbad	47.34	-	-	-	-
SMS And WhatsApp Services	-	-	-	-	-
PVTG (Particularly Vulnerable Tribal Group)	-	-	-	-	-
Total	3,908	2,246	2,357	1,320	1,480

The key objectives envisaged and the details of infrastructure planned to be created under each of the schemes are detailed in the following sub-sections.

4.2 Jharkhand Power System Improvement Project (JPSIP)

4.2.1. Background and Administrative Approval:

1. 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.

2. In meantime with intervention of World Bank BoD-JBVNL accorded administrative approval for inclusion of Electricity Distribution Project amount to Rs. 449.2 Crore Component as mention in point No. 7, vide Agenda item number item no. 33/13 dated 28.02.2018.

3. With reference to the BoD Administrative approval for Electricity Distribution project amounting of Rs 449.2 crores, the cabinet of Govt. of Jharkhand (through Energy department Govt. of Jharkhand) has given approval wide letter no.- 03/Urja/planning/11/17/57 dated 06.06.18

4.3 Key objectives:

4.3.1. 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:-

1. Component A- Power Transmission system Strengthening
2. Component B-Technical Assistance for Institutional Development and Capacity Building at JUSNL
3. Component C-Institutional Development and Capacity Building of JBVNL

To meet the requirement of Component C, JBVNL held various meeting with World Bank official and Energy Department Govt. of Jharkhand on the exact contours and sub project that should be included in the project component on Institutional Development of JBVNL. Based on the discussion it is proposed to include the sub-project of "Investment in upgrading the IT system and infrastructure (related to commercial operation), including IT/OT Project Management Consultants." in the World Bank financed JPSIP.

Table 6: Revised structure of JPSIP (Rs Cr)

Sr. No.	Administrative approval for the projects under JPSIP	Date	Amount
1	Board for Director approval	28.02.2018	449.2

Sr. No.	Administrative approval for the projects under JPSIP	Date	Amount
2	Cabinet approval	29.05.2018	449.2
3	Revised restructure of JPSIP components for JBVNL (Cabinet approval)	07.03.2024	578.2

4.4 Financial outlay of stakeholders

4.4.1. Administrative approval was accorded in 56th BoD meeting dated 13.06.2022 towards revised restructured funding pattern of components for an amount of Rs. 578.20 Crore to implement the projects as mentioned below:-

Table 7: Financial outlay under JPSIP

Sr. No.	Project Name	Total cost in Crores	Amount %			Status/ Agency
			State Govt.	Centre Govt.	World Bank	
1	Smart Metering in Ranchi for 3.5 Lakhs Consumer	235	(95 Cr.) 40%	0	(140 Cr.) 60%	Awarded / Genus
2	IT Upgradation of IT hardware & Software and PMC for field supervision of Ranchi smart meter	143	(84 Cr.) 59%	0	(59 Cr.) 41%	Awarded / Fluentgrid
3	IT Projects office & Consultant	8	(5 Cr.) 63%	0	(3 Cr.) 37%	Awarded / DTTILLP
4	Software for Power Management	9.2	(7.2 Cr.) 78%	0	(2 Cr.) 22%	Awarded / KPMG
5	Business Process Up gradation (PPP transaction advisory, FM Manual, FAR, HR manual)	16	0	0	(16 Cr.) 100%	Awarded / DTTILLP
6	Up gradation of Training Centre & Training	2	(2) 100%	0	0	
7	Energy Accounting (System Metering i.e feeder DT metering) for Ranchi & Jamshedpur Area	165	0	0	(165 Cr) 100%	Awarded/ Genus and Secure
Total		**578.2**	**(193.2Cr.) 33.41%**	**0**	**(385 Cr.) 66.59%**	

4.5 JPSIP – Physical Progress of Individual Components

Table 8: Physical progress under JPSIP upto August 2025

Sr	Dept.	Name of Project	Present Status	Expected date of Completion
1	IT	Smart Metering in Ranchi for Consumer	Further, the agency has completed installation of ~ 3.61 lac pre-paid smart meters in Ranchi, ~3.30L operating in pre-paid mode.	Implementation: Mar'2026
				Facility Management Services (FMS): Mar'2029
2	IT	Up-gradation of IT Hardware & Software	Pilot implementation of SPM module has been completed by the agency	Implementation: Aug'2024
			Integration of Head End System (HES) & Meter Data Management (MDM) solution has also been completed by the agency	Facility Management Services (FMS): Aug'2029
			Takeover of operations for all consumers of JBVNL have been completed and ~4.0 lakhs consumers (Ranchi- ~3.30 L and Dhanbad- ~ 0.7 L)are billed in pre-paid mode.	
3	IT	IT Projects office & Consultant	As-is study of legacy systems is completed, successful implementation of SPM module has been completed	Completed
			Review of integration of HES system with MDM has been completed and implemented	
			Review on To-be documents on Customer Information System (CIS) is completed	
4		CCC (Customer Call Centre)	Procurement and setup completed of call centre equipment	Facility Management Services (FMS): Aug'2029
			Call centre gone live	

Table 9: Fund requirement under JPSIP

Particulars	Fund required from World Bank and Govt. of Jharkhand as Counterpart support (Rs. In Cr.)
World Bank Share	158.00 Cr
State Share	01 Cr
T O T A L	Rs. 159 Cr.

4.6 RDSS (Revamped Distribution Sector Scheme)

4.6.1. Government of India, through the Ministry of Power introduced the 'Revamped Distribution Sector Scheme-A Reform based and Result linked scheme' in July 2021. The scheme is applicable for all the state/UTs Utilities or Power Departments to avail such financial Assistance under revamped scheme. The Scheme has a total outlay of INR 3,03,

758 Crore with an estimated gross budgetary support of INR 97,361 Crores (-32% of total outlay) from the Government of India. The Scheme has two parts namely:

- Part A: Financial Support of upgradation of the Distribution infrastructure & Prepaid metering and system metering
- Part B: Training and Capacity Building and other enabling and supporting activities

4.7 Scheme Coverage:

4.7.1. MoP sanctioned DPR for Metering & Loss Reduction vide Sanction Letter no. 77703 dated 29.06.2022 of PFC, GoI for a total amount Rs 4120.29Cr which includes metering and Loss Reduction Works in which sanction for Loss Reduction works (Distribution Infrastructure Work is Rs 3262.27Cr, for Smart Metering Work is Rs 858.02 Cr and PMA is Rs.51.42 Cr.. Details as mention below.

Table 10: Financial outlay under RDSS

SN	Grant No.	Name of the Project	Approved Project Cost	GoI Grant Sanctioned	GoJ Share
			(Rs Cr)	(Rs Cr)	(Rs Cr)
1	51281001	RDSS Smart Metering Works (Smart Metering for Consumers+ Distribution Transformer Metering + Feeder Metering)	854.81	128.22	726.59
2	51284S01	RDSS PMA Grant for Smart meter	3.21	1.92	1.29
Total			858.02	130.14	727.88
1	51282001	RDSS Loss Reduction Works	3214.06	1928.44	1285.62
2	51284L01	RDSS PMA Grant for Loss Reduction Works	48.21	28.92	19.29
Total			3262.27	1957.36	1304.91
Grand Total			4120.29	2087.5	2032.79

4.8 Approved Revised project Cost

4.8.1. Govt. of Jharkhand approved revised project cost as per the scheduled rate (SOR FY 2023-24) for (Loss Reduction and AMISP) vide resolution no. 574 of Deptt. of Energy dated 15.03.2024 are as follows:

Table 11: Scheme-wise revised project cost under RDSS

SN	Name of the Project	Revised Project Cost (Rs Cr)
1	RDSS Smart Metering Works (Smart Metering for Consumers+ Distribution Transformer Metering + Feeder Metering)	1642.14
2	RDSS PMA Grant for Smart Metering	3.21
	Total (A)	1645.35
1	RDSS Loss Reduction Works:	
(i)	Estimated cost of 13 Nos. packages (as per 13 No. Electric Supply Circle except Dumka and Sahebganj Circle) as per current SOR FY 2023-24	3100.82
(ii)	Award cost for Dumka Package (including Dumka and Sahebganj Circle)	176.81
(iii)	IT / OT Works under Loss Reduction	82
2	RDSS PMA Grant for Loss Reduction Works	48.21
	Total (B)	3407.84
	Grand Total (A + B)	5053.19

Table 12: Cumulative executed quantity Progress Report (Loss Reduction) under RDSS

Sl. No.	BoQ item*	Unit	Sanctioned Quantity	Awarded Quantity	Executed Quantity
A	**Cabling related works (Replacement)**				
1	i) AB Cable of Size 3C*120+1*70+1*16 Sq.mm	cKm	1317	1317	588.48
2	ii) AB Cable of Size 3C*95+1*50+1*16 Sq.mm	cKm	14226	14226	6655.73
3	iii) AB Cable of Size 3C*50+1*35 Sq.mm	cKm	10973	10973	5507.06
B	**HVDS**				
4	i) 11 KV Line with Dog conductor	cKm	1700	1700	43.02
5	ii) 11 KV Line with Rabbit conductor	cKm	3587	3587	298.12
6	iii) New 63 KVA DTR	Nos	2730	2730	966
7	iv) 11 KV Bay New	Nos	23	23	-
8	Cabling related works (New)				
9	i) AB Cable of Size 3C*50+1*35 Sq.mm	cKm	2617	2617	721.7
C	**Feeder Bifurcation**				14
10	i) 11 KV Line with Dog conductor	cKm	909	909	212.123
11	ii) 11 KV Line with Rabbit conductor	cKm	1291	1291	307.9
12	iii) New 63 KVA DTR	Nos	746	746	177

Sl. No.	BoQ item*	Unit	Sanctioned Quantity	Awarded Quantity	Executed Quantity
13	iv) New 100 KVA DTR	Nos	914	914	340
14	v) New 200 KVA DTR	Nos	544	544	138
15	vi) New 500 KVA DTR	Nos	38	38	-
16	vii) 11 KV Bay New	Nos	55	55	-
D	**Cabling related works (New)**				
17	i) AB Cable of Size 3C*120+1*70+1*16 Sq.mm	cKm	191	191	57.84
18	ii) AB Cable of Size 3C*95+1*50+1*16 Sq.mm	cKm	1248	1248	338.242
19	iii) AB Cable of Size 3C*50+1*35 Sq.mm	cKm	1881	1881	173.353

Table 13：Cumulative executed quantity Progress Report (Loss Reduction) under RDSS

Sl. No.	BoQ item*	Unit	Sanctioned Quantity	Awarded Quantity	Executed Quantity
E	**Segregation of Agriculture/Mix Feeders**				
20	i) 11 KV Line with Dog conductor	cKm	396	396	38.57
21	ii) 11 KV Line with Rabbit conductor	cKm	670	670	33.449
22	iii) New 63 KVA DTR	Nos	241	241	16
23	iv) New 100 KVA DTR	Nos	182	182	6
24	vii) 11 KV Bay New	Nos	25	25	-
F	**Cabling related works (New)**				-
25	i) AB Cable of Size 3C*50+1*35 Sq.mm	CKm	502	502	24.23
E	Any other Item				-
26	i) Capacitor bank 2.4 KVAR	Nos	19	19	-
27	ii) Capacitor bank 3.6 KVAR	Nos	14	14	-
28	iii) 11 KV VCB	SET	558	558	15
29	iv) 11 KV AB Switch	SET	4478	4478	277

Table 14：Cumulative executed quantity Progress Report (Smart Meter) under RDSS

Sr. No.	Name of Area Board	Award Qty. (Nos.)				Installed Qty. (Nos)			
		Consumer Meter	DT Meter	Feeder Meter	Total	Consumer Meter	DT Meter	Feeder Meter	Total
1	Dhanbad & Girdhi (Pkg-1)	344990	9599	545	355134	109813	195	420	110428
2	Ranchi, Medininanagr & Hazaribag (Pkg-2)	525861	7363	510	533734	227600	273	209	228082
3	Dumka (Pkg-3)	170919	2550	171	173640	49935	0	97	50032
4	Jamshedpur (Pkg-4)	299536	-	-	299536	56652	-	-	56652

Sr. No.	Name of Area Board	Award Qty. (Nos.)				Installed Qty. (Nos)			
		Consumer Meter	DT Meter	Feeder Meter	Total	Consumer Meter	DT Meter	Feeder Meter	Total
TOTAL		**1341306**	**19512**	**1226**	**1362044**	**444000**	**468**	**726**	**445194**

Table 15: Financial Progress Report under RDSS

Sr. No.	Fund Received from	Received	Expenditure	Balance
1	Govt. of India (Grant)	546.86	536.32	10.54
2	Govt of Jharkhand (Counterpart Support)	1225.53	724.68	500.85
Total		**1772.39**	**1261**	**511.39**

Table 16: Budget proposal for FY 2026-27 under RDSS

Sr. No.	Particulars	Fund required from Govt. of Jharkhand as Counterpart support (Rs. In Cr.)
1	Loss Reduction	806.32
2	Smart Metering (AMISP)	186.27
3	Project Management Agency (PMA)	6.17
T O T A L		**Rs. 998.76 Cr.**

In addition to above counterpart support from GOJ i.e. Rs. 998.76Cr. Govt of India grant of value Rs. 757.48 Cr. (Loss Reduction- Rs.712.54Cr.+ AMISP- Rs. 35.32 Cr. +PMA-Rs. 9.26Cr.) is expected to be received and utilized during FY 2026-27.

4.9 Metering and Energy Accounting Head Dhanbad Smart Metering State Scheme

Table 17: Metering Accounting for Dhanbad Smart Metering

Sr No	Dept.	Name of Project	Present Status	Expected date of Completion
1	IT	Metering and Energy Accounting Head Dhanbad Smart Metering State Scheme	Total No. of meter installed- 1.2 Lakh and ~ 80 thousand operated in smart pre-paid mode.	Jan-26

Expenditure Report 2025-26

Table 18: Expenditure Report for FY 2025-26 (Dhanbad Smart metering)

Sr No	Name of Scheme	Budget Provision	Sanctioned Amount	Allotment	Expenditure	% Exp.	Remarks
1	'Metering and Energy Accounting Head Dhanbad Smart Metering State Scheme	70,00.00 Lakh	64,00.00 Lakh	64,00.00 Lakh	200.00 Lakh	0.03%	FMS period till Aug' 2030

4.10 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 bearing interest rate of 13% p.a.

Key objectives:

- To maintain the load growth and increased system demand as well as strengthening the existing system for more reliable power supply,
- Strengthening and Augmentation of existing Electrical infrastructure in Urban and Rural Areas of Jharkhand State.
- Electricity Access – Erecting new 33/11 KV PSS along with new 33KV, 11KV and LT Lines and providing service connection to new consumers including Govt. Schools, Gram Panchayat bhawan and primary health centers.

- System Strengthening & Capacity Augmentation – Adding additional capacity and augmentation of distribution system and facilitate existing consumers by augmenting the capacity of Power Transformers
- Operational Efficiency – Maintenance of Power Sub-Stations, 33 KV, 11KV, LT Distribution line and Distribution Transformer
- Capacity Building and institutional strengthening – Training programs, workshops to enhance the internal capacity of employees. Provision for consultancy services.
- IT and Technology Interventions - IT services dependent new work like ERP, Video Conferencing, and Ease of Doing Services etc.

Table 19:Fund Allocation under ADP Schemes

Sl.No.	Name of Scheme	Budget Provision (Rs Lacs)	Sanctioned Amount (Rs lacs)	Allotment	Expenditure	% Exp.	Remarks
1	Annual Development Plan (ADP)	44977	44977	0.00	0.00	-	Sanctioned amount not yet received

4.11 Mukya Mantri Ujjwal Jharkhand Yojana

4.11.1. The Mukya Mantri Ujjwal Jharkhand Yojana (MUJJY) is a flagship scheme by JBVNL aimed at electrifying both rural and urban areas of Jharkhand, focusing on providing free electricity connections to poor and underserved households. The scheme aims to improve access to reliable and safe electricity, enhance infrastructure, and promote socio-economic upliftment through extended electrification coverage.

4.11.2. The coverage includes villages and households across the state, including remote tribal and forest areas, ensuring new connections to those without electricity. It also targets reducing accidents and theft through improved wiring and distribution infrastructure upgrades. Free electricity connections along with an initial free electricity quota (e.g., 200 units) are part of the benefits to encourage usage and economic development.

4.11.3. As per recent progress, under MUJJY thousands of villages and tens of thousands of households have been electrified with modern infrastructure. Projects under this scheme have been awarded to contractors for distribution network strengthening and expansion. The scheme's execution is ongoing with partnerships between JBVNL and various agencies focused on accelerating electrification and maintaining service quality.

4.11.4. MUJJY complements other government programs such as Saubhagya for universal household electrification and integrates with JBVNL's broader digital and infrastructure modernization initiatives.

4.12 PVTG (Particularly Vulnerable Tribal Groups)

4.12.1. The PVTG (Particularly Vulnerable Tribal Groups) scheme under JBVNL aims to provide electrification to remote and marginalized tribal communities classified as PVTGs

in Jharkhand. The objective is to bridge the development gap by supplying reliable electricity to these forest-dwelling and underserved tribal populations, thereby improving their socio-economic conditions and access to basic services.

4.12.2. The scheme focuses on extending power distribution infrastructure to PVTG hamlets and ensuring sustainable and safe electricity connections through last-mile connectivity solutions. It also aims to promote energy awareness and usage efficiency among tribal households. As for progress, JBVNL has made steady advancements by electrifying numerous PVTG habitations with modern infrastructure, often supported through government schemes and specialized funding.

4.12.3. Ongoing efforts include identifying unserved PVTG clusters, regular monitoring, and capacity building to sustain and expand electrification coverage in these vulnerable areas. The scheme contributes to Jharkhand's inclusive development goals and improving quality of life for marginalized tribes

4.13 Capitalization Schedule

4.13.1. Capital expenditure is essential for meeting demand growth and prompt upkeep of the network on sustained basis. JBVNL has faced severe issues related to the mounting capital works in progress due to slow capitalization and fixed asset transfer of the capital expenditure incurred. This has led to considerable regulatory disallowances in past on account of interest, depreciation and equity returns. It has been observed that one of the key reason behind the slower capitalization is the internal issues related to vendor payment, certificate from electrical inspector, even when the asset has been put to use.

4.13.2. Going forward, JBVNL has planned to undertake stricter control of the capitalization issues and ensure that the internal processes are streamlined in a manner that once the works get completed, it gets transferred to GFA.Capitalization schedule of capex incurred in various years of next Control Period is tabulated below:

Table 20: Capitalization Schedule in percentage for capex

Capitalization Year / Capex Estimated	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30	FY 30-31
FY 2025-26	70%	20%	10%			
FY 2026-27		40%	30%	30%		
FY 2027-28			40%	30%	30%	
FY 2028-29				40%	30%	30%
FY 2029-30					50%	50%
FY 2030-31						100%

5 Operational Performance Targets and Mitigation Mechanism

5.1 Distribution Loss, Collection Efficiency and Targets

5.1.1 High AT&C losses are considered to be the major factor affecting operational and financial performance of any discom. High level of AT&C losses adversly impacts financial health of the utility. Power distribution sector would remain unviable until AT&C and Distribution Losses are brought down to sustainable levels. SERCs have also made it clear that no burden in tariff would be transferred to consumers due to any losses higher thnan normative level. Hence continuation of the present level of losses would not only pose a threat to the power sector operations but also jeopardize the growth prospects of the economy as a whole.

5.1.2 JBVNL has added a large number of rural consumers in its network. As of date it is supplying power to approximately 55 lakh domestic consumers. Most of the recent addition in domestic consumers have been mostly in rural areas. JBVNL currently has more than 34 lakh domestic consumers which are in rural areas. Jharkhand has a high poverty rate, with 23.34% of the population living below the Multidimensional Poverty Index in 2023 and has various challenges which impacts billing & collection.

5.1.3 With week socio economical background of population which JBVNL has not been able to earn revenue in line with its expenditure and suffering losses. In two of the high revenue paying cities of JBVNL ;Jamshedpur and Dhanbad, others parallel electrical licensees' services operate and a large volume of high paying consumers have been migrating to other utilities due to their extensive underground cabling system leading to a better power supply .This has already caused and continuously leading to acute loss of revenue, as JBVNL being a State utility which ,apart from supply of power to remaining high value consumers, is firmly committed towards supply power to all categories of low paying consumers of the area in which other parallel licensees are firmly reluctant to supply power.

5.1.4 JBVNL had to lay extensive network to supply electricity in rural areas as they are very sparsely populated, resulting which the technical loss in network had remained very high due to wheeling through long distribution lines. JBVNL has high LT to HT ratio to the tune of around 2.7:1 which presents a significant challenge to overcome T & D losses.

5.1.5 Due to Jharkhand's difficult terrain mostly consisting of dense forest, hilly areas with remote consumer locations, physical meter reading presents significant challenges and high costs leading to lesser billings.

5.1.6 Despite digital meters, human error in manual data entry, reliance on inaccurate estimates for inaccessible / defective meters due to human error in capturing reading/falsify reading, and skipped readings frequently lead to incorrect or disproportionately high bills resulting in subsequent consumer disputes.

5.1.7 Third-party billing agencies “Urja Mitras" effectiveness in billing , is often hampered by delayed or insufficient payments, which reduces their motivation and efficiency in critical tasks like accurate meter reading and timely bill delivery.

5.1.8 JBVNL, faces a severe challenge from high AT&C losses, largely due to rampant energy theft through direct hooking and meter tampering. This is exacerbated by difficult terrain, extensive low-tension lines, and weak enforcement. Tracking commercial losses due to theft and accurate billing in rural areas has been difficult due to the expansive area

5.1.9 Currently JBVNL has high Distribution Losses upto the level 28% causing a huge operational and financial loss to the utility. Discoms have to purchase excess power to make up for the excess loss which is not allowed in power purchase cost by regulators.

5.1.10 As projected by the petitioner, the energy requirement at the State periphery is likely to increase from 16089 MU in FY 25-26 to nearly 19603 MU in FY 30-31 and the Distribution Losses are expected to reduce from 27.23% in FY25-26 to around 15% in FY30-31, owing to the numerous measures proposed by the State utility as discussed in the paragraphs below.

5.1.11 The year on year targets for reducing AT&C losses, Distribution Losses and increasing collection efficiency are provided in the table below:

Table 21: Targets AT&C Losses, Collection Efficiency and Billing Efficiency

Parameters	FY 26-27	FY 27-28	FY 28-29	FY 29-30	FY 30-31
Distribution Losses	25.60%	21.15%	19.34%	17.24%	14.97%
Billing Efficiency	74.40%	78.85%	80.66%	82.76%	85.03%
Collection Efficiency	99.00%	99.00%	99.00%	99.00%	99.00%
AT&C Losses	26.34%	21.94%	20.15%	18.07%	15.82%

5.2 Mitigation Mechanism

5.2.1. The Jharkhand Power Sector Improvement Project (JPSIP) has been envisioned in the year 2018 with the aim of strengthening and augmenting the IT infrastructure at JBVNL and install smart meters for 3.5 lakh consumers of Jharkhand and all consumers with load above 10kW across the state. Upgradation of the current Metering, Billing & Collection (MBC), Customer Information System (CIS) and Mater Data Management System (MDMS) to a robust, scalable and reliable cloud based solution will form a part of the Distribution component of JPSIP. The projects under JPSIP will be jointly funded by World Bank. Central Government and Government of Jharkhand.

5.2.2. Out of total 55 lacs consumers, JBVNL has envisaged to install around 18.5lacs smart pre-paid consumer meters and as on date around 7 lacs smart meters have already been installed in RDSS/World Bank Funded and State schemes and billing is being done mostly using online readings. This is significantly impacting in improvement in billing and collection efficiencies in those areas where smart metering has been done.

5.2.3. JBVNL has established centralized billing system to improve accuracy, transparency, and revenue management. This involves consolidating data into a single platform for real-time access and streamlined consumer services. Which serves as an integrated, centralized complaint filing and monitoring mechanism, offering consumers various avenues, to register and track grievances, thereby enhancing overall service delivery.

5.2.4. JBVNL is implementing AI based Optical Character Recognition (OCR) technology for meter reading across Jharkhand to improve billing accuracy and reduce AT&C losses. This involves meter readers using mobile apps to photograph meters, with OCR application automatically extracting readings,thereby minimizing human error, false reading and potential frauds. OCR aims to integrate seamlessly with JBVNL's centralized billing system for enhanced transparency and efficiency .Currently OCR application integrated with centralized billing system is successfully running in four subdivisions i.e. Hazaribagh, Ratu Chatti, Deoghar, Adityapur-1. Further JBVNL has planned to roll out billing from OCR integrated application in left over sub-divisions of pan Jharkhand in phase manner in next 3 months.

5.2.5. JBVNL in Jharkhand is actively combating rampant electricity theft, a major contributor to its high Aggregate Technical and Commercial (AT&C) losses, through frequent and widespread raids. These aren't isolated incidents; officials confirm raids are conducted eight times every month as an ongoing initiative. The financial year 2024-25 saw a significant crackdown, with 24,491 FIRs lodged against customers and raids carried out at 132,341 premises. Specifically, in May 2025,

JBVNL lodged FIRs against 3,069 customers for theft. JBVNL also issued an advertisement to make its customers aware of the consequences of their actions.

5.2.6. JBVNL issued a tender for the empanelment of service agencies to engage Urja Mitras for real-time spot billing and revenue collection across all Electrical Supply Areas (ESAs) in Jharkhand. In response to underperforming billing agencies, JBVNL opted to remove the agencies and at present JBVNL has three active billing agencies.

5.2.7. To mitigate losses in LT lines such as leakage in old line and theft, JBVNL has envisaged to convert around 26thousand Ckm of bare LT line to LT Arial Bunch Cable under RDSS scheme, out of which around 6 thousand Ckm of bare LT line has already been replaced. Additionally JBVNL has also envisaged to install energy efficient Distribution transformers in 5395nos.

5.2.8. Proposal has been put up to provision Underground Cabling in phased manner covering Ranchi, Jamshedpur, Dhanbad & Deoghar in town areas which would not only ensure 24 X 7 power supply in true sense and safety of public but would also stop loss of revenue in Areas of existence of parallel licensee(s) i.e in Jamshedpur & Dhanbad, as UG cabling system would necessarily lead to stopping of migration of high value consumers from JBVNL to other parallel licensee

5.3 Improving Billing Efficiency

5.3.1. Following measures are being taken to improve the billing efficiency in the state. Although, metering at all levels is the foremost measure which will result in drastically improved billing efficiency, there are several other steps being undertaken, as discussed below:

1.1.8.Consumer Metering and Energy Accounting

1. As majority of 11 kV feeders has already been completed in the state, JBVNL therefore has largely been successful in undertaking required Energy Accounting measures within stipulated timelines of previous schmes such as UDAY scheme.Currently, additional infrastrcuture such as feeder bifuraction, HVDS system, smart metering, cable strenghtehning have been carried out under RDSS scheme under loss reduction program. Through complete metering and energy accounting,it is envisaged that JBVNL is able to track the losses at the feeder and DT level for identification of loss making pockets of consumers and take necessary corrective action. Metering has helped the utility in controlling theft and pilferages and controlling the losses..

2. Moreover, JBVNL is installing smart meters to change all the electro-mechanical meters to reduce the theft and the defective meters are being replaced on regular basis. In Ranchi, the impact of relacing with smart meters have already shown good results with incrase in energy consumption, increase in sales and revenue both. The similar

results are expected from other areas where smart meters are being installed by JBVNL in war footing basis.

1.1.9.Android based Spot Billing

1. Currently, Jharkhand Bijli Vitran Nigam Limited (JBVNL) is implementing spot billing through a digital platform that includes features such as real-time meter reading, bill generation, and immediate bill payment. The spot billing system enables meter readers to capture meter readings, generate bills instantly, and facilitate payment via cash, e-wallet, card, or other digital means right at the consumer's premises. This system also integrates with dedicated dashboards for real-time progress and performance monitoring of utility meters and agencies involved in billing and collection.
2. The spot billing initiative by JBVNL is showing positive results by significantly reducing the typical delay in bill delivery and payment cycles. The system has improved operational efficiency by eliminating manual data handling errors and reducing time wastage. It has contributed to smoother and more transparent billing processes, improved cash flow due to quicker payment cycles, and helped reduce Aggregate Technical & Commercial (AT&C) losses. This digital approach fosters better engagement with consumers through immediate billing and payment options which also promote transparency in consumer transactions.
3. JBVNL's digitized spot billing system is also supported by online platforms and mobile apps, providing consumers with easy access to bill status, payment methods, and transaction histories. This integration assists in enabling a more seamless and efficient billing experience, aligning with modern digital governance in utility services. Overall, the introduction of spot billing by JBVNL has enhanced revenue collection and customer satisfaction by minimizing billing disputes and accelerating payment collections..

1.1.10.Mobile Application

1. Mobile-based Android applications help billing in JBVNL by enabling meter readers to perform spot billing efficiently on-site. These apps allow real-time meter reading, instant bill generation, and digital payment collection directly at the consumer's location. This reduces errors from manual entry, speeds up the billing process, and ensures immediate payment confirmation.
2. The Android-based system improves operational transparency by syncing data instantly with central databases and dashboards, facilitating real-time monitoring of billing and collection activities. It also enhances customer convenience by supporting multiple digital payment modes such as mobile wallets, UPI, and cards, making the payment process faster and more accessible.
3. Overall, the mobile Android platform streamlines JBVNL's billing workflow,

reduces revenue leakage, and addresses consumer concerns promptly, thereby improving the efficiency and effectiveness of the electricity distribution

1.1.11.Consumer Indexing & GIS Mapping

1. Consumer indexing and GIS mapping help JBVNL increase billing efficiency and reduce theft by creating a comprehensive and detailed database of consumers along with precise geographic locations of electrical assets. Consumer indexing systematically categorizes and tracks consumers based on parameters like location and consumption patterns, while GIS mapping geographically maps distribution network assets such as transformers, poles, and meters along with consumer premises. This integration enables JBVNL to have accurate, real-time data about the network and consumers.
2. By having all consumers and assets under a unified GIS-based billing database, JBVNL can efficiently monitor and manage meter readings, billing, and collections. This reduces errors, enables better planning for infrastructure maintenance, and improves the accuracy of energy consumption assessment, thereby enhancing revenue collection. GIS mapping also aids in identifying and locating unauthorized connections or theft hotspots quickly, enabling targeted action to reduce power theft.
3. Moreover, GIS technology facilitates real-time monitoring, automated fault detection, and quicker fault resolution, improving supply reliability and accountability. This smart network management approach leads to operational efficiency, lowers Aggregate Technical & Commercial (AT&C) losses, and supports strategic decisions for optimal resource allocation. These technological measures collectively help JBVNL improve billing efficiency and significantly minimize electricity thef

1.1.12.Automatic Meter Reading

1. Automatic Meter Reading (AMR) helps JBVNL by enabling remote and automatic collection of electricity consumption data from meters without the need for manual meter reading. This technology allows real-time or periodic transmission of accurate consumption data directly to the utility, improving billing accuracy and reducing human errors.
2. AMR enhances operational efficiency by cutting down labor costs and time associated with manual meter reading and spot billing. It also facilitates timely detection of tampering or anomalies, thus helping in reducing electricity theft and losses. Furthermore, AMR provides consumers with transparent and real-time usage information, fostering better energy management and customer satisfaction.
3. Overall, AMR contributes to improved revenue collection, reduces Aggregate Technical & Commercial (AT&C) losses, and supports efficient network management and fault detection for JBVNL, aligning with digitization and smart grid initiatives

1.1.13.Theft reduction by installing A.B Cables

1. JBVNL is addressing electricity theft reduction by installing Aerial Bunched (AB) Cables as a part of its network modernization. AB cables are insulated and bundled conductors designed to replace traditional bare overhead cables. Their insulated nature helps prevent unauthorized tapping and reduces the risk of power theft significantly.
2. The installation of AB cables in Jharkhand has contributed to lowering technical losses and minimizing power theft instances by making unauthorized connections more difficult and less accessible. This modern infrastructure also helps improve the safety and reliability of the electricity distribution network by reducing faults caused by short circuits or external interference.
3. The use of AB cables in JBVNL's network has shown promising results in curbing theft and improving overall system efficiency, which supports better revenue realization and grid stability.

1.1.14.Self- Billing App

1. Self-billing helps JBVNL reach out to consumers by empowering consumers to generate their own electricity bills based on real-time or periodic meter readings through digital platforms. This system typically involves mobile apps or web portals where consumers can access their consumption data, calculate bills themselves, and make payments conveniently.
2. This approach increases transparency, reduces billing disputes, and enhances consumer trust by providing immediate access to billing information. It also minimizes the need for physical visits by meter readers, accelerating the billing process and expanding reach to remote or hard-to-access areas.
3. Self-billing supports JBVNL in improving customer engagement, ensuring timely payments, reducing administrative burden, and enhancing overall service efficiency, contributing to better revenue collection and consumer satisfaction

1.1.15.Other Initiatives

1. JBVNL has undertaken several initiatives to improve services for new consumers and enhance customer satisfaction. For new consumers, JBVNL has simplified connection processes through online applications and quick approvals, reducing the time for getting new electricity connections. Consumer indexing and GIS mapping are used to maintain accurate records, helping in efficient service delivery. JBVNL also promotes awareness and support for renewable energy adoption in partnership with JREDA, encouraging rooftop solar installations and energizing rural electrification with green energy solutions.
2. PM Surya Ghar: Muft Bijli Yojana is a flagship solar rooftop scheme launched by the

Government of India on 13th February 2024 and is being implemented by JBVNL in Jharkhand. The scheme aims to solarize one crore households across India, including 21,000 households specifically targeted in JBVNL's licensed area by FY 2026-27. It provides rooftop solar installations to residential consumers and housing societies with up to 40% subsidy on the installation cost to encourage adopting solar power for reduced electricity bills and sustainability. 1219 households have been solarised till November 2025 under this scheme out of target 7500 for the FY25-26.

3. Customer satisfaction efforts include digital platforms for bill payment, online grievance redressal mechanisms, real-time service updates, and spot billing systems that reduce billing disputes. JBVNL also participates in government schemes promoting electrification in underserved areas, improving infrastructure reliability and transparency with Ministry of Power support.

4. Average daily hours of supply increased to 22.13 hours in rural areas and 23.01 hours in urban areas as in August 2025 and it is expected to increase in the next control period. This has been continuously monitored by National Feeder Monitoring System (NFMS).

5.4 Collection efficiency Improvement

1. JBVNL has implemented several collection efficiency improvement measures to enhance revenue collection and reduce losses. These include:

- Multiple collection avenues such as digital payments, mobile apps, and offline payment centers to make bill payment easier and accessible for consumers.
- Adoption of smart metering and prepaid smart meters to ensure accurate metering and real-time consumption tracking, reducing billing errors and theft.
- Consumer indexing and GIS mapping for accurate consumer data management, enabling targeted billing and monitoring.
- Real-time monitoring tools for billing and collection, enabling prompt corrective measures.
- Focused efforts in reducing Aggregate Technical & Commercial (AT&C) losses through feeder segregation, better load management, and continuous infrastructure upgrades.

2. Together, these measures provide a comprehensive approach to improving collection efficiency, minimizing losses, enhancing consumer convenience, and ensuring financial sustainability for JBVNL. ATP (Automatic Teller Payment) machines and tie-ups with banks help JBVNL improve electricity bill collections by offering consumers convenient, accessible, and secure payment options.

3. ATP machines placed at strategic locations allow consumers to pay electricity bills

anytime without the need to visit JBVNL offices. These machines support cash, cards, and digital payments, thus making bill payment faster and easier, reducing delays and defaults. Integration with banks enables direct electronic payments through online banking, mobile banking, and bank branches, expanding the reach of collection services.

4. These automated and bank-linked systems increase the efficiency and transparency of collections, reduce manual errors, and minimize queues and processing time. They also provide instant payment confirmation, improving cash flow for JBVNL and enhancing consumer satisfaction through hassle-free transactions. Prepaid smart metering and online payment portals significantly enhance collection efficiency for JBVNL by enabling consumers to pay for electricity in advance based on their actual consumption. Prepaid meters eliminate the dependency on monthly billing cycles, shifting consumers to a pay-as-you-use model which reduces billing arrears and defaults.

5. Prepaid smart meters provide real-time consumption data, allowing consumers to monitor and manage their usage proactively. This transparency leads to better payment discipline and minimizes disputes related to estimated or delayed billing. For JBVNL, prepaid metering ensures immediate revenue realization, reduces the risk of revenue leakage, and lowers operational costs associated with meter reading and bill generation.

6. Online payment portals complement prepaid metering by offering consumers a convenient and secure digital platform to recharge their accounts anytime and from anywhere using multiple payment methods like UPI, cards, and net banking. This ease of payment increases timely collections, enhances consumer convenience, and reduces cash handling risks.

7. Together, prepaid smart metering and online payment portals form a seamless, efficient ecosystem that minimizes revenue losses, improves cash flow, and supports ongoing efforts to digitalize and modernize JBVNL's billing and collection processes

5.5 Other Measures for AT&C and Distribution loss reduction

1. As discussed above, JBVNL has planned/taken various measures for improvement of billing and collection efficiency. Mentioned below are few measures for bringing down the AT&C losses in the state.

1.1.16.ERP System Installation

1. ERP (Enterprise Resource Planning) installation helps JBVNL bring down Aggregate Technical & Commercial (AT&C) losses by integrating and automating various operational, financial, and customer service functions into a single unified system. This centralized platform improves data accuracy, real-time monitoring, and streamlined workflows across departments such as billing, revenue collection, asset management, and maintenance.

2. With ERP, JBVNL can track meter readings, billing, collections, and payments more efficiently, reducing errors and delays that contribute to revenue loss. It enhances

transparency and accountability by providing detailed analytics and reports for management to identify theft-prone areas or technical inefficiencies promptly. ERP also supports better inventory management and maintenance scheduling, minimizing technical losses due to equipment failure or downtime.

3. Moreover, ERP enables improved customer service through faster query resolution and accurate billing, which increases consumer trust and timely payments. By optimizing operational efficiency and enhancing decision-making capabilities, ERP systems play a critical role in lowering AT&C losses and improving the overall financial health of JBVNL

1.1.17.Physical feeder segregation

1. Physical feeder segregation helps JBVNL reduce losses and improve efficiency by separating electricity supply lines for different consumer categories, especially agricultural and non-agricultural users. This segregation enables dedicated feeders for agricultural consumers, allowing JBVNL to regulate and ration power supply to farms without affecting other consumers. By isolating feeders, load management becomes easier, and the utility can supply agriculture loads during off-peak hours, improving load curves and reducing peak power purchase costs.
2. Feeder segregation reduces theft by making unauthorized connections more difficult and by focusing targeted monitoring on specific feeders. It also improves power quality and reliability for non-agricultural consumers by minimizing disruptions caused by agricultural load fluctuations or faults in mixed feeders. Moreover, physical segregation facilitates better fault isolation and quicker restoration of power supply.
3. Overall, this targeted approach to load and feeder management helps lower Aggregate Technical & Commercial (AT&C) losses, enhances revenue realization, and supports better subsidy targeting in agricultural supply. JBVNL benefits from improved operational efficiency, reduced power theft, and a more balanced and reliable distribution network through physical feeder segregation.

1.1.18.Consumer Indexing

1. Consumer indexing helps utilities like JBVNL by systematically identifying, categorizing, and uniquely coding every electricity consumer, linking them with precise geographic and electrical network data. This process generates a validated, accurate, and comprehensive database of consumers that supports efficient billing, meter reading, and service delivery.
2. By integrating consumer indexing with Geographic Information System (GIS) mapping, JBVNL can track consumer locations, consumption patterns, and related infrastructure such as meters and transformers accurately. This enables targeted

billing, reduces errors, quickly identifies unbilled or miscategorized consumers, and helps address revenue leakages.

3. Consumer indexing thus improves management information systems with real-time and field-verified data, facilitating timely decision-making, enhancing consumer service, and strengthening revenue protection. It also supports load and energy accounting feeder-wise, enabling effective network and loss management

6 .Energy Sales Projections

6.1 Introduction

6.1.1. This Chapter summarizes the year on year increase in number of consumers vis-à-vis increase in sales in the JBVNL served area. The projections for the control period have been made considering the past figures of last control period.

6.1.2. The Petitioner has projected the Sub-Category wise sales based on the addition of consumers, consumption pattern and past trend of consumption growth rate. It is noteworthy, that JBVNL has witnessed a significant growth in the total sales across all categories in the last few years. This is majorly due to increase in the electrifiction in rural areas, availability of power, reduced load shedding, consumer addition across all category and uninterrupted supply of power. Further, JBVNL aims to provide 24X7 power to all consumers in the State, which shall be the key reason for increase in the energy sales in coming years.

6.2 Consumers- Historical and Projections

6.1.3. JBVNL holds a large consumer base of around 55 lakh consumers as on September 2025. The historical figures considered from FY 20-21 to FY 24-25 and the figures upto September 2026 is considered while projecting consumers for the next control period. The CAGR of last 6 years is calculated to know the trend of consumers growth in each category and sub category of consumers.

6.1.4. However, CAGR figures for consideration of future consumers need to be carefully studied based on various parameters such as electrifiction of consumers, covergage, earlier schemes, consumer shifting to other licensees such as DVC, growth of industrial and commercial category of consumers and urbanisation. So, while CAGR is calculated to find out general trend, the consumer projection was done on the basis of a mix of CAGR and the survey opinion from the field from the executives of field offices for JBVNL.

6.1.5. The assesment of field officers are considered as they are best poistioned to judgen the increment of consumers in their area given the geograhical location, hilly terrains, industrial and commercial nature and shifting of consumers from one place to another. A judgement based approach is considred while projective the future consumer base of JBVNL.

Table 22: Consumers- Historical (from FY 20-21 to FY 24-25)

Category	Sub-Category	FY 20-21	FY 21-22	FY 22-23	FY23-24	FY 24-25
Domestic	DS-R	3229946	3565715	3402206	3330411	34,37,398
	DS-U	1067051	1146792	1126999	1214737	14,10,544
	DS HT	35	38	40	42	42
	Total	**42,97,032**	**47,12,545**	**45,29,245**	**45,45,190**	**48,47,984**
Non-Domestic	NDS-I	43848	59,650	60389	80231	147243
	NDS-II	206686	234640	235689	269199	279913
	Total	**250534**	**294290**	**296078**	**349430**	**427156**
Street Light	SS	455	541	434	598	790
	Total	**455**	**541**	**434**	**598**	**790**
LT Industry	LTIS	16,492	17855	18872	19311	26802
	Total	**16492**	**17855**	**18872**	**19311**	**26802**
Agriculture	IAS-I	61544	73718	73442	99154	116515
	IAS-II	767	1460	1661	2214	2872
	Total	**62311**	**75178**	**75103**	**101368**	**119387**
HT Supply	HTS	1768	1904	2055	2342	2584
	HTSS	23	25	15	17	23
	RTS	2	2	1	1	2
	MES	9	10	7	7	7
	Total	**1802**	**1940**	**2078**	**2367**	**2616**
EV	EV-CS LT	0	0	0	0	0
	EV-CS HT	0	0	0	0	0
	Total	**0**	**0**	**0**	**0**	**0**
Sub-Total		**1802**	**1940**	**2078**	**2367**	**2616**
GRAND TOTAL		**4628626**	**5102349**	**4921810**	**5018264**	**5424735**

As per audited data for FY 24-25, JBVNL had a consumer base of around 54 lacs. As per data available for September 2025, JBVNL has a consumer base of around 55 lacs. Based on this, the projection of consumers are carried out by JBVL by combining CAGR rates with actual incremental numbers from the field level.

Table 23: Projected Consumers (from FY 26-27 to FY30-31)

Category	Sub-Category	FY 26-27	FY 27-28	FY 28-29	FY29-30	FY 30-31
Domestic	DS-R	3576269	36,47,794	37,20,750	37,95,165	38,71,068
	DS-U	1614932	17,27,977	18,48,935	19,78,361	21,16,846
	DS HT	44	45	45	46	47
	Total	**5191244**	**5375816**	**5569731**	**5773572**	**5987962**
Non-Domestic	NDS-Rural	194729	2,23,938	2,57,529	2,96,158	3,40,582
	NDS-Urban	320472	3,42,905	3,66,909	3,92,592	4,20,074
	Total	**515201**	**566844**	**624438**	**688751**	**760656**
Street Light	SS	956	1,051	1,157	1,272	1,400
	Total	**956**	**1051**	**1157**	**1272**	**1400**
LT Industry	LTIS	35446	40,762	46,877	53,908	61,995
	Total	**35446**	**40762**	**46877**	**53908**	**61995**
Agriculture	IAS-I	154091	1,77,205	2,03,785	2,34,353	2,69,506
	IAS-II	3798	4,368	5,023	5,777	6,643
	Total	**157889**	**181573**	**208809**	**240130**	**276149**
HT Supply	HTS	2958	3,166	3,387	3,624	3,878
	HTSS	26	28	30	32	35
	RTS	2	2	2	2	2
	MES	7	7	7	7	7
	Total	**2994**	**3203**	**3426**	**3665**	**3921**
EV	EV-CS LT	177	179	181	182	184
	EV-CS HT	16	16	16	16	17
	Total	**193**	**195**	**197**	**199**	**201**
Sub-Total		**3187**	**3398**	**3623**	**3864**	**4122**
GRAND TOTAL		**5903923**	**6169444**	**6454634**	**6761498**	**7092284**

Table 24: Estimated escalation in all category of consumers (from FY 26-27 to FY30-31)

Category	Sub-Category	Growth % estimated for control period FY26-27 to FY 30-31
Domestic	DS-R	2.00%
	DS-U	7.00%
	DS HT	2.00%
Non-Domestic	NDS Rural	15.00%
	NDS Urban	7.00%
Street Light	SS	10.00%

Category	Sub-Category	Growth % estimated for control period FY26-27 to FY 30-31
LT Industry	**LTIS**	**15.00%**
Agriculture	**IAS-I**	**15.00%**
	IAS-II	**15.00%**
HT Supply	**HTS-I**	**7.00%**
	HTSS	**7.00%**
HT Institutions		
	MES	**0.00%**
	RTS	**0.00%**
EV	**EV-CS LT**	**1.00%**
	EV-CS HT	**1.00%**

I. Projection of Domestic Consumers

1. This 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 for both rural and urban consumers. The domestic consumers are divided into 3 sub categories: DS (Rural), DS (Urban) and DS (HT). Domestic Supply (HT) consumers cater to the consumer categry residing in high rises or aprtments having single HT connection.
2. In the past years, the number of domestic category consumers have not increased significantly as connections have already saturated due to various schemes and achievement of full electrfication. The incremental numbers will only be coming from new connections from newly developed construction.
3. The growth percentages for FY26-27 to FY 30-31 are differentiated by segment, reflecting different market dynamics for Domestci consumers under different sub category. Domestic consumers under rural category have already matured and there is limited scope for growth. Hence, a 2 percent increase (conservative) figure have been considered for projection for next control period for FY26-27 to FY30-31. Similar is the case for DS (HT) consumers where the growth is moderate and high rise society also restraint from taking single point connection under DS (HT), hence, a 2% growth is considered for the next control period. However, a 7% increase is considered for DS (Urban) consumers as it is anticipated that there will be constat migration from rural to urban consumers. This growth signifies growingh urbanization, housing expansion, and migration trends observed across Indian cities.

II. Projection of Commercial Consumers

1. 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. For projecting the Commercial consumers for FY 2026-27 to FY 2030-31, 5 year CAGR has been computed based on the historical data. However, the percentage growth is abnormally high for rural commercial consumers. To rationalise,a 15% growth is considered for the next control period in terms of consumer growth for rural commercial consumers and 7% growth consideered for urban commercial consumers.

III. Projection of Industrial Consumers

1. Industrial Consumers are comprised of mainly two following sub categories-

- **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).**
- **HT Consumers- The category applied on all consumers having contract demand above 100 kVA.**

2. For projecting the industrial consumers for FY 2026-27 to to FY 2030-31, a CAGR of 15% has been computed for LT consumers whereas, for HT consumers a CAGR of 7% has been assumed for the next control period from FY 26-27 to FY30-31. .

IV. Projection of Irrigation & Agriculture Service Consumers

1. This category shall apply to all consumers for use of electrical energy for Agriculture purposes including tube wells and processing of the agricultural produce, confined to Chaff-Cutter, Thresher, Cane crusher and Rice-Hauler, 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.
2. In order to arrive at the Number of Consumers for the MYT Control Period i.e. FY 2026-27 to FY 2030-31, a YoY growth rate of 15% has been considered.

V. Projection of Other Consumers

1. Other Consumers are characterized into following three categories.
2. Public Lighting (Streetlight)- 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 taken a growth rate of 10% for the next MYT period/.
3. MES- This includes Military Engineering Services (MES) for a mixed load in defense

cantonment and related area. JBVNL has assumed the same number of Consumers as it does not anticipate any addition to this category. So, there would be no growth in this segment.

4. Railways- Railway traction consumers have been fixed at 2. There will not be any addition to the RTS consumers for the net control period.
5. The EV category consumers are one additional category of consumers added to the list as per the projection of consumers. As the penetration of EV consumers (both 2 wheelers and 4 wheelers) are increasing day by day, a special category of consumers are added to the list. At the first stage, it is envisaged that OMC (Oil Marketing companies) will be creating the charging infrastrcuture at their existing petrol pumps and would be charging to the consumers.
6. Public EV Charging Stations (PCS) and Battery Swapping/Charging Stations are typically classified under a dedicated "EV charging" or "EVCS" tariff category, separate from domestic, commercial or industrial categories in many states including Jharkhand.
7. Private/home charging for individual EV owners is normally billed under the applicable domestic tariff slab, not under the public EV category. Central guidelines require distribution licensees to provide LT connection to EV charging stations up to a sanctioned load of about 150 kW, if a separate LT connection is applied for that EV charging station. Above this load (or where technical conditions so require), EV charging stations are connected at HT supply voltage and fall under the HT EV category. Based on the connections applied to JBVNL under that category, the projection of consumers for the next control period is done.
8. Category wise Projection of consumers all categories for FY 2026-27 to FY 2030-31 are detailed below.

6.3 Energy Sales: Past Trend and Projections

6.3.1 JBVNL holds the high consumer base of around 54 Lacs consumers in FY 24-25. As shown in the figure below, it can be noted that during FY 2026-27, the domestic consumers contributes nearly about 57%in the total energy mix, while HT consumers holds 25% and remaining energy consumption is done by LT, Commercial, IAS and other consumer categories.

Table 25: Energy Sales Projection (from FY 2026-27 to FY 30-31)

Category	Sub-Category	FY 26-27 (MU)	FY 27-28 (MU)	FY 28-29 (MU)	FY 29-30 (MU)	FY 30-31 (MU)
Domestic	DS-R	3,844.43	3,932	4,011	4,091	4,173
	DS-U	3,277.17	3,513	3,759	4,022	4,304
	DS HT	23.28	26	27	27	28
	Total	7,144.88	7,472.16	7,797.26	8,141.17	8,505.12

Non-Domestic	**NDS-Rural**	944.75	1,087	1,250	1,438	1,653
	NDS-Urban	639.76	685	733	784	839
	Total	1,584.52	1,772.24	1,983.27	2,222.12	2,492.69
Street Light	**SS**	93.47	103	113	124	137
	Total	93.47	102.76	113.04	124.34	136.78
LT Industry	**LTIS**	437.78	559	643	740	851
	Total	437.78	559	643	740	851
Agriculture	**IAS-I**	93.93	145	167	192	220
	IAS-II	4	6	7	8	9
	Total	97.93	151.02	173.67	199.73	229.69
HT Supply/HT Institutions	**HTS**	2,734.20	3,250.64	3,478.19	3,721.66	3,982.18
	HTSS	292.42	347.66	347.66	372	398.04
	RTS	33.46	37.18	37	37	37
	MES	20.95	23.27	23	23	23
EV	**EV-CS LT**	10.12	10.22	10.32	10.43	10.53
	EV-CS HT	3.24	3.63	3.67	3.7	3.74
GRAND TOTAL		12,452.95	13,730.11	14,610.76	15,595.31	16,669.87

6.3.2 JBVNL will witness a significant growth in total energy sold for the next control period.Assumptions for JBVNL plan are robust and justifiable, based on both historical trends and reasonable growth forecasts.

6.4 Connected Load Projections

6.4.1 Based on the year on year growth of consumers and their energy sales, connected load is forecasted for FY 2026-27 to FY 2030-31 as detailed in the table below:

Table 26: Connected Load Projections (kW/KVA/HP)

Category	Sub-Category	FY 2026-27 (kW/ HP/ kVA)	FY 27-28 (kW/ HP/ kVA)	FY 28-29 (kW/ HP/ kVA)	FY 29-30 (kW/ HP/ kVA)	FY 30-31 (kW/ HP/ kVA)
Domestic	**DS-R**	47,78,626	48,88,044	49,85,805	50,85,521	51,87,232
	DS-U	34,00,962	36,46,032	39,01,254	41,74,342	44,66,545
	DS HT	15,592	15,903	16,221	16,546	16,877
	Total	8195180	**8549979**	**8903280**	**9276409**	**9670654**
Non-Domestic	**NDS-I**	11,17,041	12,85,405	14,78,216	16,99,948	19,54,941
	NDS-II	7,10,882	7,61,250	8,14,538	8,71,555	9,32,564
	Total	1827923	**2046655**	**2292754**	**2571504**	**2887505**

Street Light	**SS**	65,359	71,859	79,045	86,949	95,644
	Total	65359	**71859**	**79045**	**86949**	**95644**
LT Industry	**LTIS**	14,21,870	16,34,984	18,80,231	21,62,266	24,86,606
	Total	1421870	**1634984**	**1880231**	**2162266**	**2486606**
Agriculture	**IAS-I**	2,76,684	3,18,186	3,65,914	4,20,801	4,83,921
	IAS-II	41,085	47,248	54,335	62,485	71,858
	Total	317768	**365434**	**420249**	**483286**	**555779**
HT Supply/HT Institutions	**HTS**	16,61,398	17,77,688	19,02,126	20,35,275	21,77,744
	HTSS	96,664	1,03,431	1,10,671	1,18,418	1,26,707
	RTS	41,998	41,998	41,998	41,998	41,998
	MES	8,070	8,070	8,070	8,070	8,070
EV	**EV-CS LT**	10,503	10,608	10,714	10,821	10,929
	EV-CS HT	2,160	2,182	2,203	2,225	2,248
GRAND TOTAL		1,36,48,892.65	**1,46,12,886.05**	**1,56,51,340.16**	**1,67,97,219.89**	**1,80,63,882.89**

6.4.2. The projection of connected load of different consumer categories has been done based on the existing load per consumer, Growth in Number of Consumers and Existing Load Factor.

7 Power Availability and Energy Balance

7.1 Overview

7.1.1 The requirement of electricity, for JBVNL, both in terms of energy requirement and peak demand are expected to increase significantly.In order to meet the burgeoning power demand and considering the existing tied up capacity, JBVNL has a 85% allocation from the PTPS (Patratu Thermal Power Station) of which unit-1 (800MW) has already synchronised to the grid in November 2025 and is scheduling power to JBVNL. With the addition of PTPS capacity significantly, JBVNL would like to meet its energy shortage over the next control period and it is envisaged that there wont be any shortfall in meeting the peak and average energy demand for the JBVNL. For meeting the peak demand also, JBVNL is planning to add BESS system in its sub station to store the excess power from PTPS and Renewable Energy to meet the peak demand.

7.1.2 This Chapter summarizes the overall power allocation of JBVNL through different sources like central generating plants, state generating plants, IPPs and renewables forecasted in the coming years. The year on year projected power purchase quantum vis-à-vis their power purchase cost and rate of power purchase is provided in this section. Also the energy balance between the energy required and energy available is presented in the section.

7.2 Present status and key assumptions

7.2.1 The total allocated capacity, including central allocation, in Jharkhand as on November 20, 2025 is 3989MW, that consists of 600MW allocated from KTPS for the DVC command area. Owing to the proximity to large coal reserves, the fuel mix of the allocated generation capacity is largely skewed towards thermal, with more than 70% of the installed (and allocated) capacity available is from coal based generation plants only.

7.2.2 A detailed breakup of present allocation capacity of JBVNL can be tracked from the exhibit below. The total allocated capacity as on November 2025 is 3989MW that includes power allocated from PTPS-1. However, the table below shows the toal allcated capacity for the next MYT control period that includes PTPS-2 and Sikidri canal top power plant that would commission next year.

Table 27: Current Power Purchase Allocation in MW (as on November 2025)

S.N.	Name of Generating Stations		Generation capacity in MW	Allocation (MW)
1	NTPC	Farrakka I&II	1600.00	119.35
		Farrakka III	500.00	56.71
		Barh I	3,300.00	86.26
		Barh II		20.49
		Khalagaon I	840.00	18.34
		Nabinagar	1,980.00	33.96
		Kanti Power	390.00	16.10
		Patratu Unit I	800.00	680.00
		Khalagaon II	1,500.00	10.21
		N. Karanpura	1,980.00	533.39
		Talcher	3,000.00	66.68
		Korba	500.00	50.00
		Darlipalli	1,600.00	151.43
	Total			**1842.91**
2	NHPC	Rangit	60.00	7.42
		Teesta V	510	48.34
3	PTC	Chukha	270.00	27.99
		Tala	1,020.00	116.89
		Kurichu	60.00	0.55
		Mangdechhu	720.00	9.44
	Total Central Sector			**2,053.53**
4	DVC	KTPS (OA)	1,000.00	600.00
		Total		600.00
5	TVNL		420.00	420.00
6	APNRL	Unit I	270.00	61.42
		Unit II	270.00	61.42
		66 MW	66.00	66.00
		Total		**188.84**
7	SOLAR	SECI (700)		450.00
		SECI (10)		10.00
		State		16.00
		Total		**476.00**
8	Wind	PTC		200.00
		SECI		100.00
		Total		**300.00**
9	Inland Power Ltd			63
10	SRHPS			130
11	Total allocated capacity			**4231.372**

7.2.3 The Patratu Vidyut Utpadan Nigam Limited (PVUNL), a joint venture of NTPC Limited and Jharkhand Bijli Vitran Nigam has already commissioned PTPS-1. The Phase 1 first unit (800 MW) was commissioned on November 5, 2025 and PTPS-2 is expected to commission in August 2026.

7.2.4 The Getalsud floating solar Photovoltaic Power Plant is a grid-connected project of 100MW in Ranchi district, Jharkhand and is expected to be commisioned in April 2026.

Table 28: Upcoming Allocations in MWs

Sl. No.	Name of power plant unit	Fuel	Allocated/ Requisition (MW)	Exp. CoD
1.	PTPS-II of PVUNL (JV of NTPC and JBVNL)	Coal	680.00	Aug-26
2.	Getalsud floating solar (JREDA)	Solar	100.00	Apr-26
Total			780.00	

7.3 Power Purchase Quantum and Stacking according to Merit Order Despatch System

7.3.1 For making power purchase quantum projection for FY 25-26 to FY 30-31, the existing energy availability is considered along with projects that will be surrendered as part of agreement between NTPC and JBVNL.

7.3.2 First 800 MW unit of PTPS-1 is now operational, with commercial dispatch ongoing. JBVNL receives around 85% of the power generated as per the PPA , significantly strengthening its energy self-reliance and reducing dependence on central allocations. The power scheduled from PTPS-1 will lead to surrender of some of the NTPC centrally allocated power plants and curtailment of certain units based on Merit Order Despatch Schedule as mandated by the State regulatory commission Apart from PTPS1, JBVNL will get additional 100 MW solar power from floating solar plant at Getalsud dam (Sikidrii, near Ranchi) and its COD is expected in April 2026.

7.3.3 This 100MW solar plant would add on to the RE power portfolio of JBVNL significantly and will help JBVNL to achieve its RPO targets onwards from FY 2026-

27 apart from the already tied up capacity with SECI. The JBVNL strictly follows the Merit Order Despatch Schedule as directed by the JSERC. Thus, even if 85% of power is allocated from PTPS, JBVNL would strictly follow the MOD system and necessary curtailment of the power will be done from PTPS also for its scheduling. Accordingly, the power purchase planning for the remaining financial years of the control period from FY 2026-27 to FY 2030-31 is envisaged with necessary adjustments and curtailments of certain units of central as well as IPP and state power plants.

7.3.4 While implementing the MoD, the Petitioner has estimated utilization of its allocated capacity of must-run plants i.e. the Solar and Non-solar Renewable Energy generating stations/. With the PTPS-1 in scheduled mode and other units are in the pipeline, the petitioner does not expect any further unfulfilled demand to be met through open market channels and other mechanisms like UI. At most, any emergency situation can only be met through un planned real-time market purchase which would be duly intimated to the Hon'ble Commission, if such situation arises in future.

7.3.5 Considering the methodology as mentioned above and using the power purchase allocation data mentioned in the above table total number of units purchased were calculated from every source/ plant for every month separately. From existing allocated capacity, 50MW of Farakka will not be scheduled by NTPC from December 2025 and this power will be free to be sold in the power market as merchant capacity of NTPC. Moreover, there will be no fixed charge for the JBVNL as a result of withdrawal of capacity by NTPC by its own. The full allocated capacity of Korba power plant will be surrendered. For other plants of NTPC, minimum technical schedule will be considered first according to the MOD and then full capacity will be scheduled accordingly to meet the demand. This schedule will be followed for entire control period from FY26-27 to FY30-31.

7.4 Short Term Open Access (STOA)

7.4.1 In view of excess power available through-out the Control Period, JBVNL feels it would be feasible to sell power in open market so as to recover variable cost of power scheduled and also certail amount of fixed cost of the plants from which power has been scheduled so that overall power purchase cost may decrease. Further it may need to sell power to avoid paying under-drawal surcharge and compensation charges of a generating station in case power is being surrendered beyond a certain limit. Also, with PTPS online, there will be power surplus for JBVNL and it may look forward to sell the surplus power in the short term market for further gain.

7.4.2 Although JBVNL has contracted adequate capacity and don't need to rely on short-term power for supplying power to consumers. However still in case of emergency like outage of large plants, it may offtake power from Bilateral route or power exchange.

7.5 Power Procurement Quantum Projection Methodology

7.5.1 JBVNL has projected the power purchase quantum for next Control Period based on energy demand for the future and RPO obligations. However, as the demand is growing at a slower pace due to less industrialisation and commercialisaton in the state and majority of the HT consumers migrating to DVC , the power purchase projection has been made in very conservative manner so as to meet the average and peak energy demand fo the state. The actual energy demand of JBVNL for FY24-25 is approximately 11,954 Million Units (MU) with a peak demand around 2,700 MW.

Reasons for almost stagnant or slow demand growth in JBVNL:

1.1.19. Consumer Mix and Consumption Patterns: JBVNL's consumer base includes a high proportion of low and medium consumption residential consumers and fewer large industrial consumers compared to other utilities like Damodar Valley Corporation (DVC). This leads to limited demand growth from high-energy-consuming industrial sectors.

- Economic and Industrial Factors: Jharkhand's industrial growth, while steady, has faced challenges including capacity constraints, regulatory hurdles, and delayed infrastructure projects, limiting sharp demand increases.
- High Technical and Commercial Losses: JBVNL historically experiences high Aggregate Technical & Commercial (AT&C) losses, which restrict revenue realization and investment in network expansion needed for stimulating demand growth.
- Power Supply Constraints and Reliability Issues: Despite improvements, supply reliability and transmission constraints in some regions limit consumer confidence and hence demand growth.
- Tariff and Financial Issues: JBVNL faces high power purchase costs and poor receivables management, leading to financial stress that hampers infrastructure upgrades and consumer service expansion.
- Policy and Market Dynamics: Competition and consumer migration in urban areas to alternative utilities (JUSCO, DVC) impacts JBVNL's load growth. Also, energy efficiency measures and demand management programs partly moderate growth.

7.5.2 Considering the demand, JBVNL has considerd the power purchase in aligning with its demand. The Petitioner has considered the actual power purchase from 2017-18 to FY 2023-24 for determination of CAGR over these years and considers the growth rate for future projection of the power procurement for the next control period (i.e) from FY 2025-26 to FY 2030-31. Capacity allocation from the central power plants as done

by the Ministry of Power for the state of Jharkhand and the JBVNL is bound by the allocated capacity. However, curtailment is planned based on the stacking of power pants in order of its variable cost and while curtailing, a technical minimum of 55% schduling is considered as basic minimium for any power plant. Curtailment will be done based on the variable cost of the power plant including the fuel price adjustment charges. Based on this, a plan has been developed putting all power plants (both central, state and IPPs) on varibale charges for curtailment. However, as dependency is high on DVC for its consumers aling under the paralel area of distribution, careful planning is done while curtailing power from Koderma thermal power station. The demand from the DVC area is met from the Koderma power station , so curtailment is minimum in the case of DVC.

- **Deallocation of NTPC Korba and Farakka III Plants:** JBVNL was allocated capacity from NTPC Korba and Farakka III plants in lieu of loss of allocation of Patratu Thermal Power Stations. However, after commissioning of PUVNL allocation, Farakka III (50MW) will be stopped scheduling to JBVNL from December 2025. Also, Korba power plant will be surrendered completely from the next FY.
- **Purchase through short-term sources:** No power purchase from IEX (PTC) or UI mechanism has been projected as power supply quantum for future years would be sufficient to meet the demand in upcoming years. However, due to emergency situation, like outage of a generation plant, JBVNL may be forced to purchase power from exchange.

7.5.3 **Inclusion of Patratu Power Plant:** Once fully commissioned and integrated, Patratu's inclusion will substantially add to JBVNL's long-term thermal power availability. This will potentially reduce dependency on short-term market purchases and higher-cost external power by providing a significant base load within the state. However, it may cause a temporary increase in coal-based power share in the portfolio unless simultaneously balanced by renewable capacity expansion. Over medium to long term, the addition will also provide JBVNL greater negotiation leverage and cost control in power procurement.

7.5.4 **Renewable Purchase Obligations**: JBVNL has tied up with Solar Energy Corporation of India (SECI) mainly to meet its Renewable Purchase Obligation (RPO) at a lower power purchase cost and to diversify its power mix with solar and wind energy. JBVNL has contracted about 700 MW of solar power with SECI, of which roughly 450 MW is already being supplied and the balance is under implementation, and it has also tied up around 500 MW of wind power (part operational, part in pipeline) through SECI and other intermediaries. This long-term procurement (typically 25-year PSAs) helps hedge against fossil fuel price volatility and is expected to gradually improve compliance with RPO targets and reduce average power purchase cost compared to older, costlier thermal sources.

7.5.5 However, JBVNL has faced several issues in operationalizing these SECI tie-ups, including delays in commissioning some solar projects, contractual disputes or termination attempts by a few developers, and procedural delays in approval of Power Sale Agreements (PSAs) by the state regulator. These delays have contributed to JBVNL historically falling short of its RPO targets and continuing to rely heavily on conventional power, so its actual RE share (a little over 11% in FY 2024-25) remains below the trajectory needed to reach national RPO benchmarks.

7.5.6 Integration challenges such as managing intermittent solar and wind power, ensuring adequate transmission/ISTS connectivity, and aligning SECI tariffs and trading margins with JSERC approvals have also required regulatory and operational adjustments. For future renewable power procurement, JBVNL's filings and JSERC orders indicate a plan to ramp up RE share by fully operationalizing existing SECI solar and wind allocations and exploring additional SECI bids and other competitive tenders when economically viable. The regulator has directed JBVNL to strictly comply with RPO going forward, which implies further RE procurement over and above already tied-up capacity as state demand grows.

7.5.7 JBVNL is planning to procure long term solar power from solar developers and other RE developers to fulfil the RPO targets set by the Hon'ble Commission. However, the targets set by the Hon'ble Commission is very high as it is in line with the national targets set. JBVNL has highlighted the stiff target to JSERC in multiple hearings and requested JSERC to reduce the targets for Jharkhand as the state is weak econmically and facing severe financial stress over the last few years. Also, the revenue gap for JBVNL is ever increasing which restrains JBVNL to procure more RE power and also restrant it to procure more REC to fulfil the RPO obligation.

7.5.8 Howver, JBVNL is committed to green revolution and is trying multiple ways to fulfill the RPO targets. It has already tied up with SECI for procuring 100MW power from floating solar project in Sikidri. The PPA has already been approved by JSERC.

7.5.9 Based on above facts and assumptions, source-wise estimated Power Purchase quantum is tabulated below-

Table 29: Power Purchase Quantum from FY26-27 to FY 30-31 (Mus)

S.N.	Name of Generating Stations		FY26-27	FY27-28	FY28-29	FY29-30	FY30-31
1	NTPC	Farrakka	488.782	488.782	488.782	488.782	488.782
		Farrakka III	49.925	49.925	49.925	49.925	49.925
		Barh I	353.273	353.273	353.273	353.273	353.273
		Barh II	83.896	83.896	83.896	83.896	83.896
		Khalagaon I	75.100	75.100	75.100	75.100	75.100
		Nabinagar	139.056	139.056	139.056	139.056	139.056
		Kanti Power	65.947	65.947	65.947	65.947	65.947
		Patratu Unit I	**2645.564**	**2837.968**	**3198.727**	**3605.182**	**4022.700**
		Patratu Unit II	**1763.709**	**2798.044**	**3208.347**	**3603.931**	**4021.257**

S.N.	Name of Generating Stations		FY26-27	FY27-28	FY28-29	FY29-30	FY30-31
		Khalagaon II	41.793	41.793	41.793	41.793	41.793
		N. Karanpura	2188.376	2188.376	2188.376	2188.376	2188.376
		Talcher	302.874	302.874	302.874	302.874	302.874
		Korba	0.000	0.000	0.000	0.000	0.000
		Darlipalli	687.800	687.800	687.800	687.800	687.800
	Total		**8886.093**	**10112.833**	**10883.895**	**11685.934**	**12520.777**
2	**NHPC**	Rangit	38.455	38.455	38.455	38.455	38.455
		Teesta	0.000	0.000	0.000	0.000	0.000
3	**PTC**	Chukha	0.000	0.000	0.000	0.000	0.000
		Tala	315.130	315.130	315.130	315.130	315.130
		Kurichu	0.000	0.000	0.000	0.000	0.000
		Mangdechhu	42.050	42.050	42.050	42.050	42.050
4	**Total Central Sector**		**9281.728**	**10508.468**	**11279.530**	**12081.568**	**12916.412**
5	**DVC**	KTPS (OA)	3797.460	3797.460	3797.460	3797.460	3797.460
		Total	**3797.460**	**3797.460**	**3797.460**	**3797.460**	**3797.460**
6	TVNL		**1720.026**	**1234.916**	**1234.916**	**1234.916**	**1234.916**
7	**APNRL**	Unit I	387.006	387.006	387.006	387.006	387.006
		Unit II	387.006	387.006	387.006	387.006	387.006
		66 MW	297.378	272.597	272.597	272.597	272.597
		Total	**1071.390**	**1046.608**	**1046.608**	**1046.608**	**1046.608**
8	**SOLAR**	SECI (700)	1039.277	1039.277	1039.277	1039.277	1039.277
		SECI (10)	14.664	14.664	14.664	14.664	14.664
		State	15.422	15.422	15.422	15.422	15.422
	Getalsud floating solar	**SECI**	**166.440**	**166.440**	**166.440**	**166.440**	**166.440**
		Total	**1235.804**	**1235.804**	**1235.804**	**1235.804**	**1235.804**
9	**Wind**	PTC	601.115	601.115	601.115	601.115	601.115
		SECI	272.647	272.647	272.647	272.647	272.647
		Total	**873.763**	**873.763**	**873.763**	**873.763**	**873.763**
10	Inland Power Ltd.		**258.004**	**281.459**	**281.459**	**281.459**	**281.459**
11	SRHPS (Generation)		150.000	150.000	150.000	150.000	150.000
12	**Grand Total**		**18388.174**	**19128.477**	**19899.539**	**20701.577**	**21536.421**

7.6 Power Purchase Rate and Power Purchase Cost

7.6.1 JBVNL has estimated the power purchase Cost for the next control period based on following facts and assumptions:

- **Power Tariff during FY 26-27 to FY 30-31:** Power Tariff for existing power

plants except renewables as determined for FY 2025-26 has been escalated by 5% per annum to arrive at power tariff for next Control Period. Tariff of Renewable plants having levellized tariff have been considered equal to tariff applicable in FY 2025-26.

- **Transmission and Scheduling Charges:** Actual Transmission and scheduling Charges for FY 2025-26 has been escalated by 4% to arrive at corresponding figure for the next control period.

7.6.2 Considering the power purchase quantum and rate from different sources, a detailed power purchase cost of all sources for the next control period provided in the table below.

Table 30: Power Purchase cost from FY 26-27 to FY 30-31 (Rs Crores)

S.N.	Name of Generating Stations		FY 26-27	FY 27-28	FY 28-29	FY 29-30	FY 30-31
1	NTPC	Farrakka	204.99	215.23	226.00	237.30	249.16
		Farrakka III	24.29	25.51	26.78	28.12	29.53
		Barh I	208.17	218.58	229.50	240.98	253.03
		Barh II	49.69	52.18	54.79	57.53	60.40
		Khalagaon I	29.94	31.44	33.01	34.66	36.39
		Nabinagar	71.44	75.01	78.76	82.70	86.84
		Kanti Power	37.66	39.55	41.53	43.60	45.78
		Patratu Unit I	1,577.81	1,777.19	2,103.26	2,489.04	2,916.17
		Patratu Unit II	1,051.88	1,752.19	2,109.59	2,488.18	2,915.12
		Khalagaon II	23.89	25.09	26.34	27.66	29.04
		N. Karanpura	896.56	941.39	988.46	1,037.89	1,089.78
		Talcher	81.63	85.72	90.00	94.50	99.23
		Darlipalli	223.38	234.54	246.27	258.59	271.51
2	NHPC	Rangit	15.26	16.02	16.82	17.66	18.55
3	PTC	Tala	75.11	78.87	82.81	86.95	91.30
		Mangdechhu	20.35	21.37	22.44	23.56	24.74
5	DVC	KTPS (OA)	2,063.22	2,166.38	2,274.70	2,388.43	2,507.86

6	TVNL		872.83	657.99	690.89	725.44	761.71
9	APNRL	Unit I	140.18	147.18	154.54	162.27	170.38
		Unit II	140.71	147.74	155.13	162.88	171.03
		66 MW	112.32	108.11	113.51	119.19	125.15
10	SOLAR	SECI (700)	282.05	282.05	282.05	282.05	282.05
		SECI (10)	8.99	8.99	8.99	8.99	8.99
		State	27.71	27.71	27.71	27.71	27.71
	Getalsud Floating Solar	**SECI**	58.59	58.59	58.59	58.59	58.59
11	Wind	PTC	212.19	212.19	212.19	212.19	212.19
		SECI	74.16	74.16	74.16	74.16	74.16
12	Inland Power Ltd.		137.54	157.55	165.43	173.70	182.39
17	SRHPS (Generation)		24.41	25.63	26.91	28.26	29.67
21	**Grand Total**		**8,746.95**	**9,664.14**	**10,621.16**	**11,672.77**	**12,828.43**

7.7 Energy Balance

7.7.1 Considering the energy available, energy sales and T&D loss projections discussed in previous sections, JBVNL has worked out the Energy Balance for the Control Period. For the purpose of power purchase, the above available allocated capacity of various central generating stations and own generating stations has been considered.

7.7.2 JBVNL would like to submit that power to be 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/ CTU Periphery- Sourced from NTPC, NHPC, PTC, APNRL, part of TVNL, NVVNL, SECI and RE (Wind)
- Energy Input Directly to State Transmission System (JUSNL) from state owned and private generating stations - Input of power from TVNL directly to State Transmission System and Inland Power Limited
- Energy Input through Renewables sources to JBVNL system- Input from Solar IPPs selected through JREDA
- Direct Input of Energy to Distribution System- DVC and Solar IPPs.

7.7.3 JBVNL would like to submit that power purchase from various sources are segregated into different heads, while calculating the energy balance for the control period. Power Purchase from Outside JBVNL boundary comprises (I,e) (power injected to central transmission utility) of all power purchased through central allocations, APNRL, STOA and a portion of TVNL (this amount from TVNL varies according to power injected to grid at Bihar Shariff), while a majority portion of power from TVNL is injected directly to state transmission system. After transmission loss in CTU system, the power is being injected to state transmission system (JUSNL) in addition to power injection from Inland Power Liited and State genereting stations. From JUSNL network, after incurring tranmission loss at JUSNL periphery, the rest power is being injected to JBVNL grid. The loss is being determined from the energy meter available at JUSNL and JBVNL boundary. Similary the power that is scheduled by DVC and being input to the JBVNL system is also metered. The difference between input energy to JBVNL system and that of scheduled energy from DVC is considered as loss in DVC system. The total input energy is being added on the JBVNL boundary to get the input energy to the JBVNL system for billing purpose.

7.7.4 The energy requirement for JBVNL will be met by supply from various sources as discussed above in the power purchase section. Based on the information provided above, Energy Balance of JBVNL for the period FY 26-27 and FY 30-31 is shown in the following table.

Table 31: Energy balance of JBVNL for the control period (FY 26-27 to FY 30-31)

Particular	Notation	FY 24-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
		True-Up FY 2024-25	APR for FY 2025-26	ARR for FY 2026-27	ARR for FY 2027-28	ARR for FY 2028-29	ARR for FY 2029-30	ARR for FY 2030-31
Power Purchase at CTU Periphery (MU)	A	11,125.69	11,912.36	11,955.52	12,437.33	12,938.56	13,459.98	14,002.42
Transmission Loss at CTU (%)	B	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Loss in CTU (MU)	C=A*B	333.77	357.37	358.67	373.12	388.16	403.8	420.07
Net Outside Power Available at STU/JUSNL	D=A-C	10,791.92	11,554.99	11,596.86	12,064.21	12,550.40	13,056.18	13,582.35

Particular	Notation	FY 24-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
		True-Up FY 2024-25	APR for FY 2025-26	ARR for FY 2026-27	ARR for FY 2027-28	ARR for FY 2028-29	ARR for FY 2029-30	ARR for FY 2030-31
Periphery (MU)								
Private-owned gen Energy Input (IPL) Directly to STU/JUSNL (MU)	E	390.96	412.68	414.17	430.86	448.23	466.29	485.08
State-owned Generation Input to JUSNL Periphery (MU)	F	1,655.82	1788.27	1794.75	1867.08	1942.32	2020.6	2102.03
Energy Available at JUSNL Periphery (MU)	G=D+E+F	12,838.70	13755.94	13805.78	14362.16	14940.95	15543.07	16169.46
Transmission Loss at JUSNL System (%)	H=(G-J)/G	7.99%	7.99%	7.99%	7.99%	7.99%	7.99%	7.99%
Transmission Loss at JUSNL System (MU)	I=G*H	1,025.64	1099.1	1021.47	1062.63	1105.46	1150.01	1196.35
Net Energy Sent to JBVNL Periphery as per Meter Reading (MU)	J	11,813.06	12,656.84	12784.32	13299.53	13835.5	14393.07	14973.11
Energy scheduled from DVC to JBVNL by SLDC (MU)	K	3,799.45	3570.78	3797.46	3797.46	3797.46	3797.46	3797.46
Transmission Loss at DVC System (%)	L=(K-N)/K	4.30%	4.30%	4.30%	4.30%	4.30%	4.30%	4.30%
Transmission Loss at DVC System (MU)	M=K*L	163.27	153.45	163.19	163.19	163.19	163.19	163.19
Direct Input Energy from DVC to JBVNL as per Meter Reading (MU)	N	3,636.18	3417.33	3,634.27	3634.27	3634.27	3634.27	3634.27

Particular	Notation	FY 24-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
		True-Up FY 2024-25	APR for FY 2025-26	ARR for FY 2026-27	ARR for FY 2027-28	ARR for FY 2028-29	ARR for FY 2029-30	ARR for FY 2030-31
Direct Input Energy from State Solar System to JBVNL (MU)	O	17.13	15.42	15.42	15.42	15.42	15.42	15.42
Energy Available for Sale/ Energy Input to JBVNL (MU)	P=J+N+O	15,466.38	16,089.59	16738	17412.54	18114.27	18844.27	19603.7
Energy Billed/ Units Sold (MU)	Q	11,105.67	11707.9	12452.95	13730.11	14610.76	15595.31	16669.87
Distribution Loss	R=(P-Q)/P	28.19%	27.23%	25.60%	21.15%	19.34%	17.24%	14.97%
Energy Required at JBVNL Periphery (MU)	P	11,105.67	11,707.90	12,452.95	13,730.11	14,610.76	15,595.31	16,669.87

8 HR Plan

8.1 Introduction

8.1.1 JBVNL's HR plan focuses on aligning its human resource strategy with organizational goals by recruiting the best talent, managing manpower planning and forecasting, training and development, and ensuring efficient employee engagement and retention. The HR department handles recruitment, onboarding, compensation, performance management, promotions, and labor relations with transparency and results orientation. JBVNL is moving towards operating with minimal in-house manpower by maximizing outsourcing and contractual staff engagement for non-core activities. This strategy helps in cost optimization and flexibility while focusing on core operational efficiency. JBVNL outsources tasks like IT support, consultancy, and accounting services, enabling it to utilize external expertise as needed without expanding permanent staff excessively.

8.1.2 However, JBVNL faces challenges in manpower recruitment due to the lengthy government hiring processes, difficulty attracting skilled candidates to remote areas, and balancing workforce size with financial constraints. There are also challenges in managing contractual versus permanent workforce integration and ensuring adequate training for new recruits. Despite initiatives like mandatory induction and career-linked training programs, maintaining a skilled and motivated workforce remains complex given the evolving utility sector demands. These HR initiatives at JBVNL aim to create an agile, skilled workforce supplemented by strategic outsourcing to improve operational effectiveness while addressing recruitment bottlenecks and workforce development needs.

8.1.3 JBVNL collaborates with various institutes for capacity building and training to enhance employee skills and operational capabilities. It partners with national and state-level training organizations, including the National Power Training Institutes (NPTI) and Jharkhand Renewable Energy Development Agency (JREDA), to conduct specialized technical and managerial training programs. These collaborations focus on areas such as renewable energy technologies, smart grid management, safety practices, and customer service excellence. Additionally, JBVNL leverages partnerships with academic institutions and professional training centers to provide continuous learning and development opportunities, ensuring its workforce stays updated with the latest industry practices and regulatory requirements. Such tie-ups support JBVNL’s goals of improving employee competency, operational efficiency, and adapting to evolving power sector challenges effectively

Table 31: Previous Year Man Power Addition

			FY24-25	FY23-24
Employees	No.	**Opening**	10285	10227
	No.	a. Permanent	3172	3185
	No.	b. Contractual/ casual	7113	7042
	No.	**Recruitment during the year**	0	0
	No.	a. Permanent	49	
	No.	b. Contractual/ casual	72	
	No.	**Retirement/ separation during the year**		
	No.	a. Permanent	65	13
	No.	b. Contractual/ casual		
	No.	**Closing**	10292	10285
	No.	a. Permanent	3107	3172
	No.	b. Contractual/ casual	7185	7113

Table 32: Expected Manpower addition to JBVNL in various position

Sr. N.	Designation	Unit	Sanctioned Posts	Strength presently 2025-26	Appointment (FY 26-27)	Retirement FY (26-27)	Appointment (FY 27-28)	Retirement FY (27-28)	Appointment (FY 28-29)	Retirement FY (28-29)	Appointment (FY 29-30)	Retirement FY (29-30)	Appointment (FY 30-31)	Retirement FY (30-31)
	Engineering Cadre (Electrical)													
1	Executive Director	No	6	2										
2	General Manager	No	41	14		1								
3	Dy. General Manager	No	85	39		1				1		5		3
4	Sr. Manager	No	211	140		1		2		3		1		2
5	Manager	No	537	159		3		1		1		2		1
6	Jr. Manger	No	868	70								1		

Sr. N.	Designation	Unit	Sanctioned Posts	Strength presently 2025-26	Appointment (FY 26-27)	Retirement FY (26-27)	Appointment (FY 27-28)	Retirement FY (27-28)	Appointment (FY 28-29)	Retirement FY (28-29)	Appointment (FY 29-30)	Retirement FY (29-30)	Appointment (FY 30-31)	Retirement FY (30-31)
	Total	No	1748	424	0	6	0	3	0	5	0	9	0	6
	Engineer Cadre (Civil)	No												
1	Executive Director	No	0	0										
2	General Manager	No	1	0										
3	Dy. General Manager	No	1	0										
4	Sr. Manager	No	20	12										
5	Manager	No	21	5										
6	Jr. Manger	No	19	9										
	Total	No	62	26										
	Engineer Cadre (E&C)	No												
1	Executive Director	No												
2	Engineer Cadre (IT)	No	0	0										
3	Executive Director	No	1	0										

Sr. N.	Designation	Unit	Sanctioned Posts	Strength presently 2025-26	Appointment (FY 26-27)	Retirement FY (26-27)	Appointment (FY 27-28)	Retirement FY (27-28)	Appointment (FY 28-29)	Retirement FY (28-29)	Appointment (FY 29-30)	Retirement FY (29-30)	Appointment (FY 30-31)	Retirement FY (30-31)
4	General Manager	No	4	0										
5	Dy. General Manager	No	8	10										
6	Sr. Manager	No	37	0										
7	Manager	No	47	0										
8	Jr. Manger	No	97	10										
	Total	No	194	20										
	Accounts Cadre (Gazetted)	No												
1	Executive Director	No	1	0										
2	General Manager (A&F)	No	3	1						1				
3	Dy.General Manager (A&F)	No	8	6						1		1		
4	Sr Manager (A&F)	No	49	18						1		1		
5	Manager (A&F)	No	75	4		1								1
6	Jr. Manger(A &F)	No	177	44		1		3		6		3		5
	Total	No	313	73	0	2	0	3	0	9	0	5	0	6

Sr. N.	Designation	Unit	Sanctioned Posts	Strength presently 2025-26	Appointment (FY 26-27)	Retirement FY (26-27)	Appointment (FY 27-28)	Retirement FY (27-28)	Appointment (FY 28-29)	Retirement FY (28-29)	Appointment (FY 29-30)	Retirement FY (29-30)	Appointment (FY 30-31)	Retirement FY (30-31)
	Human Resource	No												
1	General Manager	No	2	0										
2	Dy. General Manager	No	6	0										
3	Sr. Manager	No	17											
4	Manager	No	46											
5	Jr. Manger	No	49											
6	**Total**	No	120											
	Human Resource	No												
1	Head Clerk (HR & Admin)	No	141	125		3		3		3		6		4
2	Office Assistance	No	1079	76		1				2		1		2
	Total	No	**1220**	**201**	**0**	**4**	**0**	**3**	**0**	**5**	**0**	**7**	**0**	**6**
	Accounts Cadre (Gazetted)	No												
1	Head Clerk (A&F)	No	192	131		2								
2	Accounts Asst.	No	735	43				1		1				
3	**Total**	No	**927**	**174**	**0**	**2**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**
4	**Field Staff**	No												

Sr. N.	Designation	Unit	Sanctioned Posts	Strength presently 2025-26	Appointment (FY 26-27)	Retirement FY (26-27)	Appointment (FY 27-28)	Retirement FY (27-28)	Appointment (FY 28-29)	Retirement FY (28-29)	Appointment (FY 29-30)	Retirement FY (29-30)	Appointment (FY 30-31)	Retirement FY (30-31)
5	Electrician	No	1807	42		7		8		6		6		2
6	Technical Assistant	No	3904	1199		24		28		26		32		20
7	Supporting Staff I, II, III	No	4263	806		19		21		20		21		21
	Total	No	**9974**	**2047**	**0**	**50**	**0**	**57**	**0**	**52**	**0**	**59**	**0**	**43**
	Grand Total	No	14558	2965	0	64	0	67	0	72	0	80	0	61

For the next control period from FY26-27 to FY30-31, the manpower addition for the upcoming years will be zero and there will be retirement of man power. This implies that with limited resources for JBVNL, dependency would be more on contractual man power and consultants. However, with implementation of technological interventions, it is expected that the operation will be automated to a larger extent

9 Allocation Plan for JBVNL

9.1 Allocation plan for JBVNL for FY26-27

9.1.1 According to Clause no 6.10 of the distrbution tariff regaultions 2025, The Business Plan shall be filed separately for the Retail Supply and Wheeling Business. As specified in Clause 6.7 of these Regulations, in the absence of segregated accounts for the two Businesses, the Licensee shall prepare an allocation statement and submit the same with the Business Plan.

9.1.2 JBVNL has prepared allocation statement for FY26-27 which is annexed with this business plan. Kindly refer to Annexure 1 for the allocation plan.

10Prayers to Hon'ble Commission

The Petitioner JBVNL respectfully prays to the Hon'ble Commission:

1) **To approve the Business Plan JBVNL for the Control Period (FY 2026-27 to FY 2030-31) in accordance with Regulation 5 of the Jharkhand State Electricity Regulatory Commission (Terms and Conditions of Determination of Distribution Tariff) Regulations, 2025.**

2) **To approve the principles and methodology proposed by JBVNL for projection of ARR.**

3) **To allow the distribution and collection efficiency trajectory as proposed by JBVNL and its impact on the ARR.**

4) **To approve capital expenditure under Schemes provided under Capital Expenditure Plan along with their Funding Pattern**

5) **To approve number of consumers and Energy sold to various consumer categories as projected for next Control Period from FY26-27 to FY 30-31**

6) **To approve power purchase quantum and cost from various sources as projected for next Control Period**

7) **To pass any other order as the Hon'ble Commission may deem fit and appropriate under the circumstances of the case and in the interest of justice.**

8) **To condone any error/omission and to give opportunity to rectify the same.**

9) **To permit JBVNL to make further submissions, addition and alteration to this Business Plan as may be necessary from time to time.**

11 Annexure:

Annexure 1: Allocation statement for FY 26-27

The total expenditure for FY 26-27 as projected is Rs 12747.07 Cr. The same is distributed according to the allocation as prescribed in the distribution tariff regulations 2025. The same is provided below for reference.

Particulars (Rs. Cr.)	Share of Retail Supply	Share of Wheeling Business
	%age	%age
Power purchase (Inc. PGCIL & RLDC)	100%	0%

O&M Cost		
Employee cost	40%	60%
A&G Expense	50%	50%
R&M Cost	10%	90%
Interest Cost on longterm loan	10%	90%
Interest on working capital	90%	10%
Depreciation	10%	90%
Return on Equity	10%	90%
Provision for bad debts	100%	0%
Less: Other income	90%	10%

Particulars (Rs. Cr.)	**Share of Retail Supply**	**Share of Wheeling Business**
Power purchase (Inc. PGCIL & RLDC)	9,836.89	
O&M Cost		
Employee cost	118.82	178.23
A&G Expense	64.48	64.48
R&M Cost	52.42	471.75
Interest Cost	47.10	423.90
Interest on working capital	10.32	1.15
Depreciation	56.31	506.78
Return on Equity	60.27	542.39
Provision for bad debts	-	-
Less: Other income	62.01	6.89
	-	-

As per the division between wheeling business and retail business, the share of retail business is Rs 10308.62 Cr (82%) and wheeling business is Rs 2195.57 Cr. (18%)